

City of Philadelphia



Council of the City of Philadelphia
Office of the Chief Clerk
Room 402, City Hall
Philadelphia

(Resolution No. 150072)

RESOLUTION

Authorizing the creation of a "Special Committee on Energy Opportunities for Philadelphia," to continue to investigate the potential to establish the City of Philadelphia and the region as an energy hub.

WHEREAS, Philadelphia is experiencing an historic moment in the evolution of gas- and energy-related opportunities; and

WHEREAS, The area's potential is enormous and unprecedented. The Philadelphia region holds great promise as an energy hub, given its close proximity to the Marcellus Shale and its strategic location in the Northeast region of the country; and

WHEREAS, The region is poised to become a national leader in energy production and innovation, thereby attracting businesses, advancing manufacturing activity, reducing consumer costs, and promoting sustainable economic growth; and

WHEREAS, On October 30, 2014, Council adopted Resolution No. 140869 "to fully explore opportunities to further establish the Philadelphia region as an energy hub"; and

WHEREAS, On November 13 and 14, 2014, City Council held two productive days of hearings on that resolution, but in such a compressed period of time, only the "tip of the iceberg" was brought to light; and

WHEREAS, Among other key features of the region, the Philadelphia Gas Works, remains at the heart and soul of any future transformation of the area into a successful energy hub; now, therefore, be it

RESOLVED, BY THE COUNCIL OF THE CITY OF PHILADELPHIA, That Council hereby authorizes the creation of a "Special Committee on Energy Opportunities for Philadelphia," consisting of those City Council members appointed by the Council

City of Philadelphia

RESOLUTION NO. 150072 continued

President, to continue to investigate the potential to establish the City of Philadelphia and the region as an energy hub.

FURTHER RESOLVED, That the Special Committee's charge shall include soliciting conceptual proposals, holding public hearings, and conducting research, all aimed at developing strategies for developing Philadelphia and the region as an energy hub. The scope of work shall include, but not be limited to, identifying strategies for enhancing the Philadelphia Gas Works through such means as reforming its governance or entering into joint ventures and public-private partnerships.

FURTHER RESOLVED, That in furtherance of its mission, the Special Committee is hereby authorized to issue subpoenas to compel the attendance of witnesses and the production of documents to the full extent authorized under Section 2-401 of The Philadelphia Home Rule Charter.

FURTHER RESOLVED, That the Special Committee shall submit a full report to the Council and the Mayor and make its findings and recommendations available to the public.

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RESOLUTION NO. 150072 continued

CERTIFICATION: This is a true and correct copy of the original Resolution, Adopted by the Council of the City of Philadelphia on the twenty-ninth day of January, 2015.

Darrell L. Clarke
PRESIDENT OF THE COUNCIL

Michael A. Decker
CHIEF CLERK OF THE COUNCIL

Introduced by: Councilmember Oh

Sponsored by: Councilmember Oh, Council President Clarke,
Councilmembers Reynolds Brown, Johnson, Squilla, Greenlee,
Jones, Blackwell, Bass, Quiñones Sánchez, O'Neill, Tasco,
Goode, O'Brien and Henon

**Testimony of
Craig E. White
Philadelphia Gas Works
Before the Philadelphia City Council
Special Committee on Energy Opportunities for Philadelphia
Meeting of March 13, 2015, at 10:00 AM
Resolution No. 150072**

Good morning Chairman Henon, Chairwoman Tasco and members of the Committee. My name is Craig E. White and I am the President and Chief Executive Officer of the Philadelphia Gas Works. I have been asked here today to testify regarding Resolution No. 150072.

First of all, I want to thank you for this opportunity to address the Committee and acknowledge the interest you have expressed with respect to assisting PGW to grow into an even stronger enterprise. As members of the Committee have publically stated in the past, there is no question that PGW has made measurably great strides as a municipally owned utility in recent years. PGW desires to capitalize on this achievement and become a more resilient operation for the benefit of the City and City ratepayers.

As you know, PGW is a gas distribution operation with the ultimate charge of providing safe and reliable gas service to the citizens and businesses of Philadelphia. PGW accomplishes this task with over 1600 employees who, among other tasks, maintain and operate a 6,000 mile distribution system that consists of over 3,000 miles of gas mains and 3,000 miles of gas service lines. In addition to this extensive pipeline network, PGW's gas workers, both union and non-union alike, operate one of the largest liquefied natural gas plants in the country as well as a satellite plant. It is estimated that PGW's LNG assets have saved PGW customers over \$2 billion since the facilities went on line in 1972. In addition to pipeline and plant operations, PGW operates five neighborhood Customer Service Centers for the benefit of customers, provides emergency response, answers over 2 million customer phone calls per year, provides programs for those in need, and conducts a myriad of other activities critical to the operation of a gas distribution operation. These critical operations demand focused performance and I believe that PGW employees work hard every day to provide first rate operations and service to ratepayers.

Given the backdrop of PGW's improved operating framework, it is our good fortune, therefore, that we are currently living in the most optimistic and dynamic gas and energy environment in U.S. history. Prices are stable, fluctuating only within limited range, and supply is available at multiples from just a few short years prior. Pennsylvania, due to its location near the Marcellus Shale, has begun to reap tremendous advantages from the gas industry in terms of jobs, technology advances, business opportunities, etc. I would say, therefore, that Philadelphia and PGW are well positioned to benefit from the boom in the gas and energy sectors, *but only if* we are able to seize the moment and leverage opportunities. PGW's future ability to maintain safe and adequate service at reasonable rates, as well as to grow as a regional energy business bringing more business opportunities and jobs to Philadelphia depends on developing new business strategies and approaches, and implementing them quickly.

An energy company that wishes to survive and excel in the current environment must have the financial and operational flexibility to react quickly to changes in regulatory policy and economic conditions. To add some context, PGW's current urgency to consider and develop new revenue opportunities and structures is based on the significant advancements in gas technology over the last decade. PGW's residential, small commercial and industrial customers have used less natural gas annually than just a decade ago. As a matter of fact, when I began my career with PGW in 1980, the typical residential heating customer utilized 45 percent more natural gas annually than a PGW customer uses today. That is the direct result of conservation and equipment efficiency. To offset this significant loss of business PGW has had to significantly cut costs (including lowering staffing levels significantly) and, raise rates. PGW must also constantly strive to identify and acquire new revenue opportunities.

PGW is currently considering a number of opportunities and is weighing what is possible to achieve using PGW's own resources and market reach. Specifically, at this time PGW is actively considering three primary opportunities to grow top line revenue and I would like to talk about them briefly.

Liquefied Natural Gas (LNG). To provide some background, PGW has maintained and operated LNG facilities since 1972. Our operations include an LNG liquefaction plant, three LNG storage tanks in two locations, LNG vaporization and LNG truck loading facilities. PGW

has extensive experience and expertise in the purchase, transportation, liquefaction, storage and loading of LNG. This is our "sweet spot". These assets are operated to provide uninterrupted service to our residential, commercial and industrial customers in the coldest of winters. However, the reduction in customer usage over recent decades has resulted in PGW having certain "underutilized/excess" LNG capability. This capability is in the form of excess storage or space in our LNG storage tanks. We do not have excess liquefaction capability or, said another way, we have room to store LNG but we do not have the ability to produce more LNG than we currently make.

With the above as a setting, along comes a significant national move to fuel long haul trucking, high horse power equipment and marine vessels with LNG, and there is also interest in LNG exportation. Although PGW only has liquefaction capability to liquefy enough natural gas to meet customer requirements in the coldest of winters, PGW has benefited from the moderate to warm winters of the recent past and has been able to stockpile LNG inventory. Therefore, during this warm period and prior to this current winter, PGW amassed significant inventory levels in its LNG storage tanks well beyond the needs of its core customers. PGW quickly took advantage of the market opportunity to sell LNG at PGW's truck loading rack at the Richmond plant. Over the past 20 months PGW has commercially sold over 2,000 truckloads of LNG. Each truck holds 10,000 gallons or approximately 800 Mcf of LNG per truck load. The total margin generated from these new sales has eclipsed \$8 million.

But this current heating season, we experienced severe winter temperatures and we had to stop truck sales to ensure that we had sufficient LNG inventory in our storage tanks to meet core customer demand for the remainder of this winter. Again, we have plenty of open space in our tanks but we do not have the ability to liquefy sufficient supply to continue truck sales while at the same time ensuring that our core customers have enough supply to last the winter. The key point here is that PGW has extensive underutilized storage space but it does not have excess liquefaction capability. Therefore, in order to continue to capitalize on the truck loading business PGW must have greater liquefaction capability.

This all said, I would like you to leave today with the understanding that liquefying, storing and loading LNG is an expertise of PGW---it is truly our "sweet spot". Today we capture

100% of the margin from LNG truck sales because 100% of the assets are bought and paid for by our customers. We will shortly be presenting a Business Case to our Board of Directors in support of expanding our LNG liquefaction capability to enable PGW to expand LNG sales. If our Board approves our request we will be filing the same as quickly thereafter with the PGC. Once the PGC has reviewed our proposal a potential recommendation will be submitted to Council for their review and approval.

Combined Heat and Power (CHP). Gas-fired Combined Heat and Power (CHP) or cogeneration involves the simultaneous generation of electricity and thermal energy from gas for heating and cooling. So why CHP? It offers tremendous economies to customers who have CHP equipment, since it is over 80% efficient whereas the separate generation of electricity in the US centralized grid system averages about 34%. CHP offers greater energy efficiency, lower greenhouse gasses and the much greater security that your energy will be uninterrupted by heavy winds, ice storms or delayed fuel deliveries.

Equally important, CHP allows a building operator to use only one fuel source, natural gas, which has both stable pricing and almost unlimited availability, to generate electricity and thermal energy. The alternative, or traditional approach of purchasing electricity off the grid, relying on delivered oil or utilizing other high priced forms of energy leaves the building operator susceptible to substantial price swings and mother nature.

There are currently 10 large facilities in the City utilizing CHP with a net margin to PGW of some \$400,000 annually. PGW considers this market as being in its infancy with hundreds of buildings as prime candidates for this technology. The obvious best applications are hotels, hospitals, universities, museums, multiple shift commercial and industrial operations and even prisons. The major challenge in this market space is "first cost". PGW has programs to partially address this aspect and is in search of additional resources to support potential CHP users.

Compressed Natural Gas (CNG). PGW has laid the groundwork for local fleet operators to adopt Compressed Natural Gas (CNG) as a source of fuel. This groundwork includes increasing the number of CNG vehicles in PGW's fleet, training PGW mechanics and technicians to service our CNG vehicles and constructing a PGW CNG fueling station. These steps will help develop a local market because PGW is using its CNG operations to show other

fleet operators how they can convert their fleets to CNG. Additionally, PGW is supporting local CNG station owners like VNG and Temple University by offering a rate which makes it economically viable to operate a public or private CNG station. PGW is committed to developing this market in Philadelphia because cities like Pittsburgh have been successful in promoting CNG as a source of fuel because CNG is cleaner, provides long-term price stability, reduces the reliance on foreign oil and creates statewide jobs.

As the foregoing suggest, there are attractive business opportunities in the market for LNG, CHP and CNG that PGW should and must explore quickly if it is to remain a strong business. Some of these initiatives may be suitable for considering some form of public-private partnership in either delivering, managing or financing the project. Others may better lend themselves to public-*public* partnerships, for example, teaming up with the City of Philadelphia or SEPTA in expanding our CNG-powered fleets. In each case, it will be necessary for PGW to evaluate the financial, legal and policy implications of pursuing the new opportunity on our own versus partnering with another entity. Our door remains open to considering with our stakeholders any new business that will benefit both our customers and the Gas Works.

PGW is hoping that Council can continue to be of assistance in that regard. PGW's ratepayers stand to benefit tremendously if these opportunities are successful and we are eager to explore all avenues to make these opportunities a reality for Philadelphia's consumers. As you know, because PGW is entirely ratepayer funded, any increased revenues ultimately benefit PGW ratepayers.

That concludes my testimony and I am happy to answer any questions you might have regarding the foregoing.

PGW thanks you for your time.

Testimony of Scott J. Rubin

Before the Philadelphia City Council's Special Committee on Energy Opportunities

March 13, 2015

Good morning and thank you for giving me the opportunity to appear before you today. By way of brief background, I am a Pennsylvania attorney who works exclusively on issues related to the public utility industries, as both an attorney and consultant, throughout United States and Canada. I started doing this type of work more than 30 years ago when I went to work as a staff attorney for the Pennsylvania Consumer Advocate.

I have been asked to provide some background information concerning the legal structure and economic regulation of PGW.

As you know, PGW is the largest government owned natural gas distribution utility in the United States. According to PGW's annual report for the year ending August 31, 2014, PGW had total assets in excess of \$1.7 billion, of which the net value of PGW's utility plant was almost \$1.2 billion. Those assets are supported by about \$980 million in long-term debt. On a net basis, the City's investment in PGW (that is, the equity in the enterprise) was more than \$400 million as of August 31, 2014. In the most recent fiscal year, the enterprise paid a distribution to the City general fund of \$18 million, generated positive cash flow of \$166 million, and had net income of almost \$50 million.

I understand that the City may be interested in exploring options to unlock the value in PGW, enable PGW to capitalize on some of its valuable assets that may be under-utilized, enhance PGW's independence from City government, or generate additional sources of revenue that could help improve PGW's financial condition while investing in needed replacements of aging infrastructure. The City may be interested in pursuing some or all of these types of opportunities while retaining government ownership and ultimate control over one of the City's most valuable assets.

As you know, local government units in Pennsylvania have the ability to establish municipal authorities for certain purposes. The Municipality Authorities Act delineates the specific purposes for which an Authority can be established, as well as the powers and duties of an Authority.¹ Creating an Authority to own or operate the assets of PGW is a method the City may want to explore to provide greater flexibility to both the City and PGW while retaining local government ownership of the assets.

The Authorities Act does not mention natural gas distribution and supply services as enterprises in which an Authority can engage. Fortunately, however, we don't need to parse the Authorities Act because in 1999 the Pennsylvania General Assembly enacted the Natural Gas Choice and

¹ 53 Pa. C.S. §§ 5601, et seq.

Competition Act.² The Gas Choice Act specifically authorizes the City to form an Authority, but with certain restrictions as I'll discuss shortly.³

Municipal Authorities Generally

Under the Authorities Act, an Authority has broad powers to act independently. Any municipality can create an Authority by filing articles of incorporation and following notice requirements.

Once authorized, an Authority has general corporate powers, including the power to sue and be sued, acquire and dispose of real and personal property, make investments, borrow money, enter into contracts, use the power of eminent domain, and determine the fees it levies on customers of the enterprise.⁴

In addition, even though a single municipality can create an Authority, the Authority is authorized to do business anywhere in the Commonwealth and, in certain circumstances, to participate in projects in adjoining states.⁵ When an authority owns real property outside of the boundaries of the municipality that created it, however, it must either receive permission from the other municipality or agree to make payments in lieu of taxes equivalent to the property taxes and assessments that a privately owned business would pay.⁶

Authorities, however, are subject to certain limitations. Of particular note are the following:

- An Authority's corporate existence is limited to 50 years, renewable for additional terms of up to 50 years each;⁷
- An Authority cannot issue bonds with a term of more than 40 years;⁸
- An Authority cannot be created which duplicates or competes with an existing business.⁹

² 66 Pa. C.S. §§ 2201, et seq.

³ The Gas Choice Act states: "A city that owns a city natural gas distribution operation may form a nonprofit corporation or public corporation or municipal authority ... in order to own, manage, operate, lease or carry out natural gas supply and/or distribution services for, in place of or on behalf of the city natural gas distribution operation ..." 66 Pa. C.S. § 2212(m).

⁴ 53 Pa. C.S. § 5607(d)

⁵ 53 Pa. C.S. §§ 7602 (definition of "project") and 5607(d)(18).

⁶ 53 Pa. C.S. § 5607(b)(3)

⁷ 53 Pa. C.S. §§ 5607(d)(1) and 5605(a)(2)

⁸ 53 Pa. C.S. §§ 5607(d)(12) and 5608

⁹ 53 Pa. C.S. § 5607(b)

Restrictions on a City Gas Municipal Authority

In addition to these general restrictions on Authorities, the Gas Choice Act changes some of these general requirements and imposes additional conditions and limitations on PGW.

In particular, the Gas Choice Act gave the PUC jurisdiction over the rates and service of PGW. That jurisdiction would not end if the City formed an Authority to own or operate PGW.¹⁰

If the City decided to transfer the ownership or operations of PGW to an Authority, the PUC would have limited ability to review the financial aspects of the transaction, unless the financing is limited to the amount needed to repay existing PGW debt.¹¹

Finally, if the City creates an Authority for PGW, the Authority would retain the power of eminent domain within the City limits, but (unlike other Authorities) it would not have that power in other municipalities.¹²

What Would Not Change Under a Municipal Authority

Transferring PGW's assets or operations to an authority should not result in significant changes in PGW's operations, other than providing PGW with more flexibility to engage in activities outside the City's borders. Of particular importance, the following would not change under Authority ownership or operations:

- PGW's limitations on liability from tort actions would remain governed by the municipal tort claims law and related provisions.¹³
- The PUC's role regarding PGW's rates and service would not be changed.¹⁴
- PGW would retain the ability to place liens on real property for unpaid gas bills.¹⁵
- The rights of PGW employees, including pension rights and collective bargaining agreements, should not be affected.

Finally, while transferring PGW's assets or operations to an authority would be a large transaction, it would not be unprecedented. In the past two years, there have been two significant transactions

¹⁰ 66 Pa. C.S. § 2212(m)

¹¹ 66 Pa. C.S. § 2212(e)

¹² 66 Pa. C.S. § 2212(m).

¹³ 42 Pa. C.S. §§ 8501, et seq. That law applies to "local agencies" which generally includes municipal authorities. In addition, the Gas Choice Act specifically states that "any entity created under this section or otherwise to own, manage, operate, lease or carry out natural gas supply and/or distribution services for or on behalf of a city or a city natural gas distribution operation shall be deemed a local agency for purposes of 42 Pa. C.S. Ch. 85 (relating to matters affecting government units)." 66 Pa. C.S. § 2212(m).

¹⁴ 66 Pa. C.S. § 2212(m) and § 102 (definition of "city natural gas distribution operation").

¹⁵ 66 Pa. C.S. § 2212(n).

in Pennsylvania involving the long-term lease of municipal assets to an Authority. Given the limited time we have, I'll just provide a very brief description of each transaction.

In December 2013, the City of Harrisburg leased its parking assets to an authority for a 40-year period. The up-front lease payment to the city was approximately \$267 million. The city did not retain any right to revenues or transfer payments during the lease term, but it retains ownership and some responsibility for making capital improvements during the lease.

The City of Allentown owned the regional wastewater treatment plant, its own water treatment plant, and the retail distribution and collection networks for both systems within the city limits. In August 2013, Allentown agreed to lease its water and wastewater operations to Lehigh County Authority, an existing water and wastewater utility operating in the Allentown suburbs and other neighboring areas.

The 50-year lease gives the authority the right to operate, use, maintain, and rehabilitate the water and wastewater systems; and to charge rates necessary to recover its costs.

The up-front lease payment to the city was \$211 million (some of which was used to pay off existing bonds). In addition, the authority was required to establish several reserve funds -- including a fund for required capital improvements -- totaling approximately \$80 million. In addition, the agreement provides for the payment of an annual concession fee to the city, beginning approximately three years after the transaction closed. The initial concession fee is \$500,000 per year, escalating with inflation thereafter.

About 60 unionized employees were transferred from Allentown to the authority, and even though the Authority's other employees were not represented, it agreed to assume the city's collective bargaining agreement and otherwise protect employees' rights.

Conclusion

Obviously, the Harrisburg and Allentown transactions are considerably smaller than a potential PGW transaction. Those transactions were on the order of \$300 million each, while PGW's assets are valued at several times that amount. The transactions are useful, however, as examples of how existing assets can be monetized while ensuring local government ownership and control of the assets over an extended period of time.

The primary limitations on lease transactions with an Authority are the maximum term of 50 years and the maximum term of 40 years for bonds issued by an Authority. Within those restrictions, as well as requirements imposed by the Gas Choice Act, a lease / concession transaction may be one option to provide the City with substantial financial and operational flexibility while retaining ultimate ownership of the assets.

Thank you again for asking me to appear before you today. I would be happy to try to answer any questions you may have.

**Testimony Before the Philadelphia City Council
Special Committee on Energy Opportunities
Establishing Philadelphia as a Regional Energy Hub**

**Philip L. Rinaldi
CEO of Philadelphia Energy Solutions
Chair of Greater Philadelphia Energy Action Team
March 13, 2015**

Good afternoon ladies and gentlemen.

Council President Clarke, Special Committee on Energy Opportunities for Philadelphia Co-Chairs Henon and Tasco, and members of City Council – I offer my thanks and my appreciation for this opportunity to provide testimony in support of the Committee’s investigation into the potential of establishing our region as *the* energy hub for the northeastern portion of the United States.

This Committee has provided guidance regarding today’s testimony requesting that witnesses particularly comment on matters pertaining to the use of Public Private Partnerships, and to business opportunities relating to Philadelphia Gas Works. I hope that my testimony will provide some issue insight to the Committee.

I would be pleased to answer any questions that you might have after I complete reading this prepared statement into the record.

Witness Credentials & Testimony Limitations

Although many of you know me, I will introduce myself for the record.

I am the Chief Executive Officer of Philadelphia Energy Solutions, the company that owns and operates the Point Breeze and Girard Point refineries located on the former Sunoco refinery complex in South Philadelphia. Among PES’ business goals is the development of a world-class energy port at the site generally known as Southport, motivated in part to take advantage of opportunities that would arise should the Northeast Energy Hub initiative come to fruition.

I am also Chairman of the Greater Philadelphia Energy Action Team – a coalition of more than 80 key energy industry executives, operating in collaboration under the auspices of the Chamber of Commerce, the CEO Council for Growth, and Select Greater Philadelphia. GPEAT’s mission is to prepare the commercial, economic and political foundation that will stimulate development of a major new project to bring dry Marcellus shale gas to the City in a pipe or series of pipes adequately sized to meet both present and future industrial needs.

My testimony today, particularly as it relates to future business activities anticipated at Philadelphia Energy Solutions, will be circumscribed by the so-called "Quiet Period" restrictions that are imposed on the company by the Security Exchange Commission pursuant to the process underway as we take the company public.

A Northeast Energy Hub - Why Philadelphia?

Philadelphia Energy Solutions is presently two and a half years old, and the Greater Philadelphia Energy Action Team is just a bit younger. During this time I have been struck by just how enthusiastically many of the energy-centric ideas with which I am involved have been supported by government at the Local, State and National levels, by many segments of organized labor, and by the regional business community at large. This extraordinarily deep regional support is one of the foundational pillars on which the prospective creation of an energy hub rests.

I frequently and passionately advocate for the development of Philadelphia's energy infrastructure to take advantage of the proximity of Pennsylvania's abundant Marcellus Shale natural gas reserves. I will do so again today because it is a matter of importance, and it is a matter of urgency.

Why is this important? Locating a regional Energy Hub in Philadelphia is important because that would create an opportunity to redevelop a meaningful manufacturing base in the Philadelphia economy for the first time in decades. And creation of a manufacturing base is important because the economic malaise that afflicts Philadelphia casts a deep shadow over all the amazingly unique and sensational attributes that Philadelphia has to offer.

The economic stimulation that follows a manufacturing rebirth is truly transformational. Manufacturing creates an extraordinary variety of jobs – jobs that have rich content; jobs that pay very well; and jobs that last for years and years. Manufacturing creates jobs that support strong family life styles. Robust manufacturing is truly the backbone of a thriving middle class. And keep in mind that modern manufacturing is far different from the factories of a century ago that left some appalling environmental scars; modern manufacturing is done by

responsible businesses that invest enormous amounts of capital, and commit themselves to operating in community responsible ways.

And why is this urgent? The opportunity to create an energy hub in Philadelphia exists because the natural gas reserve life in the Marcellus is measured in centuries, not years. The value of that gas will remain trapped in the shale unless and until new consumers compel additional production. And major new consumers cannot come to fruition unless the resource comes to where it is needed. The economic drivers to take advantage of the abundance of Marcellus gas are so strong that there are many smart, well-capitalized companies throughout the country working on figuring out how to take advantage. There is a proverbial “window of opportunity” to make that location Philadelphia, but make no mistake, competition from gas short regions in New England, from chemical production centers like Houston, and from industrial centers in Ohio, and export centers in Maryland are causing that window to close. It is a race – let’s win it for the home team!

I applaud the continued interest that City Council has shown with regard to developing the energy base in Philadelphia, and acknowledge your essential role in ensuring that the interests of City, broadly considered, are carefully weighed. Carefully, but with an eye on that closing window of opportunity!

The potential to have Philadelphia serve as the natural gas energy hub for the northeastern portion of the country rests on three critical elements:

1. Philadelphia’s close proximity to reserves of Marcellus gas that can be easily valorized by creation of new demand.
2. The already highly developed regional infrastructure to support a manufacturing based economy, including: a strong base of energy and chemical companies such as Philadelphia Energy Solutions, Monroe Energy, PBF Energy, Braskem, Honeywell, Sunoco Logistics, PECO, and many others; access to the sea and rich export markets; phenomenal rail infrastructure; proximity to the greatest consumer market in the world; industrial building sites well suited to manufacturing; and a regional history

steeped in manufacturing culture, including human resources having all the necessary job and professional skills.

3. The political will to make it happen. At least that is the state of affairs that we would all like to be true – but worry that maybe it isn't.

As this Council well knows, the recent track record regarding the attempt to privatize Philadelphia Gas Works has cast doubt on the ability to get a major deal done. That doubt is compounded in some quarters by the perceived present tensions in Harrisburg over energy development matters.

Personally, I am confident that the Wolf administration will ultimately be an enabling force to stimulate the kind of development needed to create a regional Energy Hub in Philadelphia. So I applaud the Council's courageous willingness to take on the issue of PGW once again at this time. It is no exaggeration to say that the eyes of the business community are watching keenly and hopefully.

Why is an Energy Hub Important to Philadelphia Energy Solutions?

Once Marcellus Shale gas is abundantly available in the Greater Philadelphia region, industries that depend on natural gas, either for its energy content or for its utility as a chemical feedstock, will take root and grow, creating an intense level of new economic activity that will benefit PES as well as the rest of the region.

But on a more particular basis, PES has identified several high quality projects that can add great economic value to natural gas.

- First, the steam system at our refineries is costly to maintain and requires considerable redundancy to ensure that the refineries' steam demands are continuously met. It would be beneficial to replace the old fired boilers with state of the art, combined heat and power generation equipment. That would be a large-scale project. 120 megawatts if just our own needs are met, larger if we add some merchant power capability to serve neighboring industries.

- Next, the methane could be converted to hydrogen and that hydrogen used to materially upgrade the quality, marketability and profitability of some of our products. The steam/methane reformer and the hydrocracker projects would be world scale in scope.
- Once we have the capability to generate Marcellus gas based hydrogen, we could convert the hydrogen to agricultural chemical products such as anhydrous ammonia, urea ammonium nitrate, and granular urea.
- The hydrogen could also be converted to methanol and the methanol sold as a merchant product or further converted to forms of synthetic transportation fuels.

This substantial increase in PES' productive capability ties in directly with our interest in creating a world scale energy port at the Southport property managed by the Philadelphia Regional Port Authority. This site, up to 273 acres in size depending on parcel division, would be a material asset to PES as a place where petroleum could be received by ship or be moved to export markets by ship. The property is just a few miles from the PES refinery complex and easily connected by pipelines that would run through industrial property.

The highly refined products that would be made possible by the hydrogen production noted a few moments ago would fetch a premium in European markets, so it becomes a great export addition. Granular urea is a dry bulk commodity that is shipped to markets around the world expanding export capabilities for value added product, not just raw materials.

And of course, once there is abundant natural gas availability in Philadelphia, a vigorous LNG business can be conceived, and LNG businesses are natural to be located at an energy port. Large-scale LNG exports are not very practical from Philadelphia for a variety of reasons, including the fact that the deepened river will not be deep enough, nor the bridges high enough to allow passage of international class LNG ships. Nevertheless, there can be a coastal trade in LNG supplying the short New England market. There are novel containment systems that would allow transport of LNG in container ships to supply boutique markets. There will be a

growing business to supply LNG to fuel ships as they phase out of burning bunker fuel in the coastal zones. It is possible to think about local fueling options like fueling fleet vehicles or creating retail LNG or CNG fueling stations.

Why is PGW Important to Energy Hub Development?

PGW is important to the Energy Hub discussion for two reasons.

First, how resolution of PGW's situation is handled will send strong signals to the investment community as to whether or not there is the political will to progress energy business in Philadelphia. Thankfully, this Special Committee is breathing new life into the opportunity.

Second, and more tangibly, there are certain assets in PGW, like its LNG plant, LNG storage facilities, and pipeline interconnections that could play a central role in Philadelphia's energy future. Whatever form the future takes for PGW, those assets will need to be available for development, free from the historic restrictions inherent in PGW's current ownership structure as a municipally owned utility.

PGW and Public Private Partnership

I have often expressed, both privately and publically, that the development of Philadelphia's energy future does not depend on whether PGW's regulated residential gas business becomes privately owned or remains municipally owned; the important issue here is how to best get the developable assets of PGW into constructive ownership.

There is an illustrative example of why PGW cannot compete in the commercial world operating as a quasi-governmental entity. Two years ago as PES began to develop our North Yard Rail Terminal, it looked like we would need a 20-foot right of way along a PGW fence line in order to run a large diameter crude oil pipeline. The property in question is unused, had not been used for many years, and there were no plans for its use. Nevertheless, PGW advised that it would take probably 6 months to get all the necessary approvals, first from its management,

then from its Board, then from the City's governing Board followed by perhaps the review of the City Council at large. Whew! Needless to say, that is not very commercial and we found another way. As a footnote, we also discovered that the property for which we were trying to obtain a right of way was actually owned by PES - the PGW fence line was built on PES property!

So where would an Energy Hub be located? One possibility is that certain property presently owned by PGW has great proximity to a primary new gas customer, Philadelphia Energy Solutions, and that property is already crossed with many pipelines to support distribution from the Hub. That is not the only site that could host the Hub, Southport Energy Port would be another great candidate, but the PGW site has many advantages that cannot be tapped under present structure.

PGW's existing gas liquefaction plant and LNG storage tanks are the other assets with great commercial potential as described earlier.

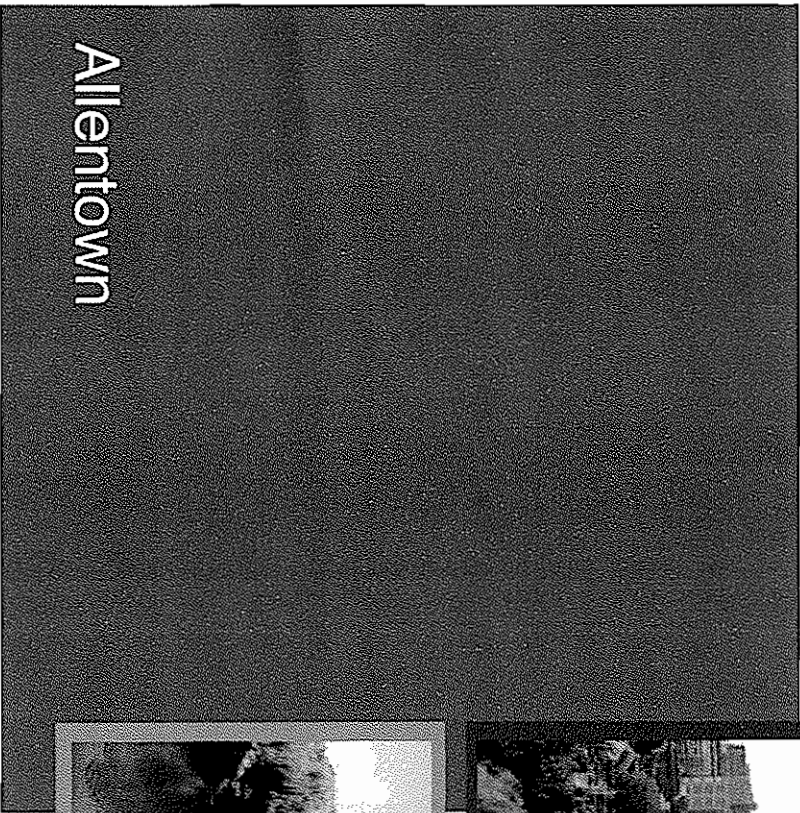
Once Hub gas is available, PGW would be in an excellent position to be the gas supplier to the industrial customers, greatly expanding its revenue potential.

A Public Private Partnership would be an effective structure to get those assets into the commercial structure that would be capable of developing them, while still keeping the City involved economically so it can have a stake in future success.

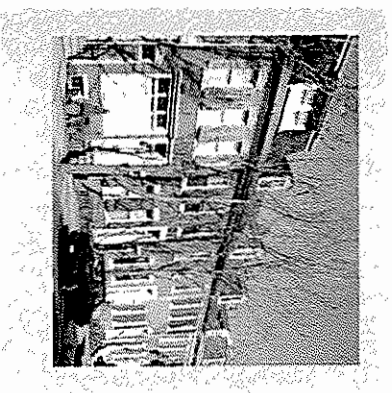
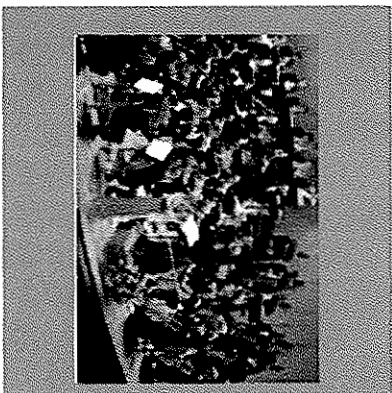
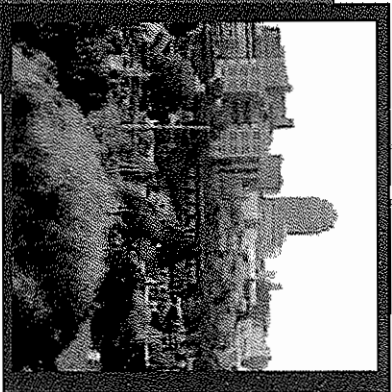
I can think of no conceptual reason why a P3 could not be made to work for the regulated side of PGW's business, i.e. the supply and distribution of residential gas. But it is difficult to see how there could be enough profit and profit growth potential in that part of the business to attract private capital. This is especially true since the residential gas supply portion of PGW's business fulfills worthwhile but non-remunerative social goals that reduces cash flow, and there is a significant latent capital expenditure burden to bring its pipe network up to current standards that further reduces net cash flow.

Thank you for hearing my views. I will now be pleased to try to answer any questions that you may have.

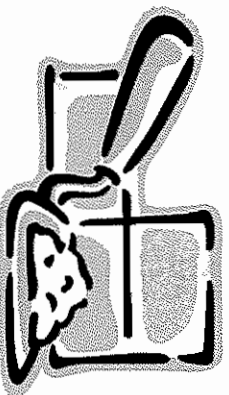
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Allentown



Rebuilding the Foundations



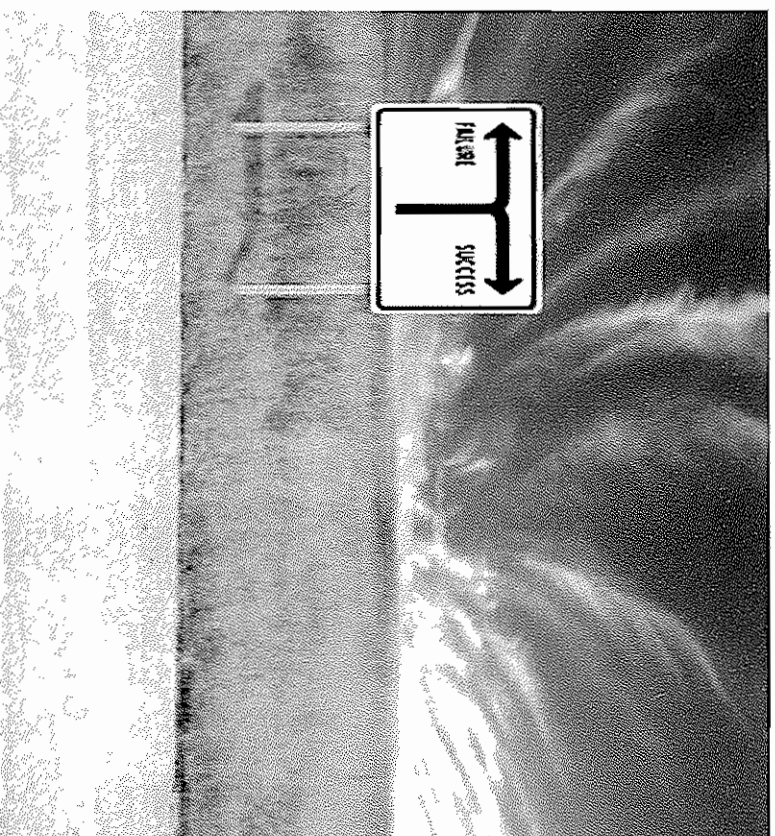
+ Repairing a Broken Foundation

Addressing Allentown's Legacy Costs

- Long term labor contracts
- Crippling pension costs due to early retirement of police and fire

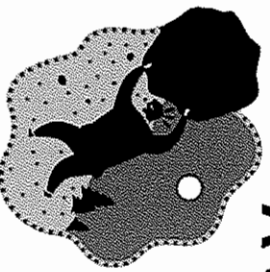
The Recession of 2008

- Increased health care costs
- Decrease in Revenues
- Stock Market plunge resulted in less revenue through returns on investments



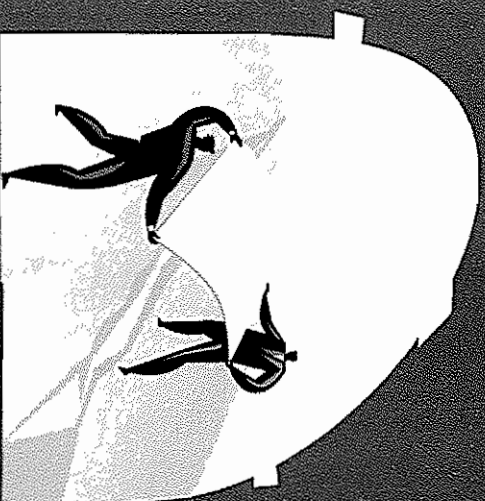
Pension Costs Would Consume 30%+ of City's Budget

- The unfunded liability of the City's Fire and Police pension plans was forcing the City's mandatory contribution to these plans -- called the Minimum Municipal Obligation (MMO) -- to rise
- The City of Allentown's pension plans had a total unfunded actuarial liability of \$150,000,000 and was only 48% funded
- The City is legally required to pay its MMO annually
- The City's pension debt service for Fiscal Year 2011 is approximately \$2.4 million in addition to the MMO



**A dramatic increase in revenue was needed
to fill the pension gap**

Closing the Pension Gap

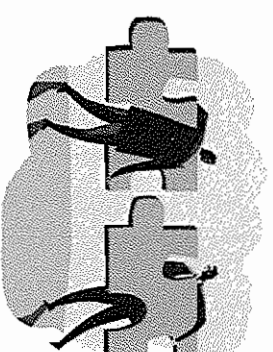


+ Working To Change the Future

Step One: Restructure personnel benefits

Two major components (Fire and Police) was successfully completed

Working to secure
and protect future
generations



+ Working To Change the Future

Step Two: Develop and implement a practical funding solution to significantly reduce the city's unfunded liability

Options Evaluated

- Raising property taxes
- Issuing a pension bond
- Leasing parking
- Leasing the Golf Course
- Leasing the water and sewer utilities

The evaluation process was conducted January – July 2012

Lease Water and Sewer Utilities

Allentown leased the City water and sewer assets and use the proceeds to reduce the City's unfunded liability, thus reducing its exploding MMO payments

In exchange for an upfront lease payment,

City secured a proven and experienced utility provider – chosen through a highly competitive and professional process

The provider assumed responsibility for managing, maintaining, and operating City utilities

The City was relieved of all capital and operating expenses of the system

At the end of the lease, the City will take back the utility returned to the City in good order, condition and repair to the benefit of our future residents.

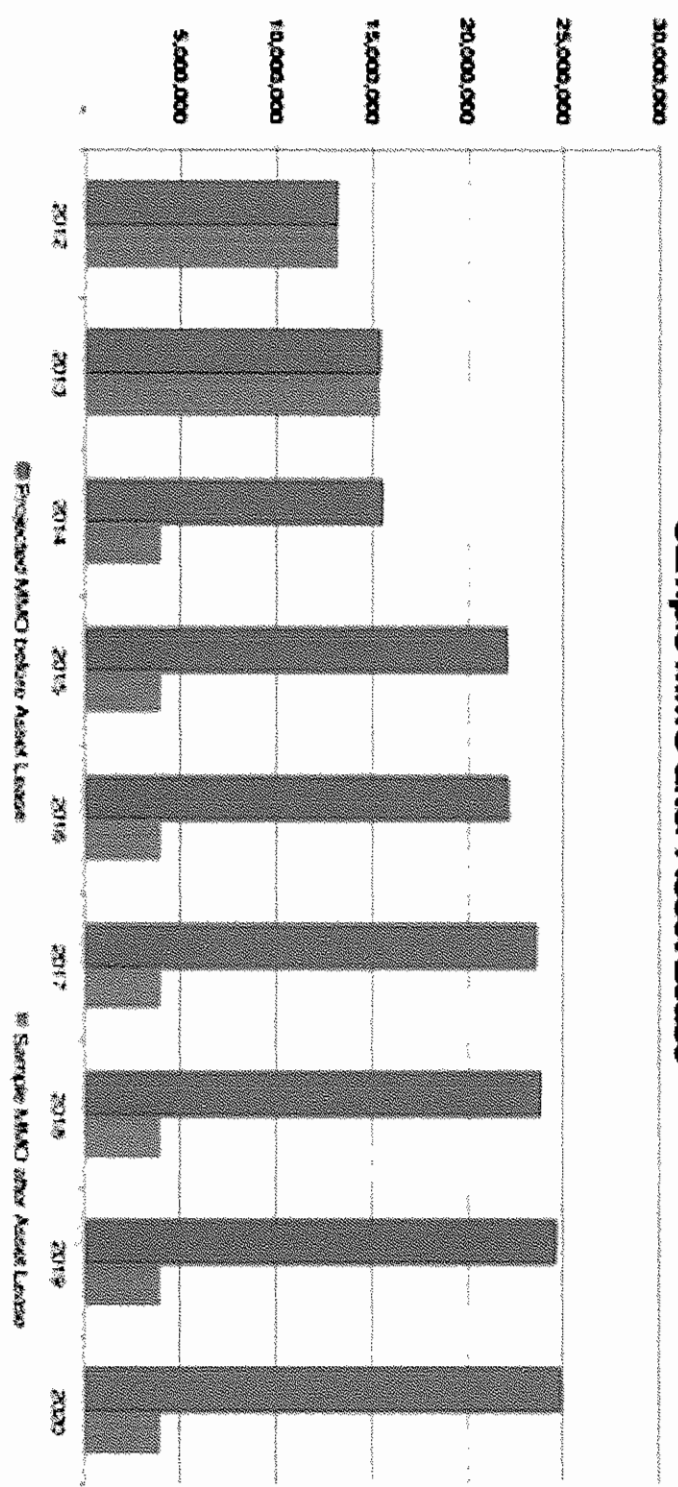
RECOMMENDED

Generated enough
Net Revenue to impact
the MMO and through the
Lease Agreement put
enforceable protections in
place for the city

MMO after Lease Agreement (Eliminate Unfunded Liability)

Lease Agreement will drastically reduce the projected MMO
and the need for large future tax increases

Red Bars shows Projected MMO without the Lease Agreement
Blue Bars shows Projected MMO with the Lease Agreement
Sample MMO after Asset Lease



Creating a Partnership for the Future



+ Concession Parameters

Lease, not sale

- A. No transfer of title and assets revert back to city control at end of lease term
- B. City will always maintain ownership of Allentown's water supply sources

Approximately 50 year term

Anticipate existing labor agreements to remain in force

- Workforce transferred to New Entity (*NO jobs lost*)

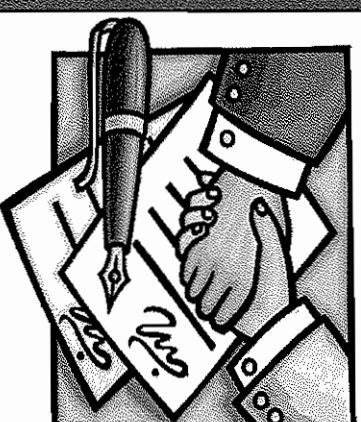
City is not liable for future operating or capital costs

City retired approximately \$30 million of water and sewer debt

City revenue shares with Lease on any new water/sewer service agreements

Net Proceeds substantially reduced the MMO

City reduced its pension and unfunded liability and eliminated the need for exorbitant and unaffordable tax increases



+ Procurement Process

City issued an RFQ to pre-qualify bidding teams

- A Major sewer and water operating entities(LCA, Bucks County Water and Sewer Authority, Aqua, United, American Water, etc.)
- B Infrastructure investors: Carlyle Group, JP Morgan Chase, Morgan Stanley

City Council then approved basic concession terms and minimum net threshold value (\$130mm or more)

City received RFQ responses and qualified bidding teams

Project team met with bidders to review their comments and answer questions.

City issued RFP to pre-qualified bidders

Received bids; awarded Concession to the highest reasonable bidder

City council approved the lease

City closed the transaction: transferred operation and paid off debt and unfunded pension liability.

Finalized
Transaction by
Second
Quarter of 2013



+ Summary

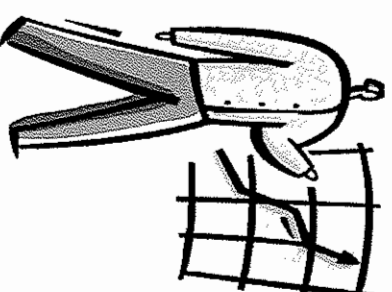
If not addressed, the pension and unfunded liability cost would have derailed Allentown's financial recovery and impose unsustainable tax increases on City residents and businesses

Public/Private sector interest and expertise in managing water and wastewater systems provided immediate financial relief and long term enhancements to the City through ongoing investment in its water and wastewater systems

The Lease Agreement helped the City:

- Eliminate its unfunded pension liability
- Substantially reduce its debt
- Potentially stabilize the tax rate for years

City is on road to
economic
recovery,
stability and
sustainability



lehighvalleylive.com

Allentown bond rating jumps three notches thanks to water lease

Allentown city hall sign

Standard & Poor's has boosted Allentown's bond rating to A+ (Express-Times File Photo | COLIN MCEVOY)

Edward Sieger | The Express-Times (By Edward Sieger | The Express-Times

Email the author

on February 18, 2015 at 10:03 PM, updated February 18, 2015 at 10:10 PM

Standard & Poor's raised **Allentown's** bond rating Wednesday thanks to the city's decision in 2013 to lease its water and sewer system.

The rating service boosted the city's bond rating three notches from "BBB+" to "A+" because of Allentown's "significantly improved budgetary flexibility" since signing a 50-year lease with the **Lehigh County Authority**.

Standard & Poor's "stable outlook" is boosted by expectations that the city will not spend down its reserves, according to a news release issued Wednesday.

The improved bond rating will apply to the \$13.58 million and \$11.58 million in bonds the city plans to float. The bonds will pay down existing debt the city is carrying at a higher interest rate and pay for capital improvements such as road work, equipment purchases and maintenance on city buildings.

The lease agreement with the Lehigh County Authority was a contentious process, the remnants of which can still be seen.

The city decided to lease its water and sewer system in order to tackle its mounting pension debt. The deal saw the authority pay the city more than \$211 million at the beginning of the agreement with a \$500,000 annual fee.

Lehigh County commissioners last week interviewed four members of the authority's board who had been nominated to new terms. One Allentown resident, who called the lease deal "horrible," urged the board to install new blood on the board.

Commissioners questioned nominees on how they voted on the lease agreement, and Commissioner Lisa Scheier said she needed to give the nominations serious consideration before commissioners vote next week.

Allentown's bond rating boosted by water, sewer lease

By Emily Opko
Of The Morning Call

16 FEBRUARY 18, 2015 8:35 PM

Nearly two years after Allentown approved a lease of its water and sewer systems, ratings agency Standard & Poor's has further increased the city's bond rating.

On Wednesday, Standard & Poor's announced that Allentown will now be rated A+ with a stable outlook. That's a three notch increase from the previous BBB- rating.

The upgrade reflects the city's "improved budgetary flexibility" due to the lease, according to a news release from the company.

The lease, finalized by the city in August 2013, gave control of the city's water and sewer systems to local nonprofit Lehigh County Authority for 99 years in exchange for a \$220 million upfront payment. The city pumped the majority of that money into its pension liability and pension bonds, which were severely underfunded.

The stable outlook is a reflection on the city's likelihood to maintain its "strong" reserves, the release said. City officials have stated they do not plan to spend down Allentown's fund balance, the release said.

The new rating will help the city with a series of bonds it plans to float this year for \$15 million and \$115 million. The larger series of bonds will be used to pay for various capital improvements. The second series will be used to refinance existing bonds, according to the news release.

Jeff Glazer, chairman of council's budget and finance committee, said the rating increase is good news for the city.

"It means that the financial industry recognizes that the city's fiscal health is improving," he said.

Glazer said the water and sewer lease appears to have been a good decision, but the true test will come when the lease allows the first rate increases. That is set to begin in 2016.

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610-820-6332

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Success Story: Allentown Cuts Pension Payment by \$17M

October 2, 2014

by Tim Horstmann

For the Morning Call, the City of Allentown recently announced that it was able to cut its pension costs for 2015 by more than \$17 million – all thanks to the lease of its water and sewer system to the Lehigh County Authority in 2013.

Before the lease went into effect, the City was projecting a total pension payment of \$14 million in 2015. Now, that payment will be only \$1.3 million.

The lease transaction that leased the City's water and sewer system provided for a large upfront payment to Allentown to stabilize the City's substantial pension liability, and helped the City avoid having to make substantial cuts to City services and raise property taxes to fund the pensions.

The transaction, which already was recognized by *The Bond Buyer* as the co-winner of its Northeast August Deal of the Year Award for 2013, continues to reap benefits for the City. The attorneys of the McNeese Municipal Recovery Group are proud to have represented Lehigh County Authority in the transaction.

Middletown Closes on 30-Year Water and Sewer Lease, Leases for Other Municipalities

We've previously written about the Middletown water and sewer lease, in which the Borough and its municipal authority agreed to...

Middletown Commission Considers to Draw Attention from the Industry

UPSTATE: We recently received permission to republish the original story from Global Water

Intelligence. Read the full piece here. Global

Mayor Papenfuse to Propose New Harrisburg Tax Abatement Initiative

From the Patriot News, report a story that Mayor Eric Papenfuse will be introducing a new 10-year tax abatement program.

THE BOND BUYER

Friday, March 13, 2015 | as of 7:23 AM ET

News

***The Bond Buyer* Announces Deal of the Year Finalists**

NOV 8, 2013 12:01pm ET

The Bond Buyer this week announced the finalists for its 12th annual Deal of the Year Awards.

For more than a decade, the editors of *The Bond Buyer* have selected the outstanding municipal bond transactions for special recognition, honoring the issuers who overcame myriad challenges to bring these deals to fruition. This prestigious competition has drawn nominations that represent the full diversity of the communities and public purposes that are served by the municipal finance market. The 2013 awards, which considered deals that closed between Oct. 1, 2012 and Sept. 30, 2013, drew a record number of nominations for transactions ranging in size from a few million to billions of dollars.

Nominees this year faced stiff competition from a host of qualified deals. Transactions considered included financings of hospitals, housing, toll roads, and airports; deals ranging from cost-saving refundings representing turnaround stories for issuers once in distress to alternative energy financing projects to a host of innovative public-private and public public partnerships. In fact, this year, *The Bond Buyer* will honor three P3 transactions with Deal of the Year awards, a first for this ceremony.

This year, issuers in eight categories were selected as Deal of the Year awardees. The honorees were first revealed Nov. 4-8 via individual video announcements at BondBuyer.com, along with additional information on the awards.

All the awardees are also finalists for the national Deal of the Year Award, which will be announced Dec. 5 at a ceremony at the Waldorf Astoria in New York City. The winner will also be announced at BondBuyer.com that same evening. For the third straight year, the Deal of the Year gala will include the presentation of the Freda Johnson Award for Trailblazing Women in Public Finance. The 2013 honoree is Philadelphia Treasurer Nancy Winkler.

The entries were evaluated in October by *The Bond Buyer*'s editors and bureau chiefs, who searched for innovation, the ability to pull complex transactions together under challenging conditions, deals that could or did serve as a model for other financings, as well as the public purpose for which a transaction's proceeds were used.

The finalists are

NORTHEAST REGION*

The Allentown Neighborhood Improvement Zone Development Authority's sale of \$274 million in tax revenue bonds to fund a new 8,500-seat arena, which would act as a catalyst for further redevelopment in downtown Allentown, Pa. The bonds were authorized under the Neighborhood Improvement Zone Act, under which certain taxes paid by qualified businesses within the NIZ are pledged as security towards the debt.

Allentown's 50-year concession lease of the city's water and sewer systems through a public-public partnership with the Lehigh County Authority, which generated a significant up-front payment to stabilize the city's rapidly growing unfunded pension liability and provided a foundation and path for fiscal stability.

**The two Allentown transactions, which represent a turnaround story from an economically depressed area, will be co-honorees in the Northeast category.*

SOUTHWEST REGION

Dallas and Fort Worth, Texas' \$2.73 billion of refunding and new-money transactions on behalf of Dallas/Fort Worth International Airport. The series of financings -- mainly to finance the airport's Terminal Renewal and Improvement Program -- accounted for 28% of national airport issuance over the Deal of the Year judging period.

MIDWEST REGION

The Indiana Finance Authority's public-private partnership with WVB East End Partners to fund the Ohio River Bridges East End Crossing Project, accomplished through the sale of over \$675 million in tax-exempt private activity bonds. It is the largest P3 PAF offering completed to date in the U.S. municipal market.

SOUTHEAST REGION

Harnett County, N.C.'s \$20 million sale of limited obligation bonds, used to purchase the general obligation debt of the county's seven small, unratified water and sewer districts, which had difficulty accessing the public capital markets individually.

FAR WEST REGION

The California Pollution Control Financing Authority's \$733 million sale of water furnishing revenue bonds -- issued on behalf of the San Diego County Water Authority -- to fund the Carlsbad Desalination Project. The deal -- executed as a public-private partnership with Poseidon Resources -- represents the first-ever project financing of a seawater desalination plant in the municipal market, establishing a new asset class for investors.

NON-TRADITIONAL FINANCING

The New York Metropolitan Transportation Authority's \$200 million sale of principal at-risk variable-rate notes, sold via conduit issuer MetroCat. The proceeds effectively collateralize three years of reinsurance coverage from MetroCat, a newly created Bermudan special purpose insurer, for storm surge losses incurred by the MTA through its captive insurer. The innovative, non-traditional structure allowed the MTA to close its storm surge insurance gap, following \$4.9 billion in storm surge-related losses as a result of Superstorm Sandy.

HEALTHCARE FINANCING

The billion-dollar financing program resulting from the New Jersey Medical & Health Sciences Restructuring Act, which provided for the dissolution of the University of Medicine and Dentistry of New Jersey, the defeasance of its \$668 million in outstanding debt, and the transfer

and integration of UMDNJ assets to Rutgers University, Rowan University, and University Hospital. The complex transaction represented the largest higher education merger in United States history, and provided for the complete overhaul of New Jersey's system of public health sciences education and research.

SMALL ISSUER FINANCING

The New York State Energy Research and Development Authority's \$24.3 million sale of residential energy efficiency financing revenue bonds. NYSERDA's collaboration on the transaction with the New York State Environmental Facilities Corp. — which guaranteed the bonds through its State Revolving Fund program — provided the first-ever linkage between clean water and clean energy programs. Aggregating and applying QEER allocations, along with the SRF wrap, significantly lowered the bond debt service and established a nationally replicable model.



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LCA on track for a good first year in Allentown

By Samantha Martin and Emily Opale
Of The Morning Call

OCTOBER 25, 2014 10:17 PM

A year ago Allentown Mayor Ed Pawlowski made a bold move

Faced with escalating pension payments that were set to top \$23 million by 2015, he pushed City Council to lease the city's largest and most valuable asset, its water and sewer systems, in exchange for cash to fund pensions.

Some warned of impending disaster from the 99-year deal: skyrocketing utility rates, contaminated drinking water and loss of city control. Others, including municipal officials across the country, applauded the mayor for finding a creative solution to pension expenses that many other cities have not.

One year after inking that deal, the prognosis is good.

The Lehigh County Authority, the winning bidder for the lease, reported healthy finances in the first year. Relatively few complaints were fielded by a board that monitors the lease. And unbundling the water and sewer systems enabled Allentown to beef up other operations in the Public Works Department.

Of course, only one year has passed. Forty-nine more remain. Customers have yet to see the planned rate increases that are built into the lease — a sure test of their tolerance for the deal. And the long-term financial health of the city without its most valuable asset remains to be seen.

One thing is for certain: The lease will help define how Pawlowski is remembered. Allentown has seen an unprecedented burst in economic development under his leadership with the Neighborhood Improvement Zone and the PPL Center it spawned, but the half-century water and sewer deal could be as much a part of his legacy.

The lease

The lease, which took effect in August 2013, gave control of the city's water and sewer systems to LCA in exchange for a \$21.3 million upfront payment and \$500,000 annual royalty fee. The city pumped that money into its struggling pension plans.

LCA officials have projected \$1.5 billion in revenue in the first 15 years of the lease based on water and sewer revenues in Allentown's budget, plus future rate increases. LCA financed the deal with \$300.7 million in bonds. By the time the bonds expire in 2047, LCA will have paid more than \$750 million in principal and debt service.

In the first year, LCA is on track to make more money than projected, records show.

According to documents filed with the authority's 2013 bond issue, total revenue was forecast at \$32.8 million, with \$18.4 million in operating expenses. After paying \$11.7 million in debt service, LCA expected to pocket \$9.7 million.

The authority's 2014 budget estimates revenue will end up at \$32.8 million and expenses at \$17.9 million. Taking into account debt payments, that would leave a \$14.7 million balance.

Financially, the revenues are right on track, according to officials with both the LCA and Lehigh County, which oversees the authority. Before the lease, the nonprofit LCA served about 20,000 residential and commercial customers in Lehigh and Northampton counties. It now provides water and wastewater services to more than 30,000 customers.

"It's only one year," LCA spokeswoman Lissette Adam emphasized. "I can't tell you that the rest of it is going to be on target."

Allentown's systems have benefited from LCA's leadership, said Lehigh County Executive Tom Multer, vice chairman of LCA's board of directors who championed the lease agreement.

Under the city's umbrella, water and sewer needs had to compete with other city priorities. Equipment purchases and upgrades could become tied up in a tapped city budget, Multer said, and the city didn't always have the resources to fully maintain the system.

"LCA is only focused on two things: water and wastewater, nothing else. Whereas the city's got a million other things to worry about," he said.

LCA's internal services budget, for such things as human resources, information technology, purchasing, fleet maintenance and safety, also is expected to see savings.

It's still too soon to judge if the sale will be good for customers, said Lehigh County Commissioner Mike Schwane, who opposed the lease out of concern the LCA would put the debt on the backs of ratepayers.

"The lease was set up so that customers wouldn't see the big raises in their water rates until later," he said. "So I'm not sure that we'd expect to see anything at this point."

Compliance

The decision to lease the water and sewer systems was controversial and prompted public outcry at council meetings, where city residents warned that Allentown would lose control over the valuable resource.

County residents, meanwhile, worried suburban customers would be responsible for shoring up shortfalls in the city system.

In a nod to those residents, Allentown administrators built into the lease agreement a compliance office to oversee LCA operations and handle potential disputes between the authority and residents. That office of two compliance auditors and an administrative assistant has since been established.

In the first year of the lease, the compliance office fielded 20 complaints, interim public works Director Craig Messenger reported to council last month.

Some glitches were to be expected, but overall customer service has been fantastic, Pawlowski said.

"Are some people going to be unhappy? Of course," he said. "Some people would have been unhappy if we didn't do this. There's always some folks who are unhappy."

Besides the compliance office, Allentown City Council also recently approved a five-member compliance review board that will include members of council, mayoral appointees and one non-governmental council appointee. That board will provide additional oversight of the lease, said council Vice President Ray O'Grady.

Muller said the first year was without incident from the county's perspective and no disputes emerged between the authority and the city.

Schwartz said LCA hasn't been as proactive as the city was in dealing with problems. Three Allentown customers, who spent tens of thousands of dollars in repairs after sewage backed up in their College Drive homes in May, would agree.

The city routinely examined sewer lines either annually, monthly or weekly, depending on how problematic they were. The College Drive line was on an annual maintenance schedule, city spokesman Mike Moore has said. It was serviced in 2010, 2011 and in April 2012.

It's unclear whether the line was serviced after that. Adam said the College Drive area was not on the city's list of "trouble spots" and that the authority wasn't aware of any ongoing issues.

While the authority acknowledged the blockage was on its end, it argued it doesn't have to pay for the resulting damage, citing a state law that shields governments from liability for problems they cause while providing public services.

Before Allentown City Council, city public works officials acknowledged they would have had the same response to the claim had the system remained under their control.

The LCA is reconsidering its decision after receiving a letter from one homeowner's attorney that put the authority "on notice regarding potential litigation."

"Stuff like that concerns me," Schwartz said. "It could just be a normal part of the transition. At the same time, now these three homeowners are facing enormous bills and don't have a recourse."

Apart from the city's system, LCA is in the process of upgrading leaking lines that carry waste from its suburban customers to the Allentown treatment plant. Ratepayers have seen their costs go up in recent years to help fund more than \$25 million in improvements needed to keep sewage from overflowing into streams during heavy rainfalls.

Nearly five years ago, the federal government ordered LCA and several local municipalities to put a better system in place by Dec. 31. But LCA and the municipalities have acknowledged that deadline won't be met, and they will ask the U.S. Environmental Protection Agency for an extension.

Improvements

As part of the lease deal, employees of the city's water and sanitary sewer systems were guaranteed jobs with LCA and did not remain on the city's payroll.

Allentown, however, continued to maintain its storm sewers. Without the water and sewer lines to worry about, the city could direct more resources to storm sewers, Meadager reported to council earlier this year.

Allentown crews beefed up their maintenance, using a camera truck to screen 60,000 feet of storm sewer lines in 2013, Messenger said. Under that schedule, every storm line in Allentown will be screened once in a five-year period.

The Public Works department was restructured as a result of the lease. And the record-setting snows that fell across the region last fall and winter put that department to the test. Some residents complained to council that snow removal was slower than usual. But city officials said the lease actually improved Allentown's plowing operations.

Before the lease, Allentown's water and sewer employees assisted with plowing. The city now relies on its newly formed stormwater department to step in. More than 20 new employees were hired for that department after the lease, increasing the number of plow drivers on night shift, Messenger told council.

Cold weather also brings water main breaks, but the lease has helped with that too, Messenger said.

Before, drivers were pulled from plowing to repair main breaks. Now LCA handles those and the city can keep a full complement clearing snow, he said.

The lease prompted LCA to add 35 employees, some to deal directly with customers.

As a result, LCA's employee-customer ratio has improved from one employee per 351 customers to one employee for every 330. And the authority has adapted its service to the needs of city residents, many of whom prefer to pay their bills in person. To accommodate the foot traffic, LCA renovated its office on Martin Luther King Jr. Drive.

LCA has taken a hard line on delinquent ratepayers, Adam said. Nearly 2,000 customers – about 300 per month – saw their service terminated for nonpayment. They'll receive a notice when they're 30 days past due warning them of termination.

That hard line extended even to large customers such as Sacred Heart Hospital, which at one point in July owed as much as \$165,000 in delinquent bills. Sacred Heart's largest accounts were paid in full before water service to the hospital had to be cut off.

"It got missed, we got called on it, and it got paid immediately," said Stephen Lanzahe, hospital vice president, adding that the bills likely were missed because of transitions in the hospital's finance department.

LCA terminations are done on a monthly schedule. The city's were less frequent, Adam said. LCA's aggressive procedure is about getting people paid up early so they don't keep accruing bad debt, she said.

More to come

Customers can relax for the next year or so, but after that, rates likely will go up.

Under the lease agreement, rates can increase beginning 2016. In the first half of the 50-year deal, rates can go up by a maximum of 2.5 percent a year plus the consumer price index – an estimated 3 percent total. Rates can jump an additional 2 percent a year plus CPI in the second half of the lease, or about 4.5 percent.

There are also provisions for LCA to increase rates beyond those caps to pay for major capital improvement projects exceeding \$1 million. Adam said LCA is required to replace 2 miles of water mains in the city annually, which would be considered a major capital improvement.

Other major capital improvements already have been completed, she said. LCA believes the lease would allow them to increase rates for capital improvements before 2026, but there are no plans to do that, Adam said.

Customers should expect annual rate increases to begin in 2026 and continue for several years, Adam said. LCA's budget projects healthier revenues after 10 years, which could lead to rate relief.

Increases are not new to Allentown ratepayers, said Pawlowaki, who was recently in Houston talking the city's lease at two international utility conferences. Over the course of the last 50 years, Allentown saw increases in water and sewer rates every two to three years. The increases will be more predictable under LCA's leadership, he said.

"The bottom line is nothing has changed," Pawlowaki said. "People still flush their toilets and turn on the water, and the water is there. But we don't have this massive pension liability anymore, and we don't have to raise taxes."

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Reporter Patrick Lester contributed to this story.

LCA'S NEW LOOK

\$42.2 million: annual operating budget

\$349.8 million: LCA debt

1,471 employees

3,438: hydrants

Source: Lehigh County Authority

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Allentown: Water, sewer lease will help borrowing

By Emily Dyle
Of The Morning Call

NOVEMBER 11, 2014 10:15 PM

The infusion of cash provided by Allentown's 2013 water and sewer lease has put the city in a better position to take on new debt in 2015, city finance officials said Monday.

Allentown's proposed 2015 budget calls for the city to take on more than \$20 million in long- and short-term debt to finance a number of infrastructure improvements, including upgrades to city pools and roads as well as the purchase of large equipment.

Debi Bowman, Allentown's deputy director of finance and treasury, said the 50-year, \$211.3 million water and sewer lease finalized in August 2013 allowed the city to pay down its unfunded liability, substantially reducing annual pension payments. It also gave Allentown the ability to reduce several debts, putting the city in a better financial position, she said.

In 2013, about \$40 million in water and sewer debt was paid off immediately after the lease was signed. This year, the city also took a bite out of its outstanding pension debt with a \$6.1 million payment. A \$5.5 million payment toward the pension debt is planned for 2015, Bowman said.

The result is a healthier financial picture, which has given city officials the confidence to propose \$15 million in long-term borrowing and \$6 million in short-term debt, she said.

"This is really great, what we can do in the position we're in," Bowman said. "We're great in that respect."

The \$15 million borrowing will include \$3 million for streetlight upgrades, \$3 million for improvements to city pools, \$2.5 million for citywide street repairs, \$1.6 million for state transportation projects, \$3 million for large equipment, \$750,000 for roof replacements, \$924,000 for traffic lights and bridges, and \$200,000 for improvements to the Livingston Watershed, where residents have seen frequent flooding.

City officials also released Monday a detail sheet explaining how \$6 million in short-term debt would be spent. On the list are two new firetrucks, a snowblower and more than a dozen pieces of equipment for the city's stormwater department. The short-term borrowing will also be used to pay for car cameras and body cameras for all Allentown police officers.

Allentown Managing Director Fran Dougherty said a review of the city's bond rating will automatically be triggered when the city moves to float bonds. Allentown is ranked A3 with a stable outlook by Moody's Investors Service and BBB+ with a positive outlook by Standard & Poor's.

Councilwoman Jeanette Eichenwald urged city officials to make an effort to further improve that rating before seeking bonds.

"We need to make sure our bond rating is as high as we can get," Eichenwald said.

Dougherty said overall the city is in a much better position with its bond rating than it was when Mayor Ed Pawlowski took office in 2006.

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Allentown Financings Win Bond Buyer Northeast Deal of the Year

November 4, 2013

November 4, 2013 - *The Bond Buyer*[®] announced on its website today that the City of Allentown's Neighborhood Improvement Zone Development Authority (ANIZDA) bond issue and its Water and Sewer System Concession Lease transaction are co-winners of the 2013 Bond Buyer's Deal of the Year Award for the Northeast Region. Led by Marc Feller, Esq., Dilworth Paxson's Public Finance Group as well as Dilworth attorneys in a variety of other disciplines, were integrally involved in these transactions from inception to completion, serving as counsel to the City.

The Bond Buyer's announcement and the City's press release notes that this is the first time in the 12-year history of the Deal of the Year award that a co-winners have been selected, highlighting the uniqueness and significance of each of these two deals. The transactions will vie with the winners from four other regions and three other categories for the publication's national overall award which will be announced at *The Bond Buyer's* Awards Gala at the Waldorf Astoria in New York City on December 5.

From the City's press release: "These complex transactions were necessary to lay the groundwork for development projects that are transforming Allentown, and to solve the massive unfunded pension liability crisis that threatened the future of this city," said Mayor Ed Pawlowski. "I am proud to see the team of government, legal and financial professionals that made it happen are being recognized for their fantastic work."

The Bonds issued to finance the minor league hockey arena for the Lehigh Valley Phantoms and related commercial development were unlike any other economic development tax revenue bonds seen by the market in recent times. None has been as comprehensive, complex, nor involved as many cooperating stakeholders as the ANIZDA Bonds. In the three year timeframe from the passage of legislation to the issuance of the bonds, ANIZDA faced many challenges including amendments to the legislation. The sheer number of stakeholders involved in the ultimate issuance, including the Commonwealth of Pennsylvania, the Pennsylvania Treasury Department, the Pennsylvania Legislature, the City of Allentown, the surrounding local communities, local and state politicians, private developers, team owners, financing team members, as well as the citizens of the City of Allentown, all came together in the end to facilitate the issuance of the

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bonds and provide the necessary funds for the start of the redevelopment of downtown Allentown.

The Allentown Water and Sewer Concession was the first concession lease of public assets in the country to have been offered to both corporate and governmental bidding teams and to have secured competitive final bids from both. The bid process was structured in a manner to create the highest level of competition among qualified firms, assuring the best value bid for the city's Water and Sewer system. The process ultimately generated a significant financial benefit (about \$211,000,000) to address the city's rapidly growing unfunded pension liability.

More information is available at <http://www.bondbuyer.com/video/deal-of-the-year-northeast-region-057032-1> here.

*According to its website, "The Bond Buyer is the only daily newspaper committed to serving the municipal bond industry. Established in 1891, The Bond Buyer is published five days a week except on national holidays and currently reaches more than 42,000 municipal finance professionals, bond issuers, government officials, and investors. It provides readers with analysis and data regarding municipal finance that is unavailable in as comprehensive form in any other news outlet. Municipal finance professionals and government leaders have been relying on The Bond Buyer as their source for municipal bond information for more than 100 years."

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PHOTO BY GUY LAWRENCE FOR THE BOND BUYER

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LEHIGH VALLEY NEWS

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Allentown Mayor Ed Pawlowski in California for pipeline safety meeting

Author: 6 NEWS
Published: 12/12/2014 12:00 PM
Updated: 12/12/2014 12:00 PM

News

Local



Mayor Ed Pawlowski speaking at a meeting.

ALLTOWN Mayor Ed Pawlowski is in California for a meeting with the state's pipeline safety council.

Pawlowski is meeting with the state's pipeline safety council in California.

Both sides were represented by

representatives from the state and local governments.

The meeting was held at the state's pipeline safety council in California.

A meeting was held at the state's pipeline safety council in California.

According to Pawlowski, the meeting was a collaborative effort to improve pipeline safety.

The meeting was held at the state's pipeline safety council in California.

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Introduction to Public-Private Partnerships

**Special Committee on Energy Opportunities for Philadelphia
March 13, 2015**



Executive Summary

- What is a Public-Private Partnership (P3)?
- How does a P3 function and what drives project success?
- What are the responsibilities of the private sector and the public sector?
- How do those engaged in P3 mitigate project risks?
- What does the P3 market look like?

What is a Public-Private Partnership (P3)?



Defining Public Private Partnerships

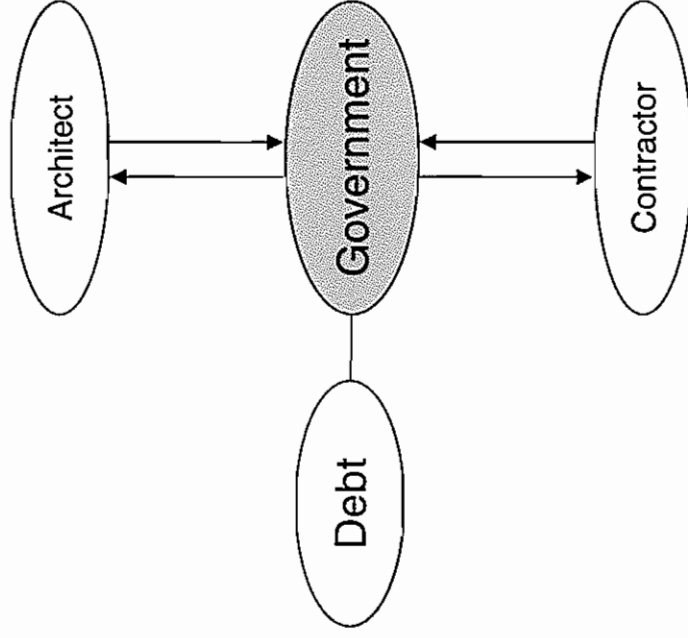
- P3 refers to several different contractual arrangements involving risk sharing and bundled operations or services that are asset life-cycle focused
- P3s vary by risk allocation and scope of services
- P3s usually include some private financing

Infrastructure Delivery Options

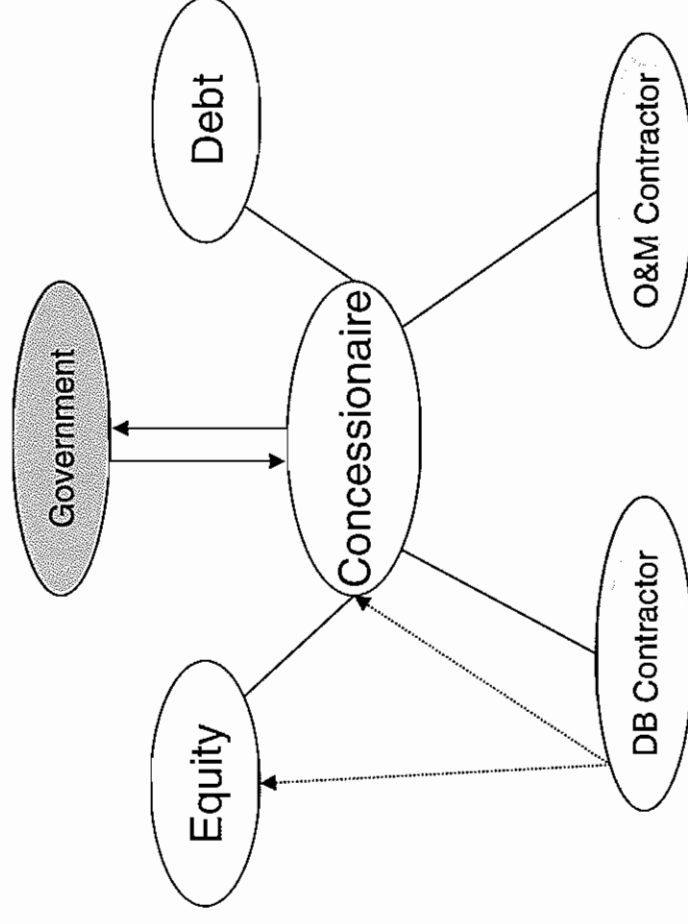


Public-Private Partnerships (P3), also known as Alternative Project Delivery, are different from traditional infrastructure procurement

Traditional Design-Bid-Build Procurement



Alternative Project Delivery

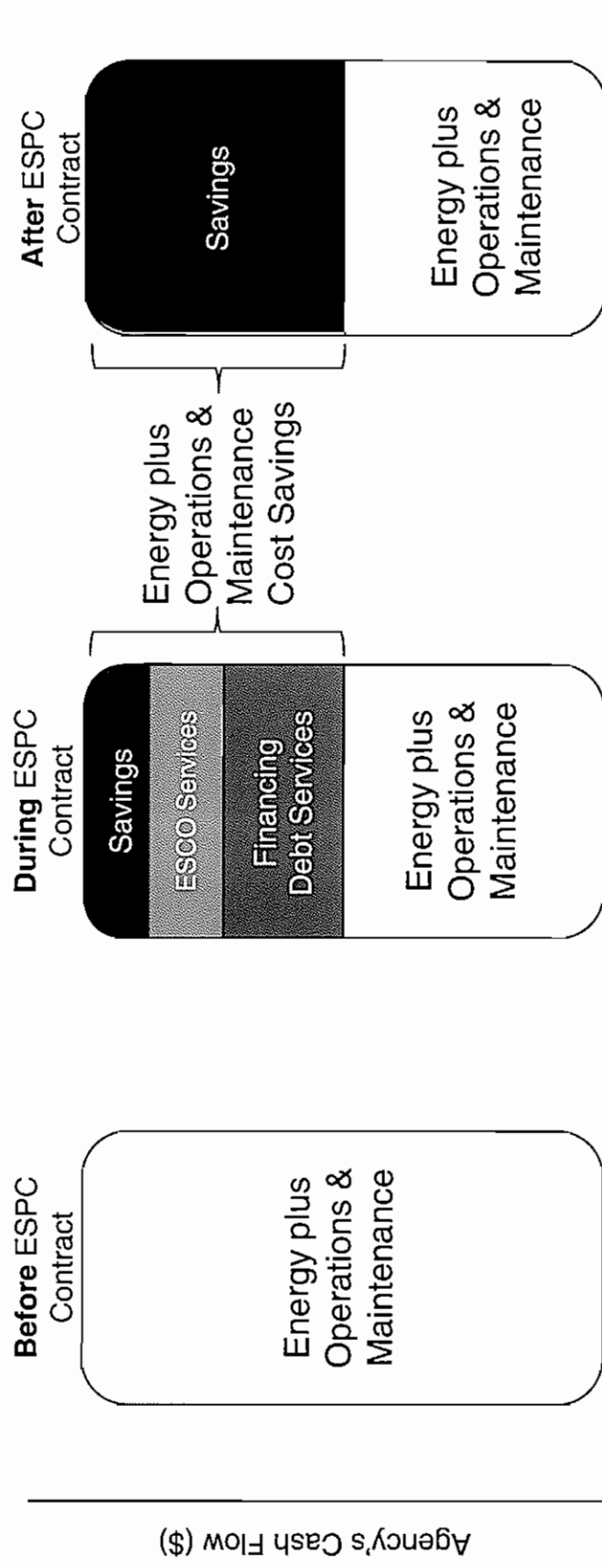


Key characteristics of P3

(the model above represents one of many variations of the P3 delivery model)

- Concessionaire procures all debt and equity financing
- Financing is project-specific, non-recourse
- Concessionaire paid according to performance based criteria through availability payments or user fees
- Term comprises construction and operations

Energy Saving Performance Contracts (ESPC): Partnership Between Government Agency and Energy Savings Companies (ESCOs)

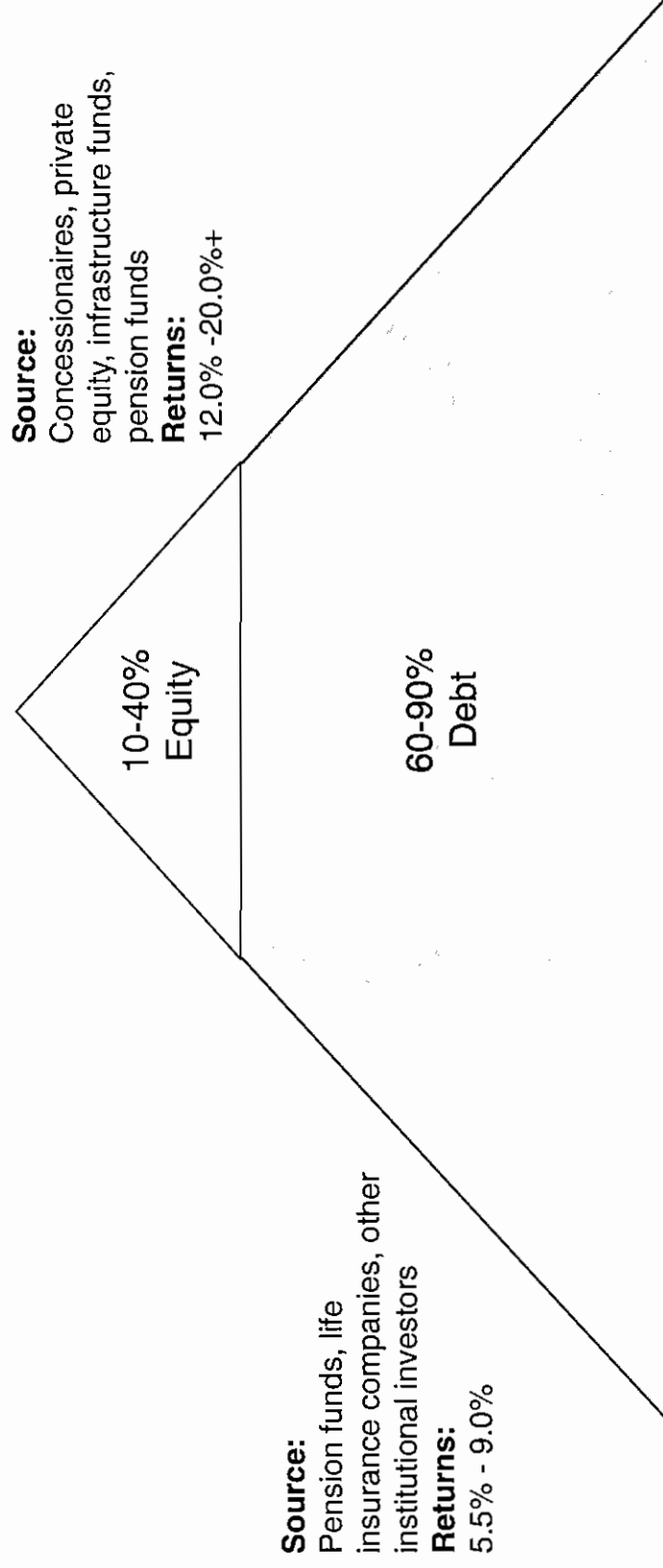


- Zero up-front capital from agency
- ESCOs guarantee the cost savings as a result of the improvements.
- The term of the contract lasts up to 25 years.
- Upon contract completion, the remaining additional funds roll to the agency.

Source for Graph: IPMVP

Aon Infrastructure Solutions | Aon Risk Solutions

P3s are financed through a combination of equity and debt



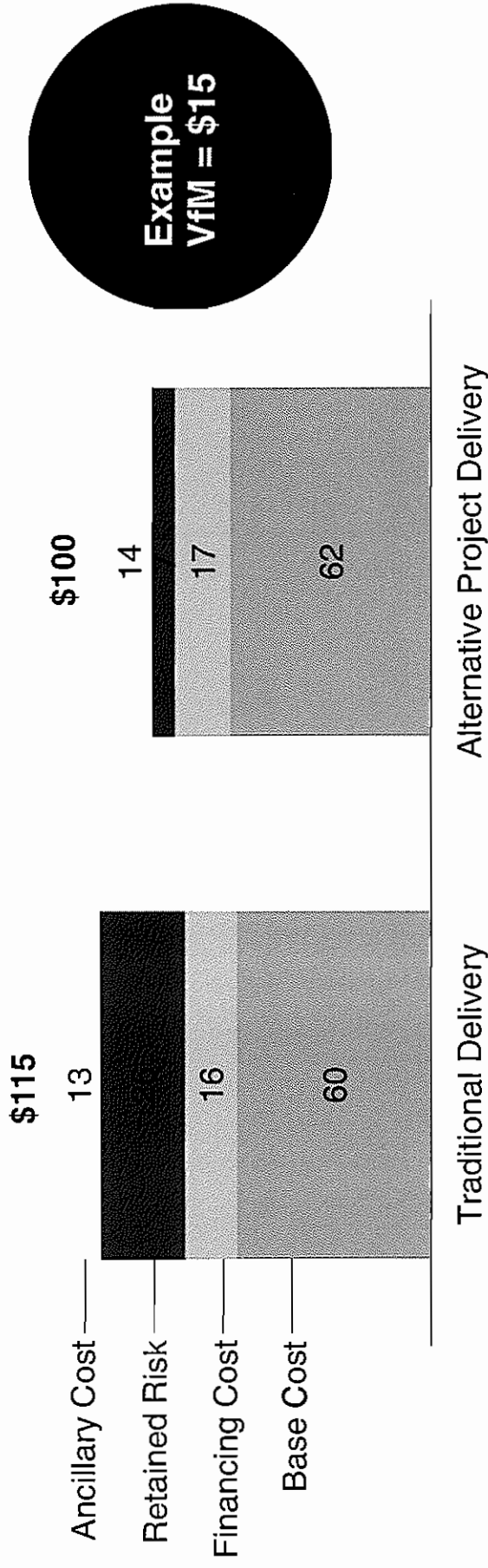
Since the cost of financing may be the critical difference between privately financed and publically financed infrastructure, there is a great emphasis on the value of risks transferred to the private sector.

Source:
Graphic concept from Weber and Allen. "Infrastructure as an Asset Class." Wiley Finance Publishing.

Aon Infrastructure Solutions | Aon Risk Solutions

Government evaluates P3 projects based on Value for Money (VfM), which compares the cost of traditional delivery to the cost of P3

Value for Money Example¹



- Value for Money is estimated by comparing four primary factors between public sector procurement and P3 delivery, including:
 - Base cost: construction cost, lifecycle cost, hard and soft facilities management costs, profit (under P3)
 - Financing cost: liquidity and opportunity cost, borrowing cost
 - Retained risk: planning & strategic, financial & accountability, design coordination, maintenance, lifecycle
 - Ancillary cost: internal and external project management expense, transactional expenses

What are the responsibilities and risks assumed by the private sector and the public sector?



In a P3 project, risk is transferred to the party best able to manage it

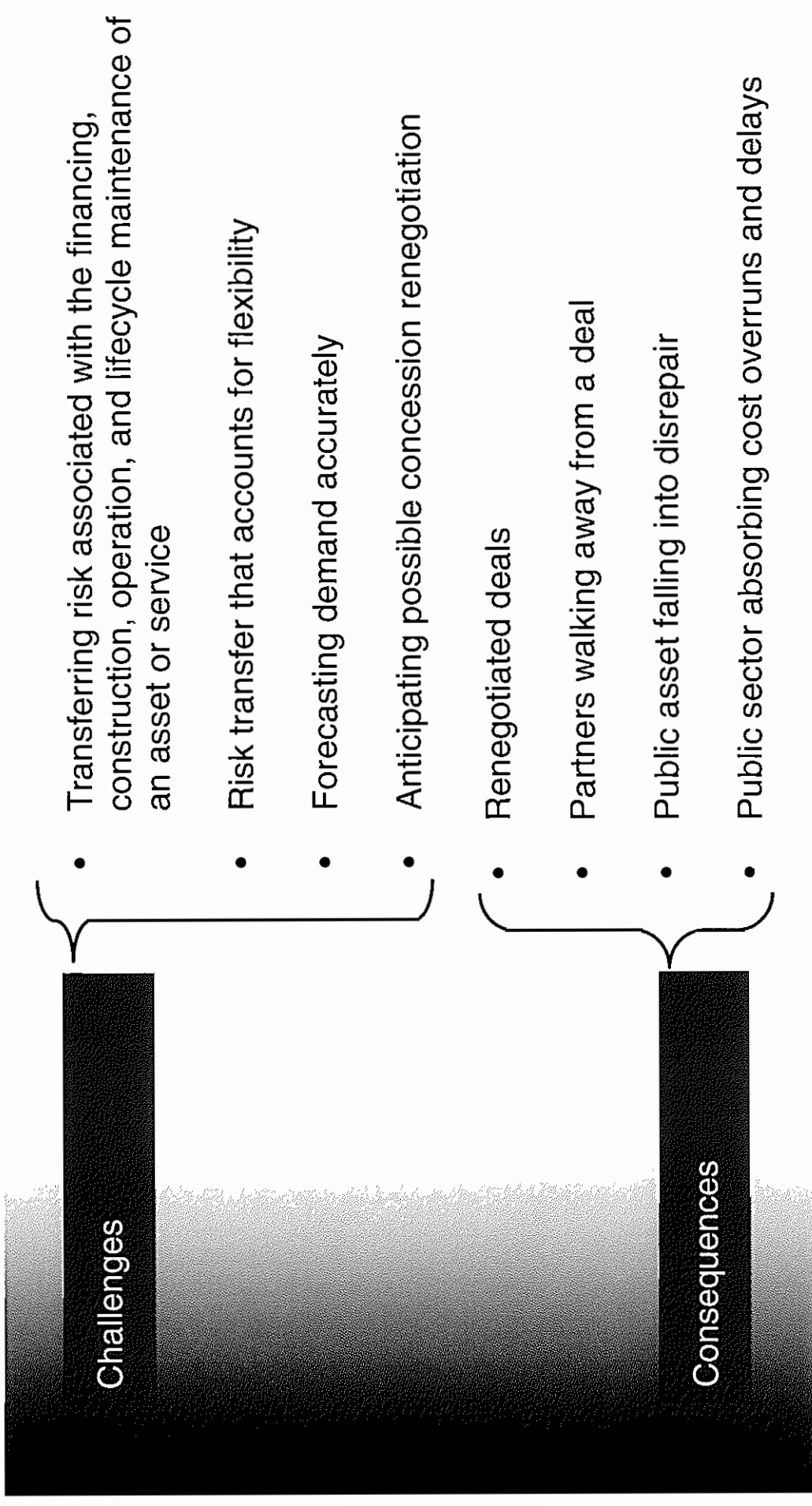
Traditional Design-Bid-Build Procurement

Owner's Risks	Bidder's Risks
Design	Construction
Financing	
Facility Management	
Lifecycle	
Facility Availability, Performance, and Asset Value	

Public Private Partnership (P3)

Owner's Risks	Bidder's Risks
Performance Specifications	Design
	Financing
	Facility Management
	Lifecycle
	Facility Availability, Performance, and Asset Value

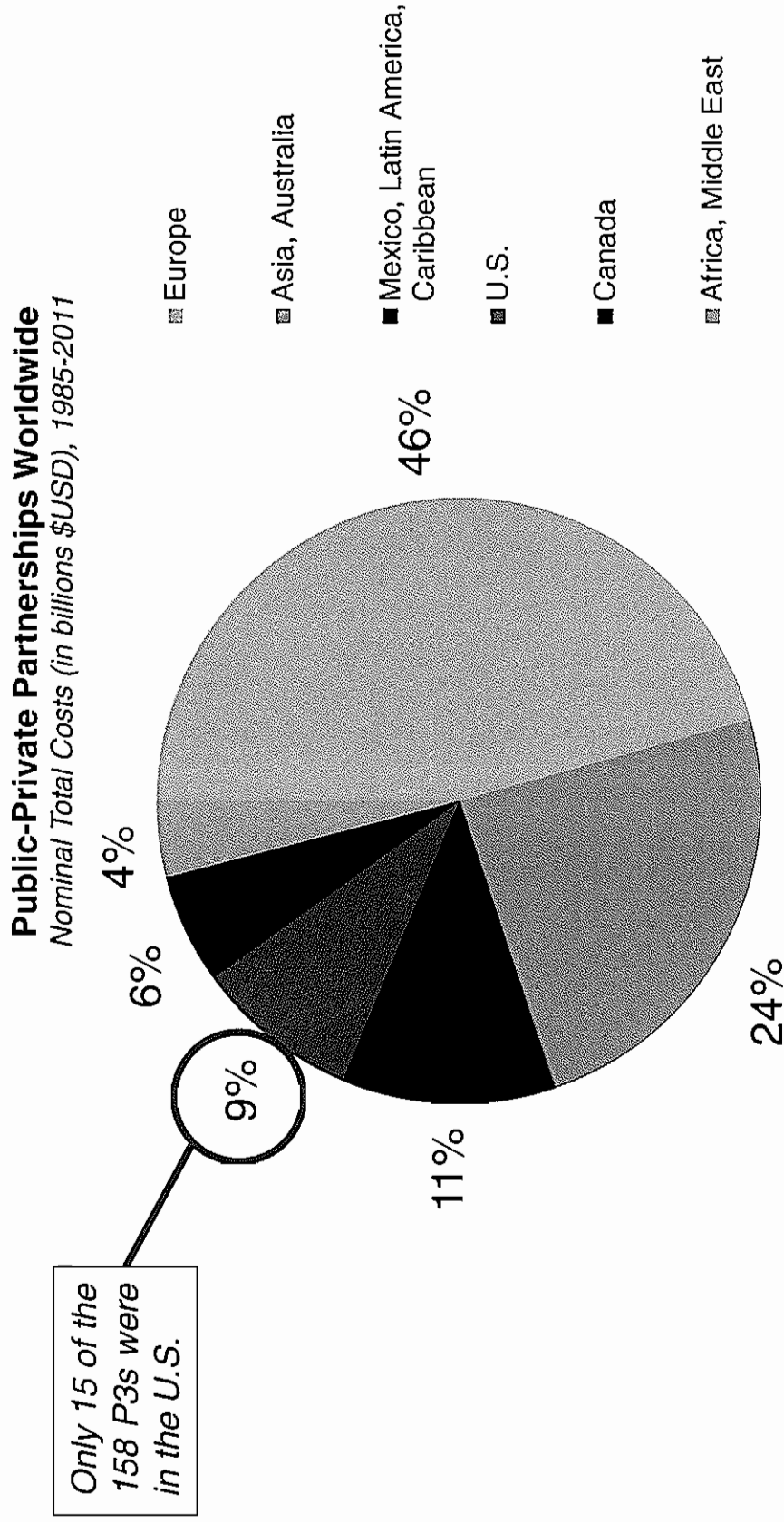
There are many challenges to carefully crafting a concession agreement that addresses all stakeholder concerns



What does the P3 market look like?



Between 2008 and 2011, governments around the world signed ~158 public-private partnership (P3) agreements with a total project value of \$160 billion



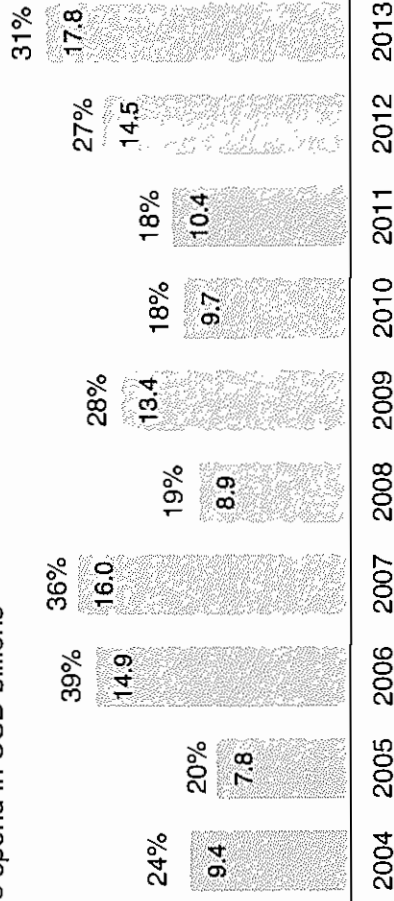
Source: PWF, 2011; Includes funded road, rail, buildings, and water project through October 2011 in nominal dollars converted into US dollars at the time of financial close. Excludes US design-build projects

Up to 1 in 4 infrastructure projects are procured through P3 in a mature market

United Kingdom

P3 spend as a % of nonresidential infrastructure spend
P3 spend in USD billions

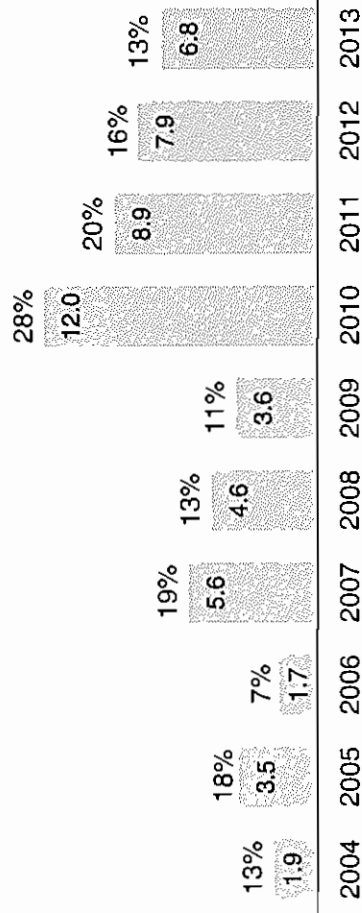
Average
23%



Canada

P3 spend as a % of nonresidential infrastructure spend
P3 spend in USD billions

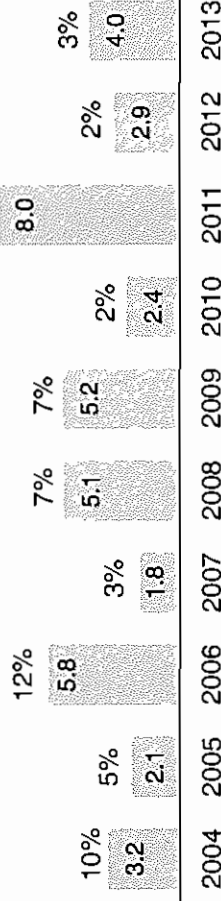
Average
13%



Australia

P3 spend as a % of nonresidential infrastructure spend
P3 spend in USD billions

Average
5%



United States

In 2014, 3.4% of US infrastructure, or approximately USD \$7.3 billion in constnction spend, is expected to be procured through P3.

Source: IHS Global Insights and InfraAmericas; Does not include energy or renewables projects. US P3 projection based on estimated nonresidential infrastructure spend of USD \$264.2 billion in 2018.

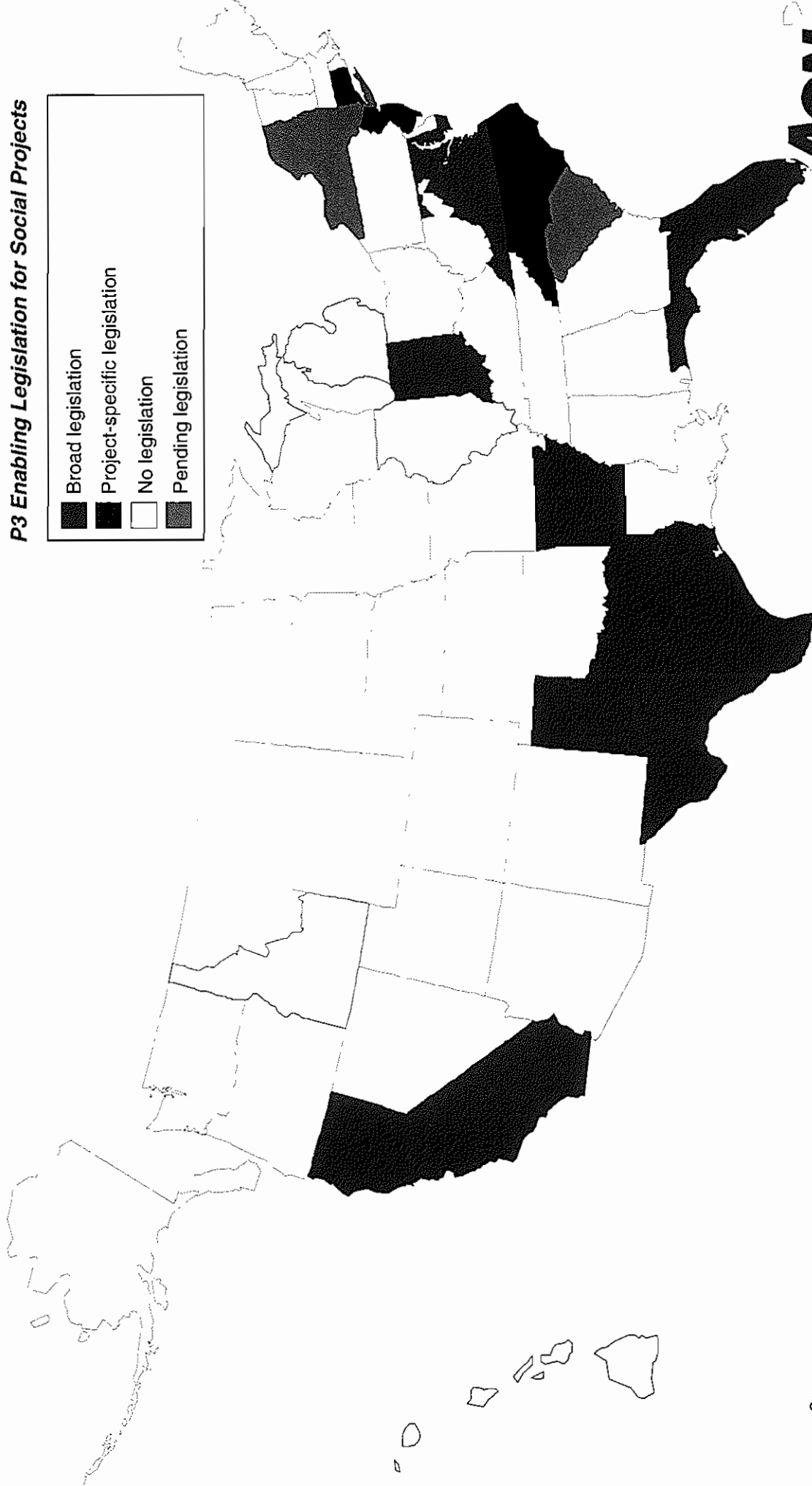
States play a critical role in funding P3 projects and enabling P3 through legislation; Civil P3 legislation has evolved quickly in the US



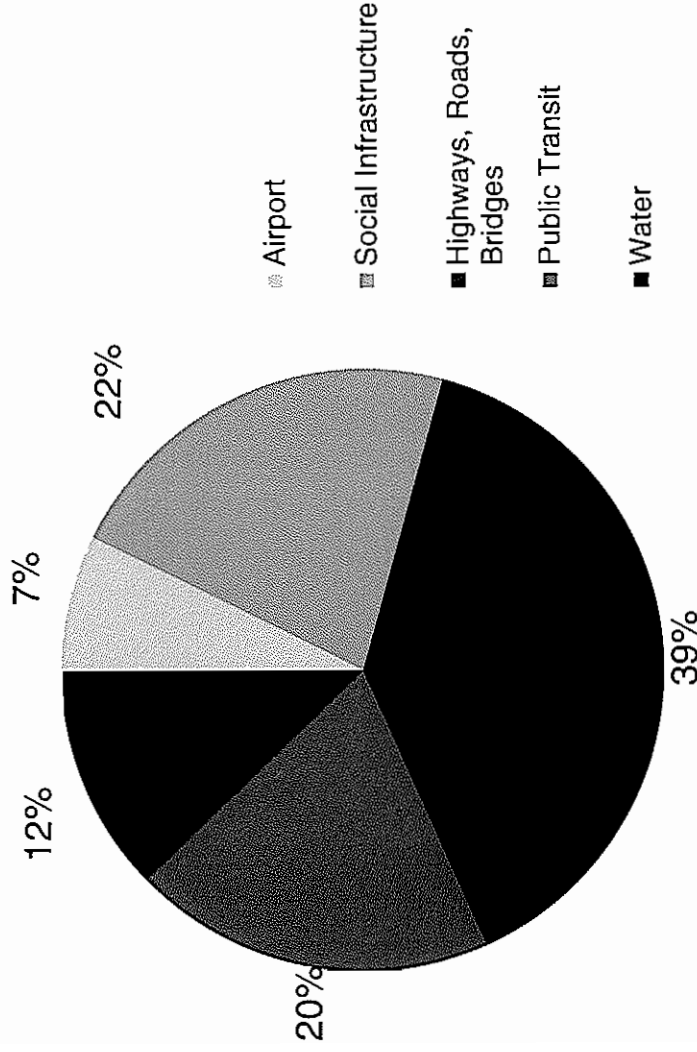
Source:
 AIS Policy Analysis, March 2014
 US Department of Transportation - Federal Highway Administration, http://www.fhwa.dot.gov/ipd/p3/state_legislation/state_legislation_overview.htm

P3 legislation for social projects is gaining momentum, but is less widespread than legislation for civil projects

P3 Enabling Legislation for Social Projects



While the number of P3 projects completed year-to-year has been inconsistent to date, 2015 will see a number of transactions reach financial close



U.S. Projects Upcoming and in Procurement

Total projects number of projects is 41

Projects in Procurement

1. Flagstaff Facilities (Arizona)
2. I-77 HOT Lanes (North Carolina)
3. Indianapolis Courthouse (Indiana)
4. Jefferson Parkway P3 (Colorado)
5. Long Beach Civic Center (California)
6. Mid-Currituck Bridge (North Carolina)
7. Pennsylvania Bridges Project (Pennsylvania)
8. Portsmouth Bypass (Ohio)
9. SH 288 (Texas)
10. Southport Terminal Development (Pennsylvania)
11. Harbor Bridge (Texas)
12. I-285/SR 400 Improvements (Georgia)
13. LaGuardia Airport Terminal (New York)
14. Michigan Freeway Lighting (Michigan)
15. Purple Line (Maryland)
16. University of California, Merced Campus Expansion
17. University of Kansas Campus



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Penn America Energy, LP

Philadelphia Gas Works World-Class LNG Export Terminal

1. Concept :

- A. Philadelphia Gas Works will become America's 1st Municipal Owned & Operated World Class LNG Export Terminal.
- B. A Public Private Partnership (P3) structure is not the desired structure due to the following considerations :
 - A P3 structure will transfer "Public Assets" into "Private Entity."
 - A P3 structure will Privatize Public Job Opportunities.

The collective goal should be to establish the appropriate platform for a *"Public + Private Collaboration."*

- C. Penn America Energy, LP will fund the expansion of the existing PGW Richmond LNG plant, with an estimated capital cost of \$2.1 billion USD. Penn America Energy, LP will own the assets [4.5 million tons per annum (MTPA) Liquefier and Cryogenic Loading System], and through a "Lease Agreement," Penn America Energy, LP will lease the assets to Philadelphia Gas Works, the plant owner and operator.

Philadelphia Gas Works (PGW) will not be privatized and remain an independent public utility.

- D. Land Lease Agreement between (Lessor) Philadelphia Gas Works and (Lessee) Penn America Energy, LP [Penn America Energy, LP will work with the Philadelphia City Solicitor and the PGW legal team to extrapolate the most appropriate structure].

PGW and the City of Philadelphia will own the land and it will remain a "Public Asset."

- E. Through a "Service Contract" between "Seller" Philadelphia Gas Works and "Buyer" Penn America Energy, LP, the buyer will pay
Penn America Energy, LP



Penn America Energy, LP

the seller a "Tolling Fee" for Liquefaction and Stevedoring services (LNG production and vessel loading) required to process 150 billion cubic feet (150 bcf) of natural gas / year in the form of Liquefied Natural Gas (LNG).

The "Tolling Fee" paid to PGW for the aforementioned services, is estimated to be \$1.00 / mmbtu.

The "Tolling Fee" will generate an estimated \$150.0 million per year in annual revenues for a 20-year term paid directly to Philadelphia Gas Works for services rendered. The contract will include a 20 year rollover provision. The final economics related to the debt service will refine the "Tolling Fee" and revenues generated.

- F. Penn America Energy, LP to provide 20 year "take or pay" Sales Purchase Agreement (SPA) with a credit worthy counterparty, secured by a revolving irrevocable documentary letter of credit issued by a "confirmed bank."
- G. Penn America Energy, LP will secure a long term feed-gas Sale Purchase Agreement (SPA), equivalent to 700 million cubic feet / day (mmcf), through energy supply companies and midstream energy companies.
 - Supplier : Cabot, Southwestern, and other.
 - Midstream : Transco Williams and Spectra Texas Eastern
- H. At the Federal level, Penn America Energy, LP will make application and manage all regulatory requirements, to include FERC and DOE permitting, etc.
- I. At the State and Municipal level, Penn America Energy, LP will make application and manage all regulatory requirements.
- J. Penn America Energy, LP will make application and manage all State and Municipal regulatory requirements and permitting.

Penn America Energy, LP

48 Wall Street New York, NY USA 10005
phone : (01) 917.225.8181



Penn America Energy, LP

2. Design Technology :

4.5 MTPA Single Train

Conoco Philips Optimized Cascade System

EPC Design : Bechtel and APCI Air Products & Chemicals

Benchmark : Cheniere Energy Sabine Pass Design

3. Estimated Capital Cost :

The estimated capital cost for this project is approximately \$2.1 billion USD. This estimation will also capture plant construction, EPC firm (Engineering, Procurement, Construction), professional fees associated to legal, accounting, environmental and project management, etc.

- \$500,000,000 : 25% equity
- \$1,600,000,000 : 75% debt (combination of senior secured and mezzanine debt)

Citibank [Lead Investment Bank to Form Syndicate]

Credit Suisse Bank

Morgan Stanley

GE Capital

Family Fund

Sovereign Fund

4. Critical Pathway : 3.5 – 5.0 years

- EPC + Permitting : 18 – 24 months
- Construction : 24 – 36 months

5. Professional Services :

A. Stradley Ronon Stevens & Young LLP

Mr. William Sasso Esq : Chairman

Mr. John Salor Esq

Mr. Andrew Levine Esq

- Specific to Pennsylvania and Philadelphia issues.
- Key Strategic Role and Legal Representation

Penn America Energy, LP

48 Wall Street New York, NY USA 10005

phone : (01) 917.225.8181



Penn America Energy, LP

B. Hogan Lovells US LLP

Ms. Mary Anne Sullivan Esq

- Regulatory FERC + DOE Permitting
- Commercial Contracts
- Manage the Washington DC process

C. DLA Piper, LLP

Mr. John Merrigan Esq

Government Affairs

- Manage all Domestic and International Government affairs.

6. Engineering Procurement + Construction (EPC) Candidates :

A. Bechtel - EPC Cheniere Energy Sabine Pass LNG Terminal

B. Black & Veatch

7. Project Development + Management :

CH-IV International, LLC

Mr. Jeffrey Beale : President

To align and manage all project processes and procedures
(example : EPC, FERC + DOE permitting, environmental, etc.)
pursuant to the successful completion of the project.

8. Counterparties for 20 year Sales Purchase Agreement (SPA) :

- Vital
- Glencore
- Noble Group
- Trafigura
- Mitsubishi (Japan)
- Marubeni (Japan)
- Goldman Sachs
- Morgan Stanley

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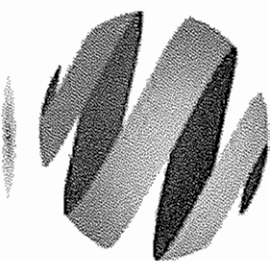
Penn America Energy, LP

Value Proposition for the City of Philadelphia

1. Philadelphia Gas Works remains a Public Asset.
2. No capital investment from the City of Philadelphia.
3. Estimated \$150.0 million per year in additional revenues generated by Philadelphia Gas Works through a 20-year contract, with a rollover provision.
4. \$25.0 - \$50.0 million will reduce PGW aging infrastructure cast pipe replacement plan by "decades."
5. \$50.0 million will reduce the gas rates \$1.00
6. Change in the dividend paid to the City will directly impact:
 - City Pension funds
 - Schools
 - Neighborhoods and communities
 - Infrastructure development
7. Public Jobs Will Not Be Privatized
 - Jobs created to build the LNG Terminal
 - Jobs created for PGW plant operations
 - Jobs created to replace 1800 miles of aging pipeline infrastructure.
 - Jobs created by the economic benefits
8. Increase tax revenues for city and state.
9. Revitalize and Repurpose the Tioga Terminal.
10. Legitimize Philadelphia as an Energy Hub and re-focus global optics on Philadelphia providing extraordinary value to the city across all industries and professions.
11. A PGW World Class LNG Export Terminal will support the US National Security Interests, as well as the National Security Interests of EU nations that are dependent upon Russia for their natural gas energy requirements.

Penn America Energy, LP

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Penn America Energy, LP

creating value through imagination

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The Genesis

Inspired by the national security interests and energy requirements of a sovereign nation, the Republic of India, combined with the extraordinary natural gas resources of the United States, the vision for the company was to create an energy platform that would provide a long term sustainable supply of Liquefied Natural Gas (“LNG”) for export.

Who is Penn America Energy?

Penn America Energy was created from inception as a “*single purpose entity*” dedicated to the concept, strategic planning, project finance + development and management of the asset, a United States based World Class LNG Export Terminal.

Through the governance, expertise and scope of the firm’s *Executive Leadership Committee, Advisory Board and Strategic Partners*, Penn America Energy demonstrates the proven leadership capability and distinctive skill sets required to successfully identify, strategize and create the most optimal value proposition for all stakeholders.

Executive Leadership Committee

Franc James

- Indo America Energy Group, LLC - Managing Director
- United Group Holdings, Pvt Ltd - CEO Asia Operations
- NacuMex, LLC - Managing Partner
- Private Brand Services, LLC - President

Ridge Global, LLC

- Governor Tom Ridge - CEO
- Steve Kohler – EVP
- James Seif - Partner
- Ridge Global & Ridge Policy Group

Sam Hammons Esq.

- Former Secretary Energy for the State of Oklahoma
- Sequoyah Capital Partners – CEO
- COSCO Capital Management
- RAM Group – Partner
- Alcor Energy Solutions – Board of Directors
- Gas2Power, LLC – Board of Directors

Francis Casale

- Investment Banker NRDC Equity Partners – Managing Partner
- Quotient Partners, LLC – Managing Partner
- S.A.C. Capital Associates, LLC – Managing Director Investment Banking

Advisory Board Members

John Imle

- International Oil and Gas Technology - Non-executive Director
- Nations Petroleum – President and CEO
- Vanco Energy Co – President and Advisor to the Chairman

Steven Spence

- Dominick & Dickerman LLC - Managing Director Investment Banking
- Morgan Stanley – Financial Advisor to Vector Group Asset Management Team
- Merrill Lynch – International COO Securities Services and Managed Derivative Operations in Zurich, Paris and Japan.
- CME – Broker Eurodollar Futures

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Governor Tom Ridge CEO

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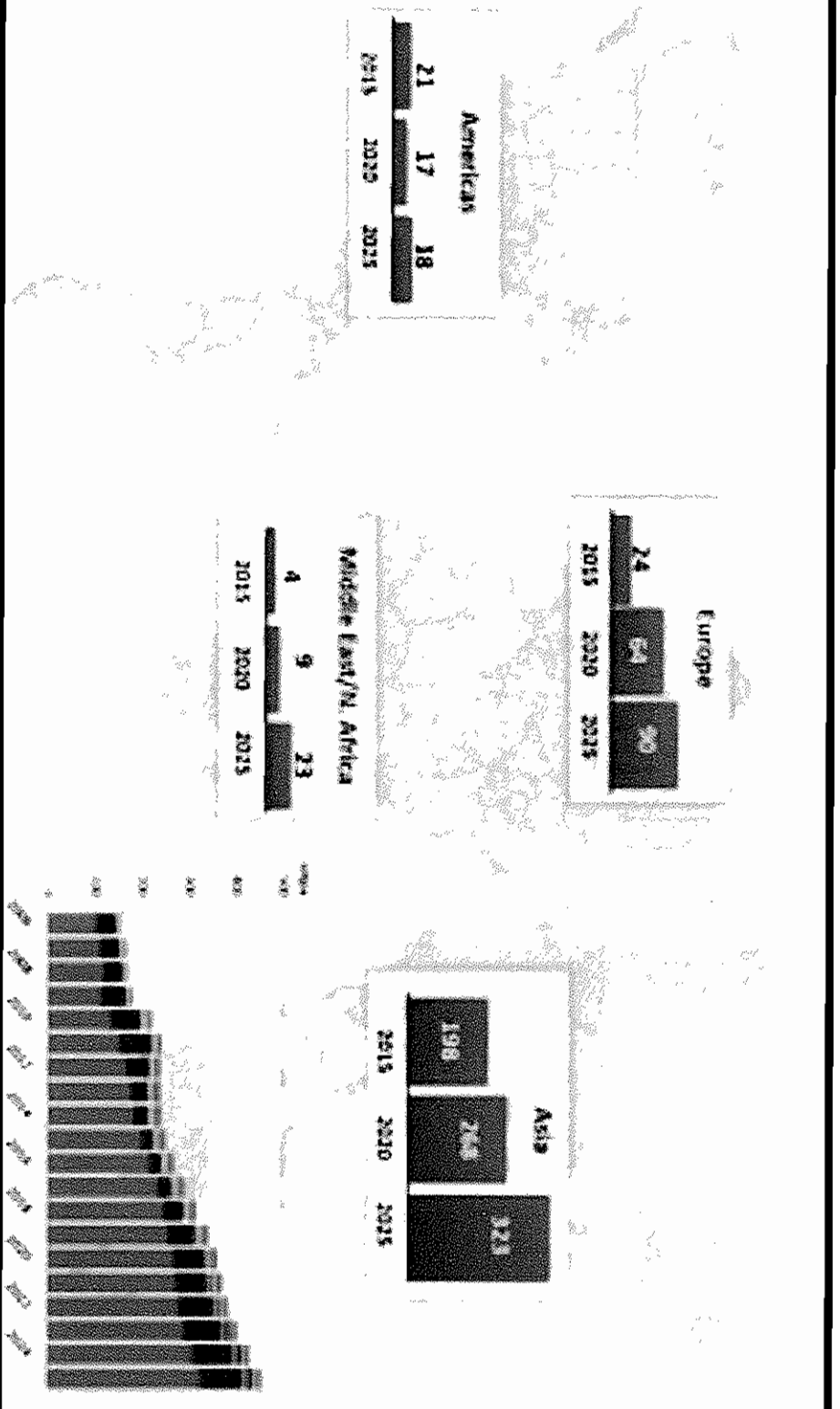
Oklahoma City Office

Sam Hammons Esq.

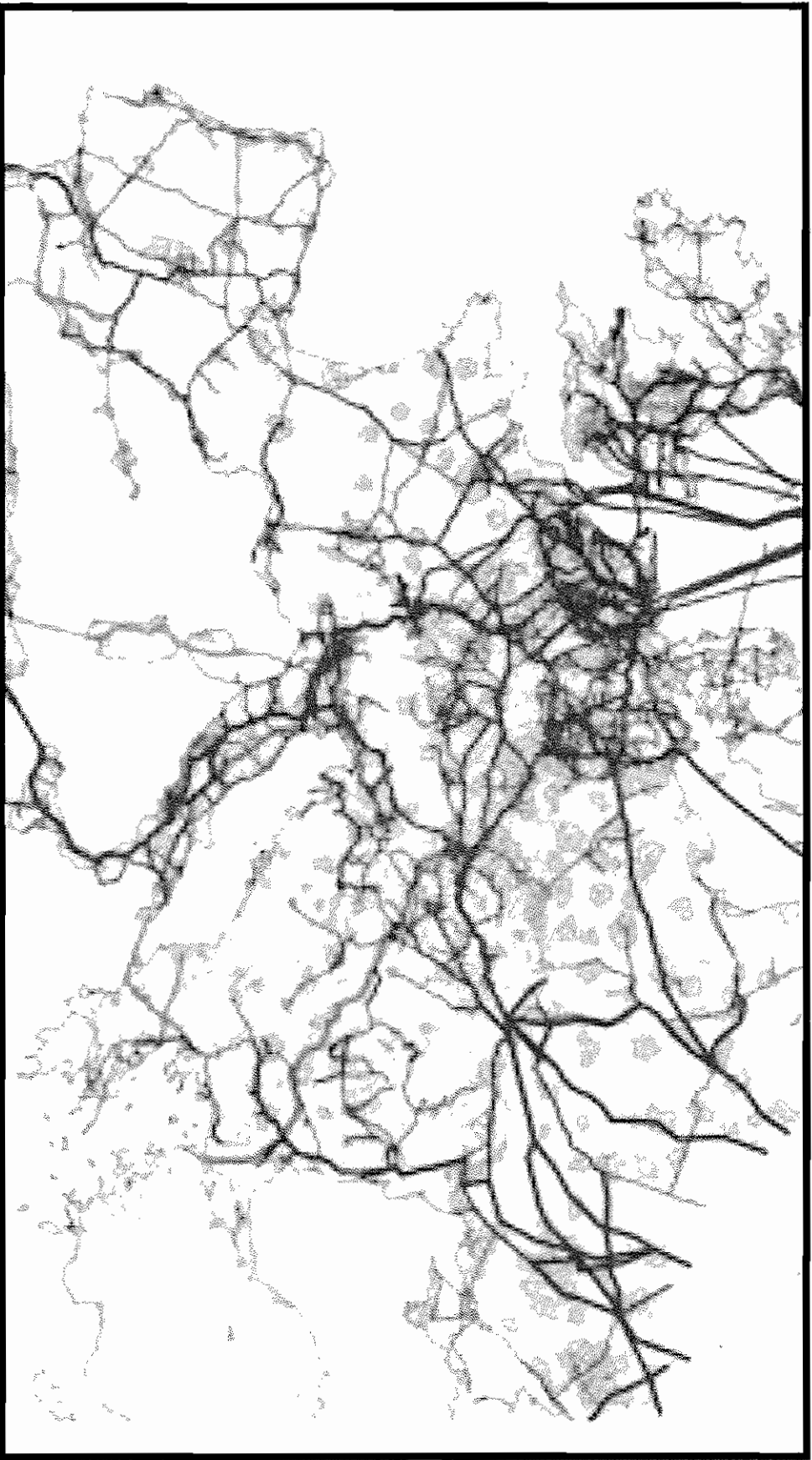
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shammons@pennamericaenergy.com

Forecasted Global Requirements of LNG over 10 yrs Average of 23 mpta Increased Capacity Needed / Year



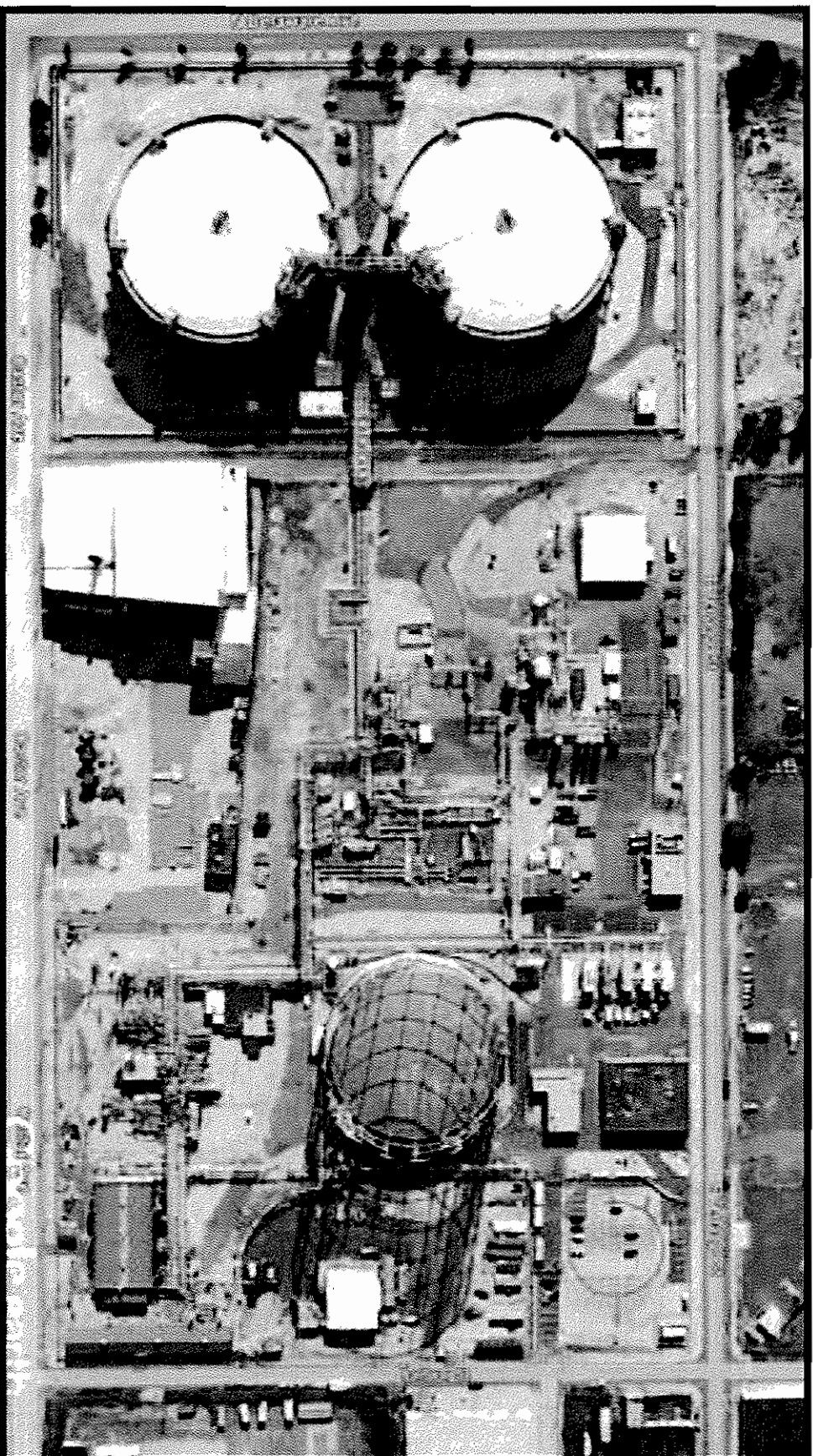
Target Market : Europe



Main Objective :

Penn America Energy desires to be a long term customer of Philadelphia Gas Works, and purchase the annual equivalent of 150 billion cubic feet (“BCF”) of natural gas, processed into the form of Liquefied Natural Gas (“LNG”) for export.

Philadelphia Gas Works Richmond LNG Plant Peak Shaving Facility

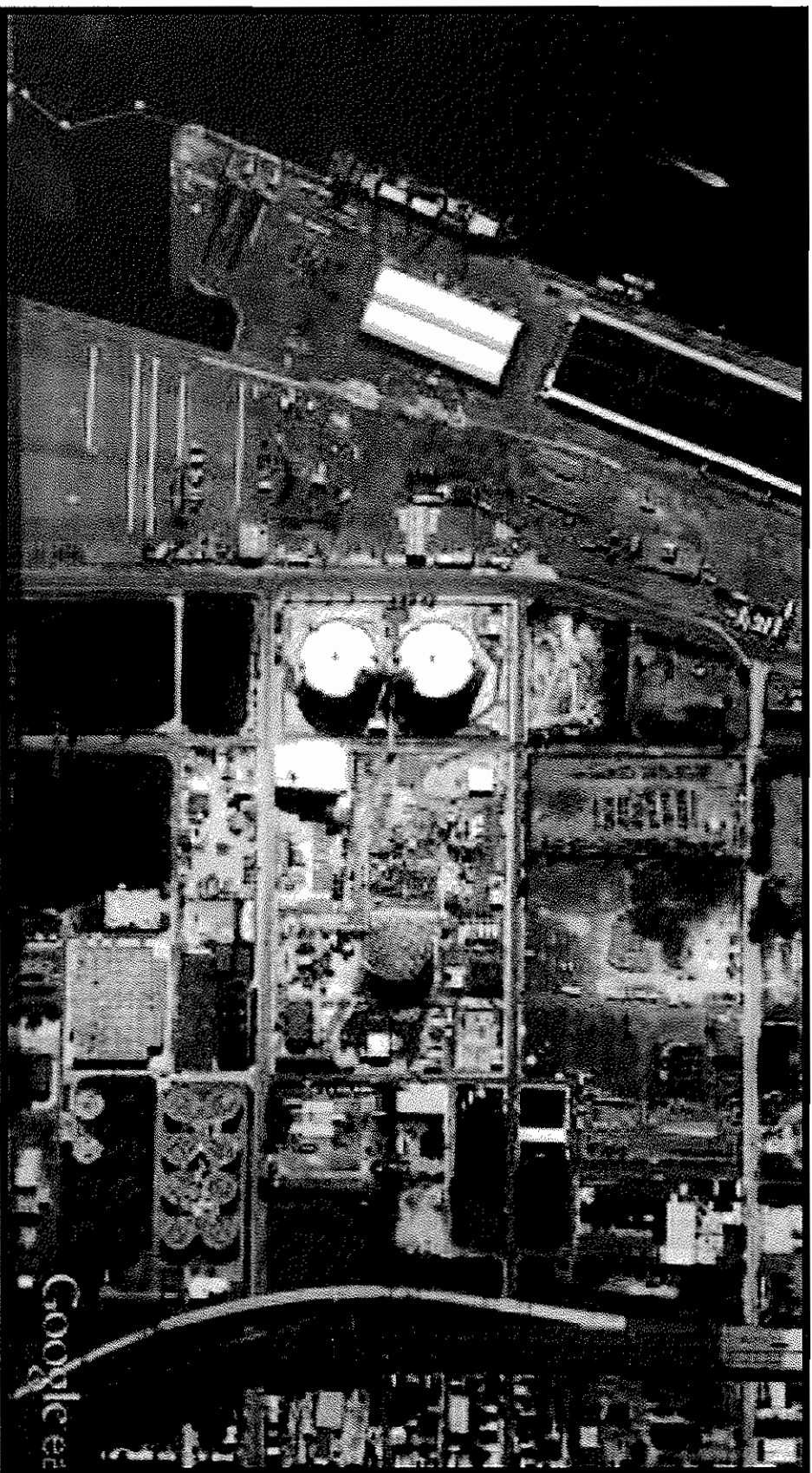


Penn America Energy proposal is to contract, fund and manage the expansion of the existing Philadelphia Gas Works Richmond LNG Plant into a World Class LNG Export Terminal.

Penn America Energy will direct and manage the project to include the following key functions :

- a. Permitting (FERC, DOE, PUC, etc.) : Federal, State and Municipal Agencies.
- b. Engineering Procurement Construction (EPC) contractor.
- c. Contract a sustainable 20 year supply of “feed-gas” equivalent to 700 mm cfd.
- d. 20 year “take or pay” Supply Purchase Agreement (“SPA”) with a credit worthy counterparty secured by a revolving irrevocable documentary letter of credit through a confirmed bank.
- e. Structure and manage the commercial transaction and provide the financial instrument for feed-gas procurement, (“PGW”) liquefaction + stevedoring services, marketing and sale of LNG for export.
- f. Environmental issues.

Philadelphia Gas Works (PGW) Richmond Liquefaction Plant



PGW FERC Approved LNG Storage Tanks
50.0 million gallons total volume

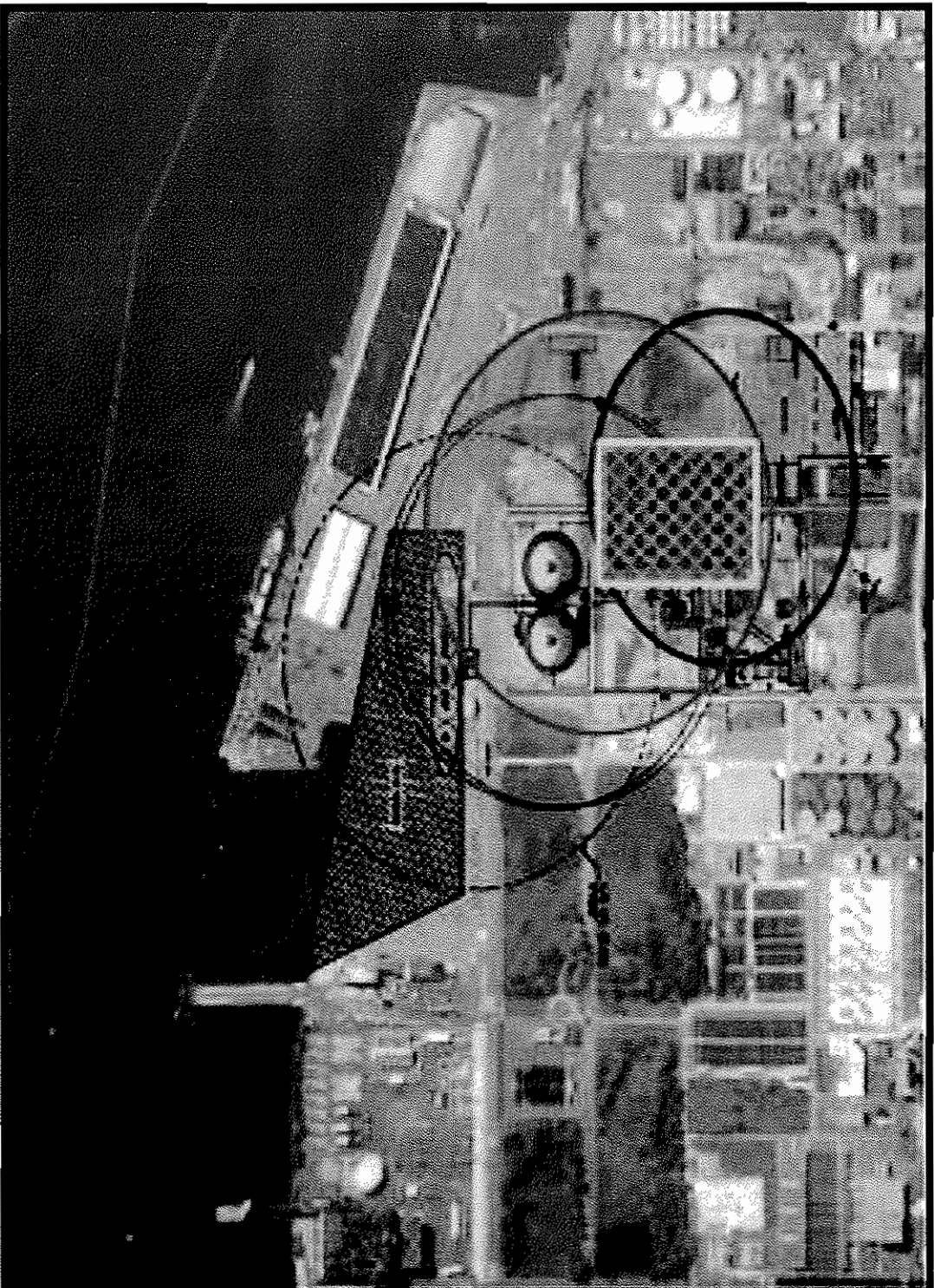


LNG Terminal Expansion Site Analysis

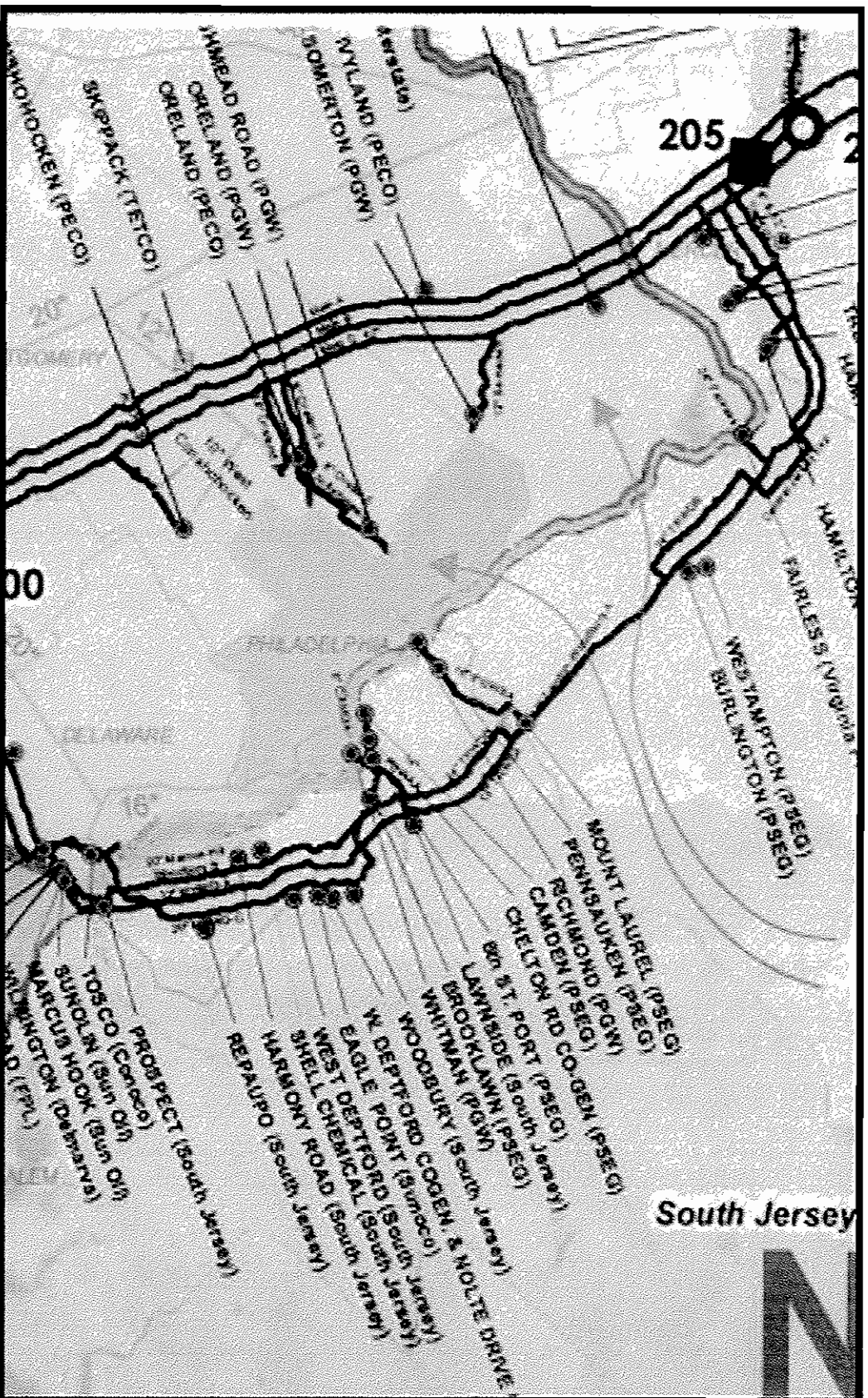
Yellow : PGW Property Red : Government Property Blue : Private Property



Hazardous Exclusionary Zone Overview



Proposed Williams Midstream Pipeline Extension from Trenton - Woodbury Lateral to the PGW Richmond Gate-station



Philadelphia Gas Works Richmond Plant Location



Greater Philadelphia Region



Delaware River Route to the Atlantic Ocean



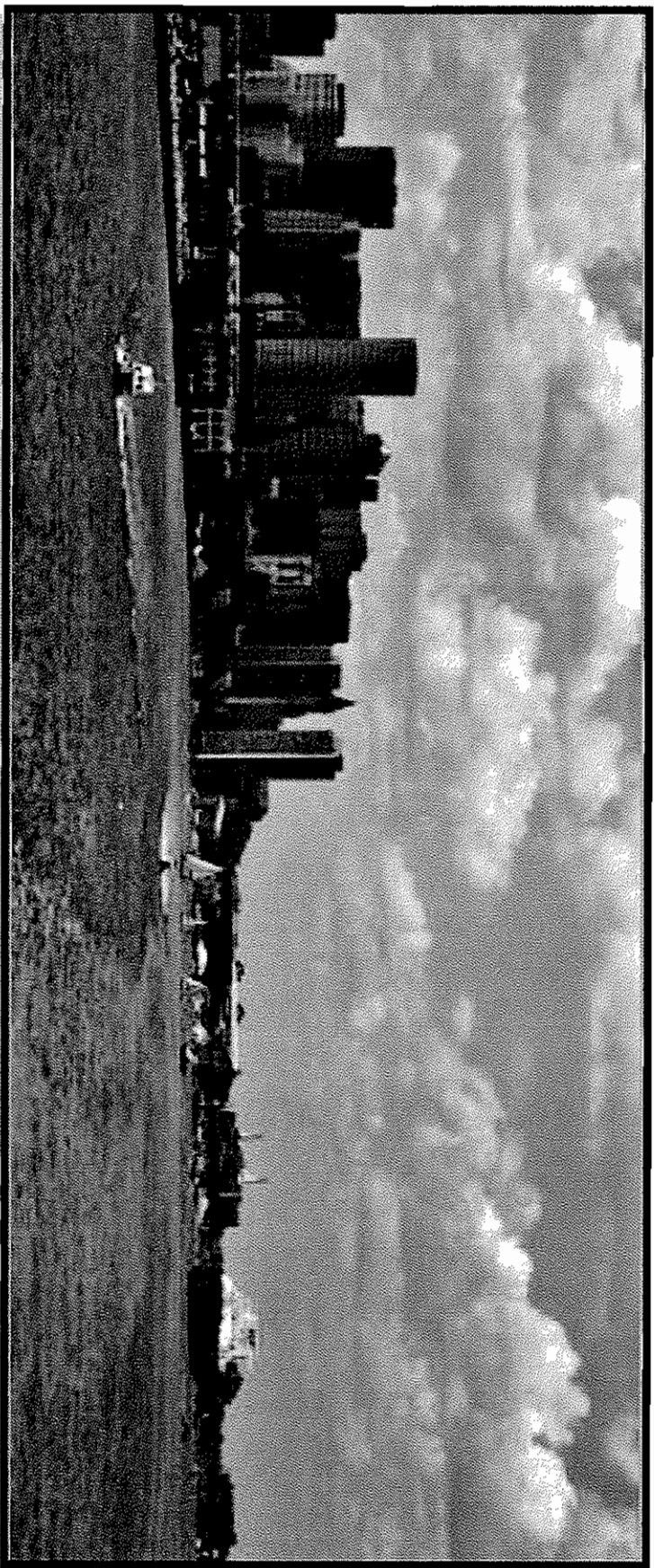
Atlantic Ocean Access via Delaware Bay Inlet



Important Benchmarks for Consideration

- The Boston Massachusetts based Distrigas LNG Regasification Terminal in operation since 1971.
- Kinder Morgan discharge and storage terminal (ethanol) adjacent to the PGW LNG Richmond Plant.
- The extraordinary history of the energy industries along the Delaware River, that include the refining and transportation of crude oil and other flammable fuels along the river for over a 100 years.

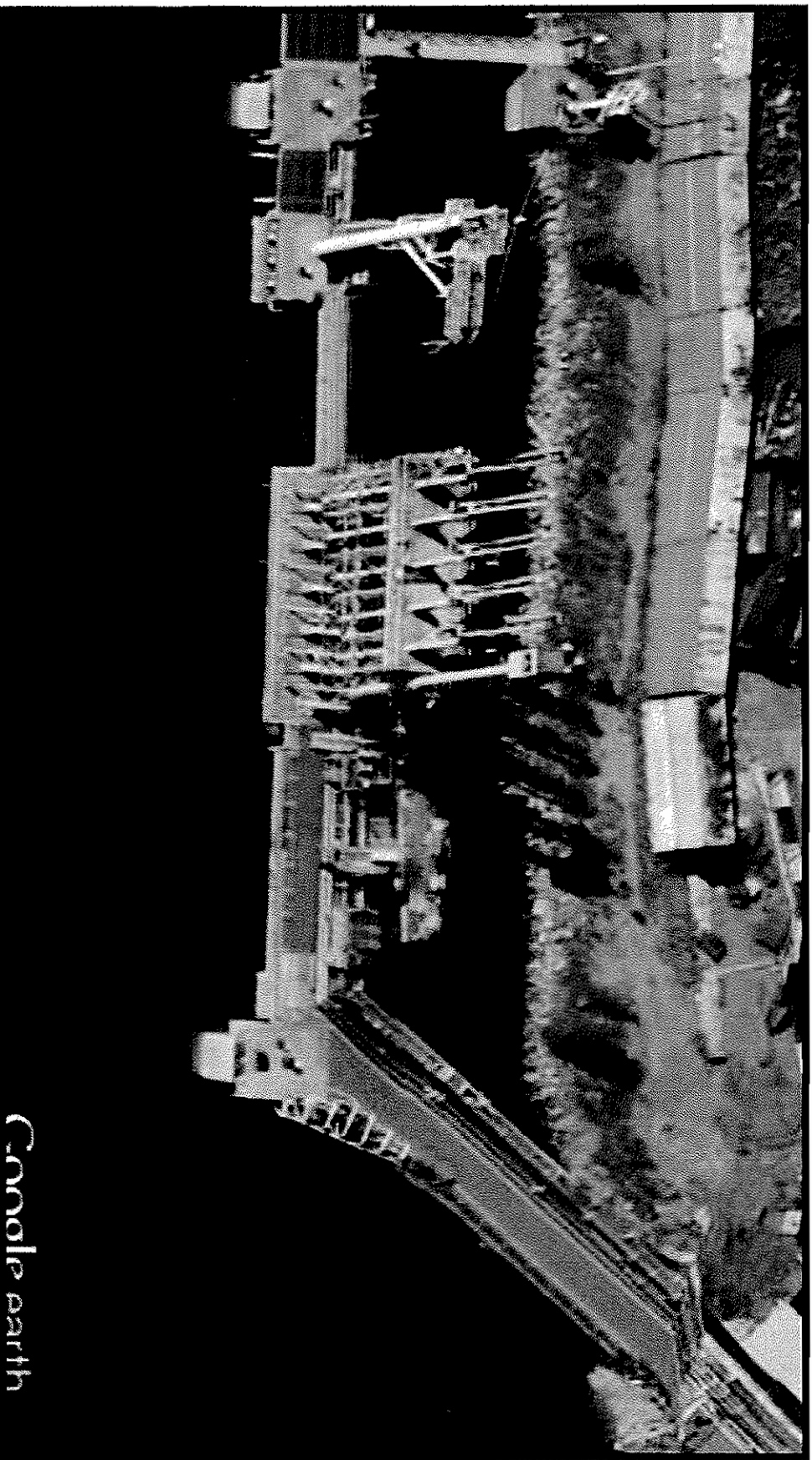
Boston Distrigas LNG Storage + Regasification Terminal Est. 1971
The Weekly Transit of 1 LNG Vessel Along the Charles River.



Distrigas LNG Regasification Terminal



Distrigas Discharge Point : Loading Arms + Cryogenic Lines



Google earth

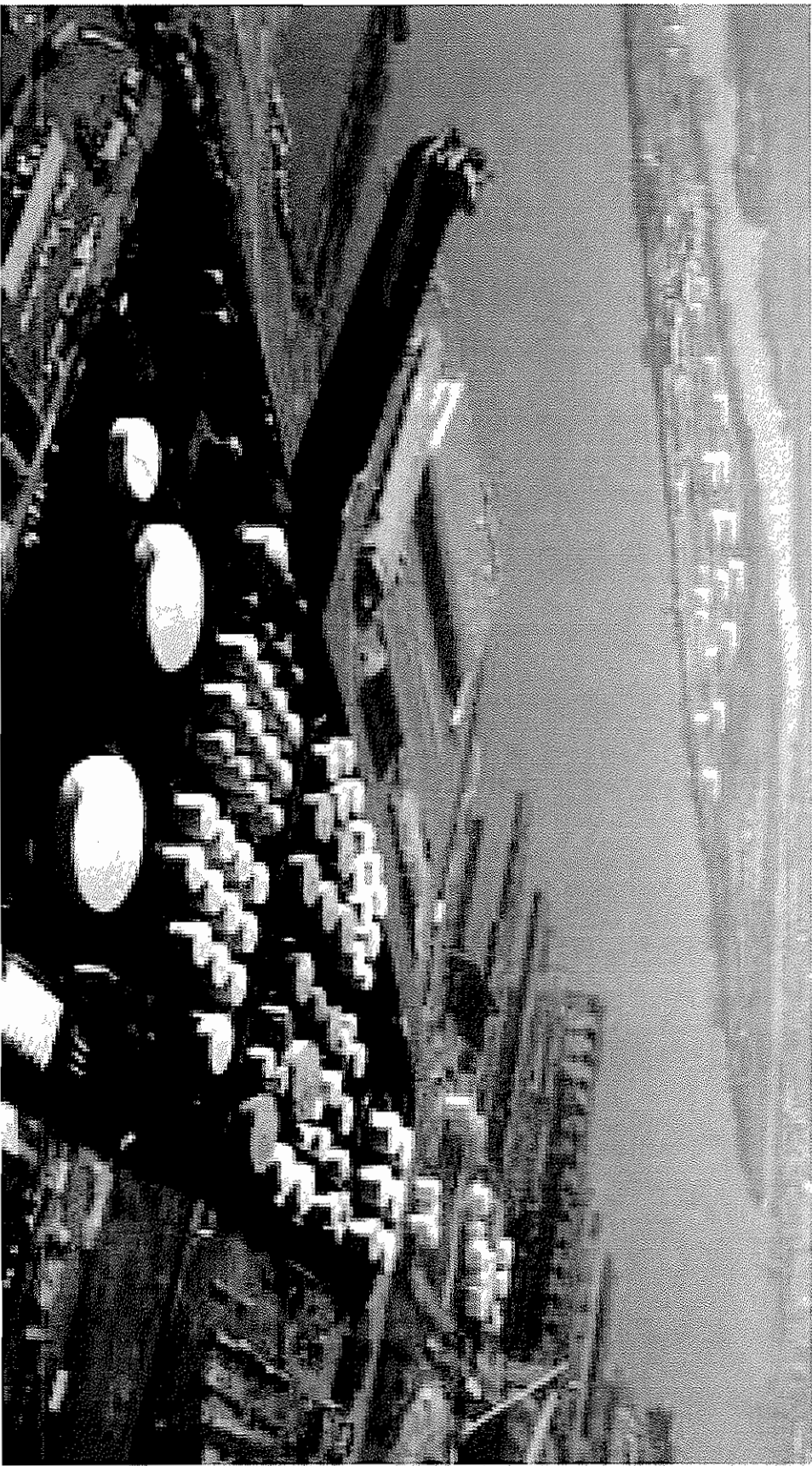
Distrigas LNG Storage Terminal Overview



Distrigas LNG Storage Terminal Overview



Kinder Morgan Discharge and Storage Terminal Adjacent to PGW Richmond Plant



Philadelphia Gas Works LNG Richmond Plant + Kinder Morgan Discharge and Storage Terminal



Kinder Morgan Discharge and Storage Terminal Adjacent to PGW Richmond Plant



Value Proposition for the City of Philadelphia

1. Philadelphia Gas Works remains a Public Asset.
2. No capital investment from the City of Philadelphia.
3. Estimated \$150.0 million per year in additional revenues generated by Philadelphia Gas Works through a 20-year contract, with a rollover provision.

Value Proposition for the City of Philadelphia

4. \$25.0 - \$50.0 million will reduce PGW aging infrastructure cast pipe replacement plan by “decades.”

5. \$50.0 million will reduce the gas rates \$1.00

6. Change in the dividend paid to the City will directly impact:

- City Pension funds
- Schools
- Neighborhoods and communities
- Infrastructure development

Value Proposition for the City of Philadelphia

7. Public Jobs Will Not Be Privatized

- Jobs will be created to build the LNG Terminal
- Jobs will be created for PGW plant operations
- Jobs will be created to replace 1800 miles of aging pipeline infrastructure.
- Jobs created by the economic benefits

8. Increase tax revenues for city and state.

Value Proposition for the City of Philadelphia

9. Revitalize and Repurpose the Tioga Terminal.
10. Legitimize Philadelphia as an Energy Hub and re-focus global optics on Philadelphia providing extraordinary value to the city across all industries and professions.
11. A PGW World Class LNG Export Terminal will support the US National Security Interests, as well as the National Security Interests of EU nations that are dependent upon Russia for their natural gas energy requirements.

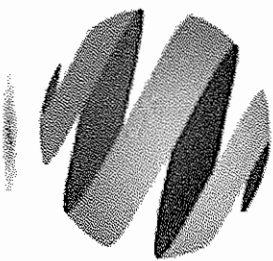
Key Data Points for Consideration

- Single 4.5 MTPA liquefaction train
- Design : Conoco Phillips Optimized Cascade System
- Plant feed-gas requirement 700 mmcf/d
- New liquefier will generate 650 – 700 dekatherms per day
- 150 bcf / year off-take
- LNG physical plant operator : Philadelphia Gas Works
- Liquefier + Cryogenic System owner: Penn America Energy
- LNG plant land ownership : Philadelphia Gas Works
- Estimated cost : \$2.1 billion (terminal, infrastructure and permitting)

- Existing PGW Plant Purpose : Peak Shaving Facility

A peak shaving facility is used to store natural gas to meet demand requirements during peak consumption periods, typically deep winter or high summer.

- 2 # 25 mm gallons LNG storage tanks – total capacity 50 mm
- 4.0 bcf total capacity in both LNG storage tanks.
- During a “peak” extreme winter period, PGW will release only 1.8 bcf of gas into the system the “entire season.”
- 4.5 MTPA Single Train Liquefier will generate 650 – 700 dekatherms per day, equivalent to 3.2 bcf per day.
- 135,000 M3 vessel holds 3.2 bcf



Penn America Energy, LP

creating value through imagination

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**Philadelphia City Council
Special Committee on Energy Opportunities
Testimony of Charles E. Ryan
March 13, 2015**

I would like to thank Council President Clarke, the Committee and the entire City Council for the opportunity to address Council once again in regards to Philadelphia's energy strategy. We hope today to propose some ideas to address public concerns presented by PGW's aging infrastructure, the urgent need to lower the cost of gas for city residents and businesses, the need to increase the availability of gas for city residents and businesses and strategies to mobilize private capital and initiative to partner with the City in its vision for developing an energy hub.

We believe the best way to accomplish these objectives is to create a public private partnership for PGW. The essential idea behind our proposal is to stop thinking about PGW as a liability to be managed, but to start thinking about PGW as the cornerstone of the energy hub and the engine of economic development. In the few months since Council began this process, we continue to refine our understanding of the opportunity and we are grateful for the chance to return here today to share what we have learned and offer suggestions on what we feel needs to be done going forward.

My name is Charlie Ryan. I am a Partner at Liberty Energy Trust and with me today is my Partner Boris Brevnov. While I grew up here, I have spent the last 25 years working around the globe on energy and infrastructure issues, including helping governments and utilities modernize and expand their capabilities. I am directly involved with the energy businesses, serving on the boards of companies and not-for profit ventures working in this space. Boris has spent his entire career in the energy and finance sectors. His most relevant experience was with the Peoples Energy Corporation in Chicago, a company with many of the same challenges and opportunities present at PGW, including the cast-iron pipeline replacement program. Peoples Gas Company began its investment program in 2011 and thus far has replaced 35,000 service pipes and retired 245 miles of its cast-iron conductor system. The company plans to replace about 2,000 miles of cast-iron mains and 300,000 service pipes and meters within the next 20 years.

Last November we testified before the Council in support of the public-private approach to developing Philadelphia into a next generation energy hub and we discussed some concrete opportunities. I am glad to report that Liberty has been working on these projects, and we made significant progress towards our goals.

A few weeks after that testimony, we participated in the “Greater Philadelphia: The Next Energy Hub” conference sponsored by the CEO Council for Growth of the Philadelphia Chamber of Commerce. The event united business and labor leaders under a vision to leverage the City’s unique potential as a logistics and energy hub to create jobs and benefits for the community. Today, more than ever, I think we have an opportunity and responsibility to combine our private and public effort in positioning Philadelphia as the leading energy hub.

A key focus of the conference was on vital infrastructure improvements to address safety, bring less expensive and cleaner energy to existing and new customers, lower customer bills, and create new jobs. There are three critical bottlenecks in our Greater Philadelphia energy infrastructure: the intrastate transportation/pipeline network (The Chamber and GPAT Chair Phil Rinaldi have talked about it); the regional (lateral) pipeline network and the local (distribution) network. We should be clear: these bottlenecks are one of the reasons why the cost of gas is significantly higher in Philadelphia than in the suburbs.

Like any integrated system these bottlenecks should be approached in a comprehensive way and it will require a public-private effort to successfully address them.

We continue to believe that a partnership of key stakeholders – communities; local and global capital; labor and expertise; businesses and not-for-profits, combined with a citywide effort to develop, build and grow the Philadelphia Energy Hub would provides a platform for success. Liberty brings many of these key stakeholders to the table: local investors and businesses; the AFL CIO – providing a partnership with labor and labor capital, Philadelphia endowments and foundations, and industry expertise complimentary to PGW. We believe that a logical next step will be for a platform such as ours to engage directly with the City and PGW to translate a common vision into project blueprints and to forge a framework for partnership.

Private participation in PGW’s future is essential to improving the City’s aging infrastructure and its growth prospects. It would unlock the true economic development potential of the City. The PGW management team has done a remarkable job in keeping the system operating smoothly and safely with a prudent

annual maintenance budget, all the while working within existing financial and organizational constraints. But as has been correctly reported, the schedule to fix the infrastructure is not acceptable to PGW, its customers or the City. PGW reported hazardous leak rates more than 10 times the national average.

Philadelphia's office of sustainability estimates the city's miles of leak-prone pipe release into the air the greenhouse gas equivalent of 120,000 cars. The Duke and Boston University researchers say that these gas leaks from the US gas utilities are the nation's largest human-caused source of methane, contributing to some \$3 billion of natural gas that's lost or unaccounted for each year.

Without fresh capital, flexible financing; streamlined, business-minded decision-making processes; innovation and entrepreneurship it will be difficult to achieve the goals that many of you have in mind. We have developed a unique opportunity to rethink and redesign the City's approach to these challenges.

We don't have to reinvent the wheel, and we can successfully build and improve on existing best practices and leverage Philadelphia's competitive advantages. Other cities are going through a similar process of network upgrades. Gas utilities spend over \$19 billion annually to enhance the safety of delivery systems. In my introduction I mentioned that Chicago is planning to complete its upgrade in 20 years. In New York City, National Grid plans to replace over 1,900 miles of mains and 25,000 services during the next 25 years. Philadelphia's distribution network needs to be upgraded more rapidly too, and re-imagining this project as an economic development opportunity is what gets us excited. This pipe replacement program should not only improve customer safety, but also deliver affordable gas to new customers and support modern applications.

Typically utilities with similar systems that are establishing a major replacement program will investigate the possibility of upgrading areas of the service territory from low pressure to medium pressure in advance of sizing the diameter of the replacement mains. Higher pressure not only makes the system more robust, but it also allows for smaller diameter replacement mains. In many cases these smaller mains can be inserted into the cast iron mains that they are replacing. This is commonplace not only in Chicago, but also in New York with the National Grid companies and other utilities.

Initially city gas distribution networks evolved to provide gas for street lighting and to heat city buildings. In the US the load represented by this original purpose covers less than 1/3 of today's demand for natural gas.

Modern networks are designed to support combined heat and power plants, power generation, gas fuel cells, compressed natural gas for transport, known as CNG,

and other high efficiency applications. This expansion of the customer base and volumes would not only help pay for the infrastructure upgrade, but most importantly would drive economic and community development in the city. Every industrial revolution is driven by an energy revolution. PGW has one of the lowest shares of commercial and industrial customers among US gas utilities. Rethinking the pace and manner of replacing the cast iron pipes will drive economic development and reduce the cost of gas for the City's residents.

While our discussion today focuses on cast iron, we would like to point out that PGW also has a considerable amount of non-cathodically protected steel lines (~500 miles), for which PGW has not yet established an accelerated replacement program. Unprotected steel pipe rusts in unpredictable locations and to a point where it no longer performs. Current rate of replacement, **one mile** per year, obviously is not adequate to replace the 500 miles currently in the network. It is our understanding that PGW plans to begin replacing these mains after it has replaced its cast iron mains. This will ultimately result in a longer time frame before they are removed, and the network is made safe. Liberty Energy Trust has reviewed similar programs in the gas utilities sector. Dominion East Ohio and Columbia Gas of Ohio both have programs that they describe as 25-year replacement programs. Columbia Gas of Ohio exceeded that in 2012. Their programs were considered to employ the best practices. Bay State Gas (a NiSource company) and Niagara Mohawk (a National Grid company) also have replacement programs that are even more accelerated. In addition, Boston Gas plans to increase its rate of replacement of cast iron and non-cathodically protected steel mains from 150 miles per year in 2013 to 190 miles per year beginning in 2016. Philadelphia needs to keep pace with these other cities.

If we continue under the existing constraints, relying exclusively on debt financing and an incremental approach, we will spend approximately \$45 M a year on a pipe replacement program that will not be completed for 70 years. What is worse, the network we will end up with in 70 years, after all of that time and investment, still won't be able to support most modern applications and businesses.

An alternative approach is to design a Philadelphia Modern Energy Delivery Platform and execute it within an observable time horizon of 20-25 years and integrate it with an upgrade of lateral and transportation pipelines that are essential to support growth in the City. Then the project becomes not simply driven by liability management, but an exciting, well engineered and thought through multibillion-dollar investment program.

We are confident that PGW's experienced engineering and planning groups will be

a leader in this effort. Is there another program of the same magnitude, private or public, immediately available to the City? We need to take advantage of this enormous opportunity and do it the right way.

The P3 approach should allow the City to remove constraints that are the underlying cause of the existing incremental approach: namely financial and organizational constraints. The new programmatic approach will allow the City to deploy the best technologies and practices, reduce the cost of the investment and create attractive and sustainable jobs.

Studies have shown that a \$1 billion investment in infrastructure creates 18,000 jobs and every \$1 spent on these projects injects \$1.44 back into the economy.

The Concentric report revealed a number of concerns related to an outright sale of PGW. We would like to outline how a P3 approach can address or mitigate these key concerns:

- Employee related, including the Collective Bargaining Agreement, and the number of employees
- Rate-related commitments, including social programs
- Economic and growth related, including an Economic Opportunity Plan, headquarter commitment, and local presence
- Local government oversight
- Acceleration of cast iron replacement program

A P3 could implement a best practice, accelerated cast iron replacement program, and modernize the system within 25 years. It will require additional funding of \$90-100 million per year. Private investors will provide the funding immediately, while at the same time, coordinate with the City and the community to design the optimal investment schedule. The additional capital spending can be partially recovered through higher sales volumes and savings on operational and maintenance expenses due to reduced leakage and repair. These potential savings shouldn't be underestimated. Atlanta Gas Light Company through its integrated program, cut pipe replacement costs by 40 percent and its annual gas leak repair costs have declined by 80 percent. It has embarked on a 15-year program to replace 2,700 miles of pipeline, a program that included extension of the network to serve new customers and create economic development to spur growth.

A public private partnership would allow Philadelphia to attract much needed capital and expertise for system improvement, while preserving the City's right to participate in overseeing PGW's important social programs. There are different

ways to structure the P3 to meet the City's goals. Liberty is ready to engage with the City to assist in designing a P3 framework to finance a network modernization program. A P3 could also allow the City to receive a significant upfront payment to reduce the pension deficit, which could equal or even exceed the net proceeds of an outright sale **and** allow the City to continue to receive its annual dividend. At the same time, the P3 framework would assure continued protection of consumers and vulnerable customers and through economic development increase, rather than reduce, the number of critical employees and jobs.

This P3 platform is suitable not only for the gas distribution business, but also for the Liquid Natural Gas (LNG) business of PGW. The LNG market is very promising economically and environmentally, but largely untapped in the Philadelphia area. Liberty Energy Trust is leading a consortium of local, national, and international partners to develop the Delaware Valley as a leader in LNG infrastructure.

We are seeking to expand the LNG Marcellus liquefaction platform in the Philadelphia port with an objective to develop liquefaction and a multi-nodal hub. The project will lay the groundwork for LNG to serve as a marine fuel, complimentary to existing port operations. We are also planning to expand the market for Philadelphia LNG, by delivering to customers in ISO containers. These are just a few examples of how LNG can act as a catalyst for economic development in the Philadelphia region. If only a 10% share of the targeted market is achieved, the annual economic savings for the region would be more than \$200 million. The project brings together public and private participants from Pennsylvania, New Jersey and Delaware in order to facilitate LNG development, with marine bunkering and fleet vehicle fueling as a critical first step.

Our proximity to the Marcellus and Utica shale, and their abundant reserves of natural gas and natural gas by-products, coupled with the navigable shipping channel on the Delaware River, and ready access to road and rail commerce, allow for an ideal scenario for innovative energy projects to emerge.

Importance of Acting Now:

We want Philadelphia to take a leadership position modernizing energy infrastructure and pursuing economic growth opportunities with natural gas.

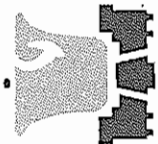
We owe Philadelphia customers delivery of low cost, reliable and safe energy.

As I stated previously, Philadelphia is uniquely positioned, but we don't have a monopoly on the opportunities arising from the Marcellus development. It's clear that others recognize Marcellus's potential and there is a rapid acceleration of development. Philadelphia needs to take a leadership role.

I strongly believe that Philadelphia can add value to the vast resources of the Marcellus and achieve it in a socially and environmentally sustainable way.

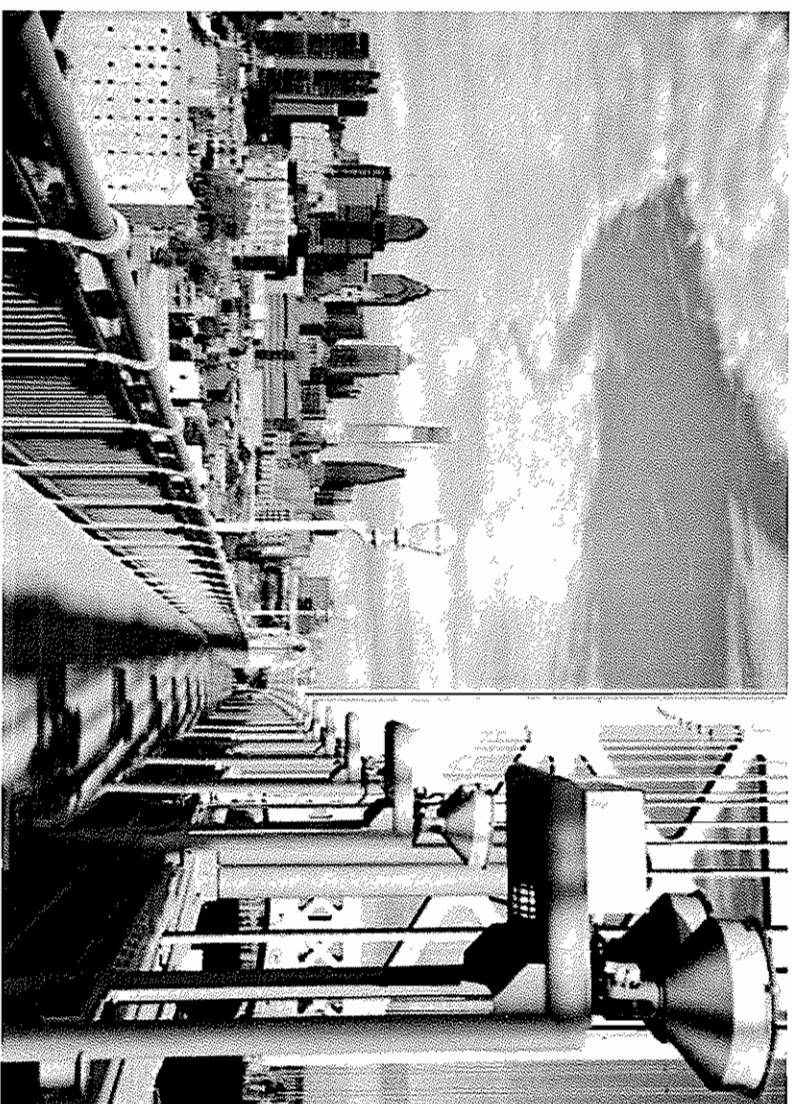
Liberty would like to join in this effort to unite the community with capital, labor, entrepreneurial initiative and experience, and PGW. Liberty feel the best way to unite these stakeholders is within a P3.

Thank you once again for the invitation to appear before you today. We hope to work together to develop an energy hub that brings jobs to Philadelphians, returns to investors and pride to the city.



Philadelphia City Council

March 13, 2015

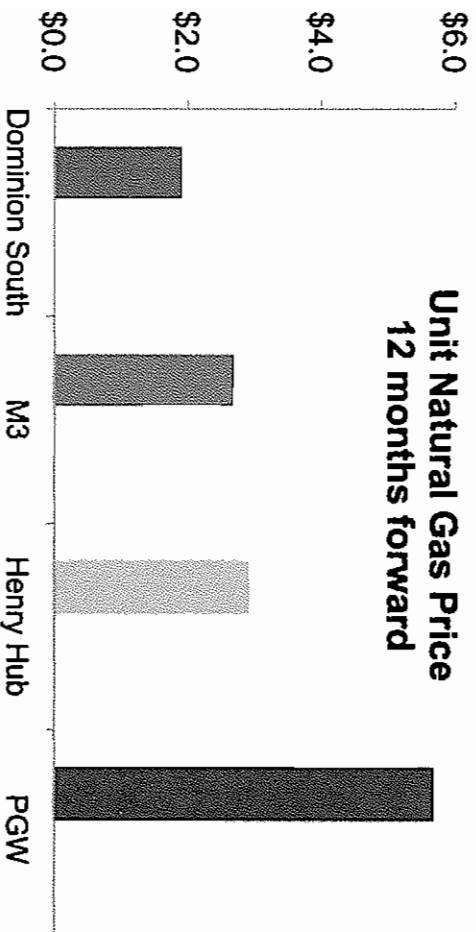


Special Committee on Energy Opportunities

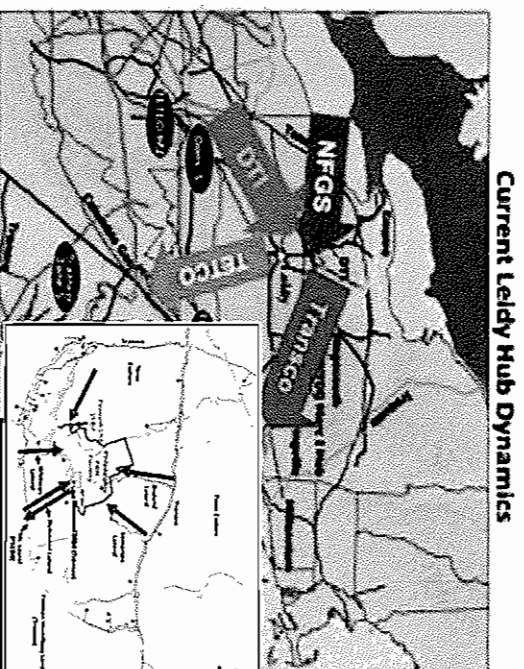


Key Driver of the Basis Discount

- Marcellus shale gas prices has over 30% (\$1/MMBtu) discount to HH and M3, of which PGW's gas supply is priced
- Large discounts from Marcellus is expected to continue over the next few years until pipeline capacity coming on line from Marcellus to east coast
- Philadelphia and New Jersey' gas supply is further limited by indirect access to interstate pipeline and lateral pipeline capacity limit

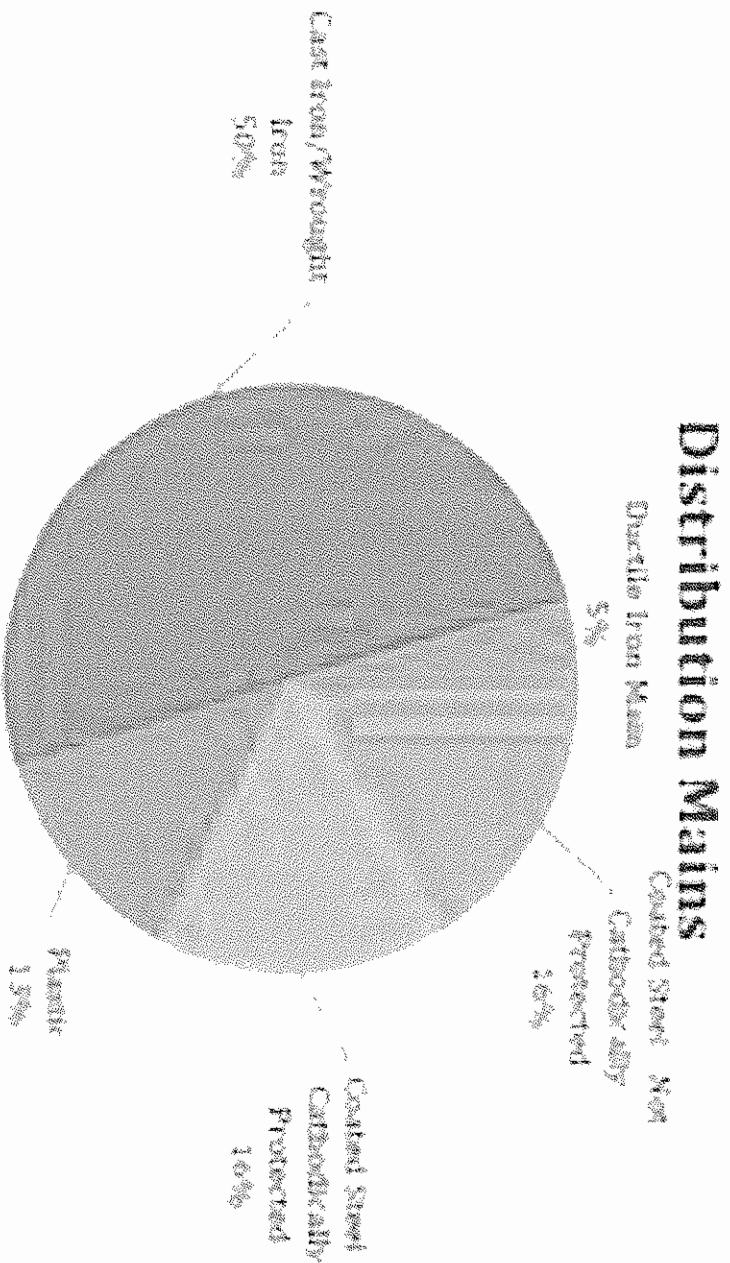


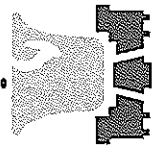
Note: PGW's price is current gas Price To Compete as of Jan,2015





PGW Distribution Mains





Delivery System Modernization

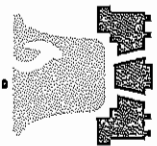
YEARS 1-5 YEARS 6-10 YEARS 11-20



Year 1: Assess System & Prioritize
Years 2-5: Upgrade Critical Priority Infrastructure

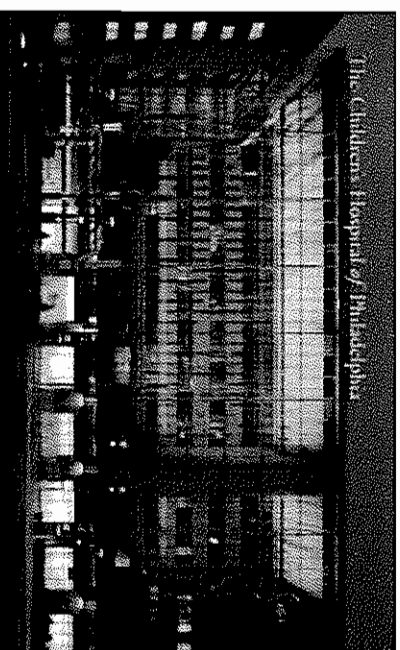
Years 6-10: Upgrade Medium Priority Infrastructure

Years 11-20: Upgrade Medium Priority Infrastructure

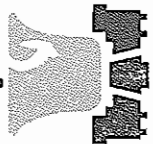


Modern Energy Delivery Platform

- Modernized system allows current & new customers to install Combined Heat & Power
- Allows high usage customers (hospitals/ universities) to buy more gas which reduces the rate for residential customers
- Provides for Compressed Natural Gas (CNG) for fleet & private vehicle fueling centers
- Potential to use regional energy (Marcellus)
- Growth for Philadelphia
 - ◆ New industry
 - ◆ Expansion of existing industry

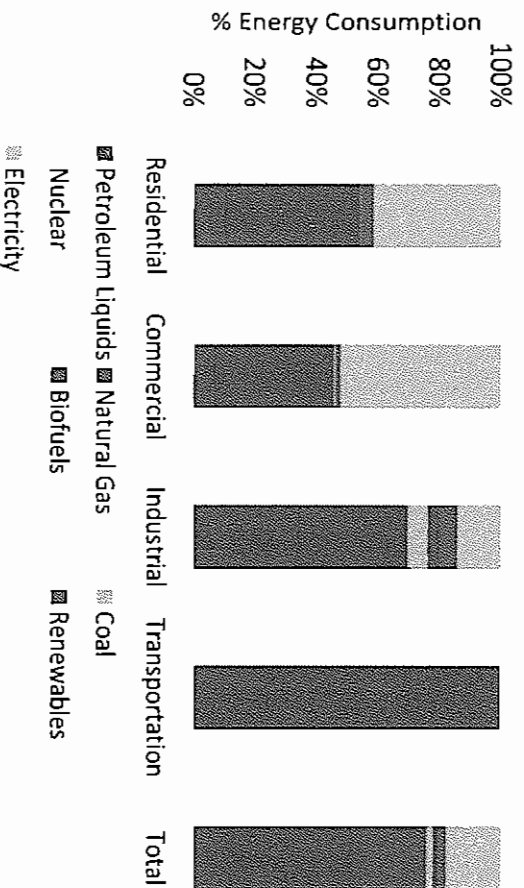


Growth = Increased Tax Base = Better Schools & Communities



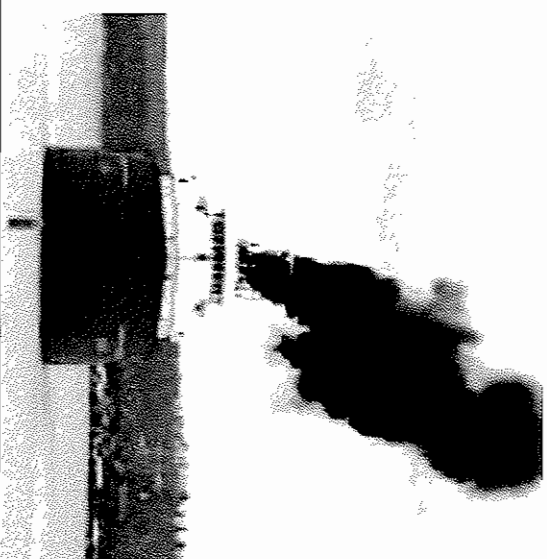
Re-POWER Delaware Valley

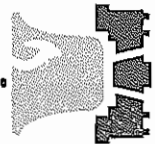
US Energy Consumption (2013) by Source



- Replace Liquid Fuels:
- Replace Coal in power generation
- Create new demand

- Use of natural gas is \$1.5 per GDE less expensive The Delaware Valley savings at 10% conversion is ~\$200 million per year.
- Natural gas as transportation fuel eliminates SOx/NOx and particulate matter while reducing greenhouse gases by about 25%

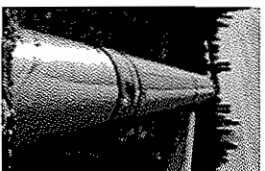




Economic Development



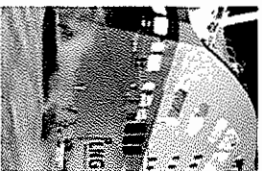
Upgrade Richmond LNG facility



Build pipeline capacity



Build truck & rail fueling facilities at plant &/or intermodal yard



Build marine bunkering facilities



Develop local LNG markets - refrigeration (e.g. at port), high horsepower (e.g. construction equip), industrial (e.g. chemical)



P3 Framework Comparison

	<u>Municipal Ownership</u> (current situation)	Private ownership	<u>P3 Alternative</u> (Private Public Partnership)
Cash Proceeds	\$18 M annual dividend	\$420 M one-time net proceeds	\$18 M dividend +\$420 M net proceeds
Social Programs	City & PUC oversee \$130 M annual program	City would lose control	City, PUC & Business manage the program
Labor	Municipal Employees	Opposed, reduction of 300 employees	Stakeholder, new union jobs
City Liabilities	All liabilities on the City balance-sheet	City bears risk of pre-close pension liability	No liabilities on the City balance sheet
Economic Development Plan	Concentric proposal	Not submitted	Philadelphia Energy Hub Economic Plan
Cast Iron Replacement	88 years	Uncommitted	25 year integrated program

VASQUEZ FINANCIAL, LLC.

Philadelphia City Council
Hearing: Special Committee on Energy Opportunities

March 13, 2015

Dear Council Members:

I am honored by this opportunity to present some suggestion on maximizing the value of Philadelphia Gas Works for the City and for its' existing and future ratepayers. Attached I is a summary on my company and my background in the finance and energy sector.

I agree with the current sentiment that a "new" PGW with the right vision, structure, and managers could substantially improve service and reliability for ratepayers, as well as help the City and surrounding region grow into a major energy center. I believe the City can best exploit PGW's value by a carefully guided conversion of PGW into a for-profit company or companies. Those assets should be strategically positioned in a process which combines a potential sale in the public markets through an IPO and negotiations with potential partners.

PGW is far more than a gas local distribution company/utility; it has several key assets in its Liquefied Natural Gas ("LNG") facilities and port access along the riverfront that make PGW potentially far more valuable to the City and investors. Given the energy renaissance going on in the Marcellus and Utica natural gas shale regions, the City has the unique opportunity to use these assets, along with its major transportation networks, and access to some of the best educational institutions in the world, to make Philadelphia a major natural gas exporter/jobs juggernaut.

The City may need public-private partnerships ("P3") or joint ventures ("JV") to best position the assets to accomplish the City's strategic objectives. However, a pre-positioning of PGW can optimize the benefits to the City and allow the City to negotiate the P3 or JV on a value added basis, effectively separating management, technology and capital cost contributions (as well as realizing a number of other very important benefits). Consequently, the center point of the City's strategy should be pre-positioning/converting the PGW public ownership into a "for profit" entity or entities that could sell a minority stake (20%) to the general public through an initial public offering ("IPO"). The balance of the ownership shares can be held by the City, or sold in a secondary offering, or used in a merger. i.e., similar to what New York State did with Empire Blue Cross over a decade ago.

Based on recent financial data from Zack Investment Research/Google Finance (Attachment II), general local distribution companies which operate mainly in the regulated downstream market appear to have price-earnings ratios in line with UIL Holdings' \$1.86 Billion offer for PGW (now withdrawn). In fact, UIL Holdings which is primarily a gas and electric distribution company/utility has a P/E ratio of about 21 times, market capitalization of \$2.5 billion, and gross revenues of \$1.6 billion.

Alternatively, companies that are involved in the mid-stream energy market, i.e. natural gas liquefaction and/or transport (pipeline) to the downstream market have P/E ratios significantly higher by orders of magnitude of 3 to 5 times. The "Oil/Gas Distribution" sector on an NYU data table, updated January 2015, provides price/earnings (P/E) ratios for a sample of 85 public companies. These companies are basically in the mid-stream distribution market, i.e. natural gas liquefaction and/or transport (pipeline) to the downstream market. The current P/E ratios in the table, for this mid-stream segment, range from 72 to 113 times. This suggests that investors are putting a high value on them because of their potential high

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VASQUEZ FINANCIAL, LLC.

growth rates and for not having yet reached their full earning potential. Notwithstanding the age and logistical issues related to PGW's storage and liquefaction facilities, important intrinsic and synergistic values may exist.

There are a number of venues that could be used to implement the above suggestions. One would be an integrated approach with the creation of a Trust or a Fund to handle the sale, asset management, and conversions of PGW ownership. The entity should be supported by a clear statement of objectives and authority. The work effort should include the identification of stakeholders, followed by an expanded situation analysis. The analysis should provide an understanding of whether the potential profit centers within PGW are more valuable separately or together. The analysis should also include supply demand, suitability, and risk assessments for each profit center. The expanded situation analysis should lead into a strategic plan, with identification of alternatives for review with stakeholders and ultimately implementation.

I look forward to discussing this approach further with you when we meet.

Sincerely

Frank Vasquez
Chief Executive Officer
V-Financial, LLC.

Frankvasquez@v-financial.com
(570) 407-0226

ATTACHMENT I

VASQUEZ Financial, LLC. is a program management and advisory entity. Specialties are in the energy and transportation sectors, strictly focused on governmental and institutional clients. We provide program management, valuation, and funding advisor services to initiatives in each of these sectors.

The firm is lead by Mr. Frank Vasquez:

Mr. Vasquez has in excess of 30 years' experience in Public and Corporate Finance and in project development. He has advised and assisted his clients in executing bond and equity transactions, privatizations, and public private partnerships.

Mr. Vasquez served as a Senior Managing Director (partner level) in Bear Stearns' Public Finance department for over a decade. His experience in Municipal finance, includes general obligation, revenue, and project financings. He has been a leader in a variety of creative and complex financings including leveraged lease financings, project finance of public power plants, securitization of receivables, etc.

Mr. Vasquez has served as the lead advisor to a number of important capital markets initiatives, including structuring and execution of a number of initiatives such as a major LNG terminal, a 500 Mega-watt combined cycle power plant, a 450 Mega-watt coal fired power plant, etc. Mr. Vasquez also conceptualized, developed, and financed a very successful optical fiber telecommunications company.

Mr. Vasquez was one of the five members of the board of the unstaffed New York State Public Asset Fund (NYSPAF), which was responsible for optimizing the financial benefits of converting not-for-profit health care insurance companies to for-profit entities. NYSPAF produced major capital benefits for the State, well in excess of any prior expectations. Mr. Vasquez also participated in the development of policies and programs, which facilitated a strategic series of very successful innovative equity hedges, and provided guidelines and oversight for the conversion of not-for-profit HMO's to for profit entities utilizing IPO market and merger alternatives.

Mr. Vasquez was a former member of the strategic planning groups of one of the largest utilities in the United States and also served in a similar capacity in the headquarters strategic planning unit of one the largest energy suppliers worldwide.

Education

Mr. Vasquez is a graduate of New York University (NYU) Graduate School of Business Administration (MBA) and a graduate of Polytechnic Institute (NYU) with a BS in electrical engineering. Mr. Vasquez has also completed the master's equivalent program in power systems management.

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(570) 407-0226

VASQUEZ FINANCIAL, LLC.

Other: Mr. Vasquez is regularly involved in civic and charitable activities. He is a former board member of the Puerto Rican Legal Defense and Education Fund, and is affiliated with a number of charitable organizations.

ATTACHMENT II

Ticker	Company name	Description	Valuation			Financial Ratios			Operating Ratios		Margins		Profit		Income statement	
			Price	P/E ratio	Price-to-Sales ratio	Md Cap	Total debt to assets	Return on equity	Net profit margin	Operating margin	Employees	Revenue	Net income	EBITDA		
ATO	Atmos Energy Corp...	Regulated/unregulated natural gas distribution, transmission and storage businesses	55.09	18.93	1.18	5.62B	30.86	10.2	5.87	12.37	4,761	4,940.92	289.82	865.34		
CNP	CenterPoint Energ...	Electric Transmission and Distribution, Natural Gas Distribution (including Midstream interest), Competitive Natural Gas Sales and Services, Interstate Pipelines, Field Services and Other Operations	22.22	17.49	1.21	9.53B	40.29	7.21	3.84	12.46	8,591	8,106.00	311	1,954.00		
		Regulated/Unregulated distribution of transporting natural gas	21.24	18.76	1.54	151.27M	29.57	11.43	8.03	16.28	150	95.85	8.28	22.02		
DGAS	Delta Natural Gas...	Operates in five operating segments: Distribution Operations, 7 Retail Operations, Wholesale Services, Midstream Operations and Cargo Shipping	54.77	13.17	1.48	6.61B	34.25	8.97	7.17	14.86	6,094	4,617.00	331	1,093.00		
GAS	AGL Resources Inc.	Operates Regulated Gas Utilities and Gas Marketing.	52.99	19.84	1.47	2.31B	42.14	6.6	5.2	10.23	3,152	1,627.20	84.6	249.8		
LG	Laclede Group Inc															
NI	NISource Inc.	Operates in three business segments: Gas Distribution, Pipeline, and Electric Operations.	43.14	25.63	2.51	13.06B	39	8.58	8.68	20.21	8,477	5,657.30	490.9	1,667.30		
OGS	ONE Gas Inc	Natural gas local distribution company	42.87	21.81	1.39	2.26B	38.32	8.29	5.87	13.04	3,100	1,689.95	99.2	365.11		
OKE	ONEOK, Inc.	A diversified energy company, includes retail distribution, process, stores and transportation interests in distribution and unregulated retail natural gas marketing, and regulated interstate natural gas storage and interstate natural gas transportation	46.88	31.18	0.67	9.95B	46.95	11.93	3.95	6.35	1,927	14,602.72	576.96	1,307.93		
PNY	Piedmont Natural ...	Primarily engaged in the regulated sale and distribution of natural gas	38.81	20.95	2.17	3.08B	37.19	11.52	9.78	17.89	1,879	1,469.99	143.8	392.38		
RGCO	RGC Resources Inc.	Operates Regulated Utility, Retail Energy-Marketing, Commercial Energy Systems and Midstream Energy Services	22.6	22.62	1.34	101.96M	28.38	9.28	6.28	12.91	131	75.02	4.71	14.52		
WGL	WGL Holdings Inc.	Electric distribution and transmission and natural gas transportation, distribution and sales operations	54.45	28.58	1.02	2.74B	23.74	8.4	3.86	7.1	1,444	2,780.95	107.26	308.29		
UIL	UIL Holdings Corp...		43.56	21.16	1.62	2.49B	33.74	9.32	7.12	14.86	1,895	1,618.72	115.32	441.13		

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Chariot Companies

TESTIMONY TO THE CITY COUNCIL OF PHILADELPHIA SPECIAL COMMITTEE ON ENERGY OPPORTUNITIES MARCH 13, 2015

John A. Henry, Jr.

It is a rare honor in this life to work with a few of your heroes. Ernest Green is one of my heroes. On September 25, 1957, Ernie Green was the lone senior among courageous children, the "Little Rock Nine," who risked his life to attend Central High School in Little Rock, Arkansas.

Now, I have to imagine that when a young Ernie Green woke up that morning in 1957 and made his way to Central High School confronted by a hostile crowd and escorted by the Screaming Eagles of the 101st Airborne, heroics were not on his mind. This conflict was not a clash of armies, but rather, a clash of wills; a contest to determine what lies at the core of America. The 1954 Brown v. Board of Education decision eliminated racial segregation in public schools, but Ernie's courage tested the strength of that decision. No matter how much doubt, anticipation and fear was in the air, nothing was going to prevent him gaining access to "equal" educational opportunities — not even enduring daily harassment and violence.

And because of people like Ernie Green, the principle of a just and fair America and an inclusive America -- that ideal ultimately triumphed. His actions not only mobilized Americans to ensuring that access to a quality education was granted to all Americans, but they helped to define the civil rights movement.

Ernie Green's decision in 1957, led African-Americans and other civil rights leaders on a mission to change America. Ernie Green's legacy and work continues today by serving on the Board of Managers of my company, Chariot Companies. He embodies the spirit that plain and humble people — unsung, the overlooked, the dreamers not of high station, nor born to wealth or privilege, can shape history.

Council President Clark, members of City Council and Members of the Special Committee on Energy Opportunities I invite you to channel the spirit of the plain and humble — become "history-makers" — define the Philadelphia Energy Hub movement by reshaping the socio-economic landscape of Philadelphia for generations to come. City Council must ensure that our youth, especially children of color, are equipped with the knowledge and skills they need to become future leaders and participate in Philadelphia's emerging new energy economy.

A movement is indeed afoot, in Philadelphia. Forged in the crucible of social equality and economic opportunity, Chariot Companies stands on the shoulders of giants like Ernie Green and others by seeking to transform Philadelphia Gas Works through Public Private Partnership (P3) with the City of Philadelphia. Empowered by Marcellus Shale, the region is in the nascent stages of an emerging new energy economy promising to bring growth and prosperity.

Anticipating a Philadelphia Energy Hub, Chariot began a journey in 2011, which seeks to address Philadelphia's systemic challenges generally, and more particularly, those facing PGW. We seek to serve new needs, improve

efficiencies, create differentiation and competitive advantages and expand markets while changing the socio-economic landscape of all Philadelphians. The new PGW P3, if in the hands of the right visionaries, can indeed make Philadelphia a jobs juggernaut. I believe that Chariot is the right visionary.

Companies have often overlooked opportunities to meet societal needs and misunderstood how societal harms and weaknesses affect value chains. Their field of vision has simply been too narrow. What has been missed is the profound effect that People, Place and Process can have on productivity and innovation.

Council President Clark, members of City Council and Members of the Special Committee on Energy Opportunities, there are places and moments in Philadelphia's history that have shaped America's destiny; but, perhaps, none greater than the decision you consider today - whether to support Philadelphia as an Energy Hub and, to the extent that you do, what P3 opportunities exist with PGW that can: (i) maximize operational efficiencies; (ii) generate new revenues; (iii) provide strategic visioning for an Energy Hub; and (iv) "bake-in" economic and social benefits to all Philadelphians.

With such an effort, we can make sure our new energy economic system serves all and not just some. Together, we can raise the level of economic prosperity in the region for all Philadelphians. Together, we can address unfair and often times unequal workforce opportunities through Chariot Labs and STEAM-based education. Together we can reduce poverty rates in Philadelphia and demolish barriers to opportunity by making sure that every Philadelphian willing to work in the new energy economy has access to pathways for targeted energy industry education, workforce development and life-skills training and other wrap-around services. These pathways lead to an energy career, a generous wage and sturdier rungs on the ladder into the middle class.

There are many opportunities, both to leverage a PGW P3 to use the natural resources, infrastructure and geographic location of Philadelphia to create an economic vehicle that will impact all sectors of the Philadelphia economy and social fabric. "A true energy hub creates value by connecting things in ways that makes them worth more than the sum of the parts."

In our P3 effort, each party brings different skills and resources to bear on developing programs that are more powerful than any program that either party could develop alone by coming together to develop new practices. Our shared value creation model powers change not just at the level of an organization or industry, but also the entire value chain in diverse ecosystems.

There are 5 conditions of collective impact that must guide our P3: (i) Common Agenda; (ii) Shared Measurement; (iii) Mutually Reinforcing Activities; (iv) Continuous Communication; and (v) Backbone Support.

A Chariot P3 could deliver avenues for creating shared value that are mutually reinforcing:

- A. Enhancing the cluster enables more local procurement and less supply chains;
- B. New products and services that meet social needs or serve overlooked markets requires new value chain choices in areas such as production, marketing and distribution; and
- C. New value chain configurations will create demand for equipment and technology that promote and save energy, conserve resources and support communities.

Diversify PGW's Gas Supply Portfolio

- The potential to lower the cost of gas to PGW results in lower customer gas bills, especially for those struggling to pay their bills.
- PGW will benefit from lower CRP costs and a reduction in bad debt expense. (Utility Trust Fund White Paper)

Optimize the Value of PGW's LNG Assets

- Building a world-scale LNG expansion project at the Richmond Port Terminal and promoting fully developed and integrated downstream supply chains to monetize "dry" gas through storage, commercial sales and other outlets.
- PGW can expand its liquefaction capacity to improve the overall design of its LNG facilities, support on-system sales growth, and increase its ability to serve emerging off-system LNG markets.
- Opportunities like the sale of LNG involve competitive markets and execution risks that differ from and riskier than traditional utility services. Chariot brings the capital and marketing competencies to a P3 and is willing to assume these risks.

Assist PGW Customers Use Gas More Efficiently

- PGW has 70,000 low-income residential customers enrolled in the Customer Responsibility Program (CRP) and nearly 23,000 customers in its Senior Citizen Discount program (SCD) at an annual cost of \$80M. In 2013, the average customer had average annual usage of 125 Mcf/year as compared to 76 Mcf/year for other customers.
- A Chariot P3 will ensure that PGW efforts to reduce CRP customers' usage since their bills are based on their income level, rather than on the amount of natural gas they use. We are uniquely qualified and possess the expertise to design and implement programs that target these qualifying customers.

Passion is the currency of creation. The energy that comes with diverse stakeholders collaborating to address specific community issues can be a powerful force for change. That's why we advocate with so much passion and conviction – because we know our efforts matter. Time is of the essence.

Chariot is managed by a seasoned team of energy, infrastructure, real estate and investment professionals who average more than 30 years of experience in each discipline. We bring a wealth of diverse, world-class experience, insight and agility, entrepreneurial spirit, and shared value creation to a PGW P3. To follow are a few highlights of our team:

1. First African American Chairman of the PA Public Utility Commission
2. Executive Deputy of the New York State Public Service Commission
3. "75 Most Powerful Blacks on Wall Street"
4. Executive Committee of the Congressional Black Caucus
5. Congressional Gold Medal, the highest honor given to U.S. citizen
6. White House Task Force on Minority Business Enterprises
7. Presidential Appointment as Assistant Secretary of Labor (Carter Administration)
8. Presidential Appointment as Assistant Secretary of Education (Clinton Administration)
9. Presidential Appointment as Associate Director of Outreach for White House Office of Faith-Based and Community Initiatives Secretary of Education (G.W. Bush Administration)
10. Presidential Appointment to Overseas Private Investment Corporation

Now, I want to transition to Dr. Ceci Cardesa-Lusardi, Chariot's Chief Strategy Officer. She will share our STEAM-based Energy Action Plan that reconnects working-class families to Philadelphia's economic renaissance.

Dr. Ceci Cardesa-Lusardi

Thank you, John.

My name is Dr. Ceci Cardesa-Lusardi and I serve as Chariot's Chief Strategy Officer. Thank you City Council President Clarke and members of City Council for allowing me to walk you through Chariot's Action Plan for Building an Energy Workforce Readiness Pipeline.

Philadelphia's energy hub promises an abundance of jobs available in our city. We buy into that proposition but as a minority-owned organization we cannot help think about where those jobs will come from, what are the requirements and who will fulfill them, which begs the question of a closer look into job creation upstream and downstream in the context of Philadelphia's poverty levels.

In light of these facts, Chariot has designed a pipeline for building a workforce development and readiness training through its Summer Energy Academy.

The S.E.A. is our Energy Action Plan creates new or improved workforce development programs providing a tailored science, technology, engineering arts and math (STEAM) enriched educational platform connecting supply chain needs, secondary and post-high school training programs, internships, life skills and wrap-around services to meet anticipated demand for employment in the energy industry.

Through a P3 with the US Department of Energy and with Junior Achievement, the S.E.A. is an intensive 130-hour certificate training for high school students to dive deep into STEAM education tailored to the local energy industry with two ultimate goals: it leads to a diploma at the end of the 6 weeks and it serves as a feeder to industry players in our area by introducing students to the sector through our curriculum, a series of speakers of color, field trips, internship and apprenticeship opportunities, design a student-run Energy Summit, and learn about career pathways in the energy sector from a STEAM perspective.

For industry participants, it is an action plan for dealing with its aging population, especially among employees of color, and a pipeline for talent development, talent development and mentoring opportunities as well as good corporate social responsibility. The S.E.A. also offers life-skills, financial literacy and exposure to the Arts.

For 7th and 8th graders, the S.E.A. is a 3-day after-school program in 7 locations throughout the city to serve those middle schools with tailored STEAM-based curricula in partnership with Junior Achievement and our stakeholders.

We have secured academic stewards to assist, challenge, champion and scale this initiative through our pool of PhDs – "The Magnificent Seven" – who have aided in the vetting of the curriculum.

The S.E.A. Brain-Trust includes faculty and staff from Temple School of Engineering; Drexel University; The Franklin Institute; Wharton Social Impact Initiative, Wharton Initiative on Global Environmental Leadership and myself.

All of us are uniquely qualified in our respective fields to integrate STEAM education into workforce readiness in the Philadelphia region.

We have also secured the support of the U.S. Department of Energy to utilize the SEA model as a national standard of STEAM-based education as a platform to careers in energy.

The DOE's support includes Chariot becoming a DOE-certified delivery model system as well as our exporting SEA to emerging markets in both Latin America and Africa.

The Summer Energy Academy will be housed at Stadium Village, which is anchored in the West Allegheny section of Philadelphia. Stadium Village is a proposed \$260Million transit-oriented-development initiative along 45 contiguous acres of land generating over 3,000 full-time and temporary jobs.

This 1.2 Million square foot facility will not only provide mixed-used, mix-income housing to Philadelphians but it will also house Chariot Labs - workplace education program that teaches managerial, organizational, and interpersonal skills to low-wealth youths and young-adults. Through Chariot Labs, participating students acquire communication, time management, and decision-making skills, as well as knowledge about topics such as financial literacy, life-skills, and healthcare. By including content related to both work and personal, the program addresses the issues that many Philadelphians face in an integrated way.

Chariot is answering the call on an energy hub that considers not just the economics of a P-3 but also the role of education and workforce development systems. We need to ensure that resourcing worker readiness is as high a priority as resourcing infrastructure to raise the returns to investors.

By partnering with Chariot in programs designed to create shared value, PGW increases the likelihood that its programs will be not only financially and operationally sustainable, but also transformative for low-wealth communities benefitting all PGW ratepayers.

Working with community stakeholders is a powerful way to align corporate economic empowerment programs with efforts to advance low-wealth communities at a grassroots level.

By working with these organizations, Chariot has enhanced its ability to work in a holistic way on the challenges that prevent low-wealth communities from realizing their full potential.

The social and cultural issues that affect low-wealth communities ability to benefit from an energy hub in Philadelphia lie outside their core business expertise. It is for this reason that John founded Chariot Companies and brought our team together.

For us at Chariot, shared-value creation is not an afterthought on a one-off utility transaction. Public Private Partnerships are also about People, Place and Process.

We invite Council to join us in a P-3 as energy industry proponents to listen to the communities that stand to gain the most in a transformative manner for generations to enjoy.

I encourage City Council to look squarely at the PGW P3 as a means to catalyze a workforce renaissance, grow new revenue streams and shore-up operational challenges. Philadelphia must strive to deliver solutions for all Philadelphians, not just some, to participate in its growth and prosperity. If we want to honor the courage of Ernie Green, and other civil rights leaders, then all of us are called to possess their moral imagination. All of us will need to feel as they did the fierce urgency of 'right now.' All of us need to recognize as they did that change depends on our actions, on our attitudes, and the things we teach our children. And if we make such an effort, Philadelphia will be restored to greatness and City Council's decision to P3 with Chariot will reverberate through the ages as multi-generational prosperity will be secured for ALL Philadelphians.

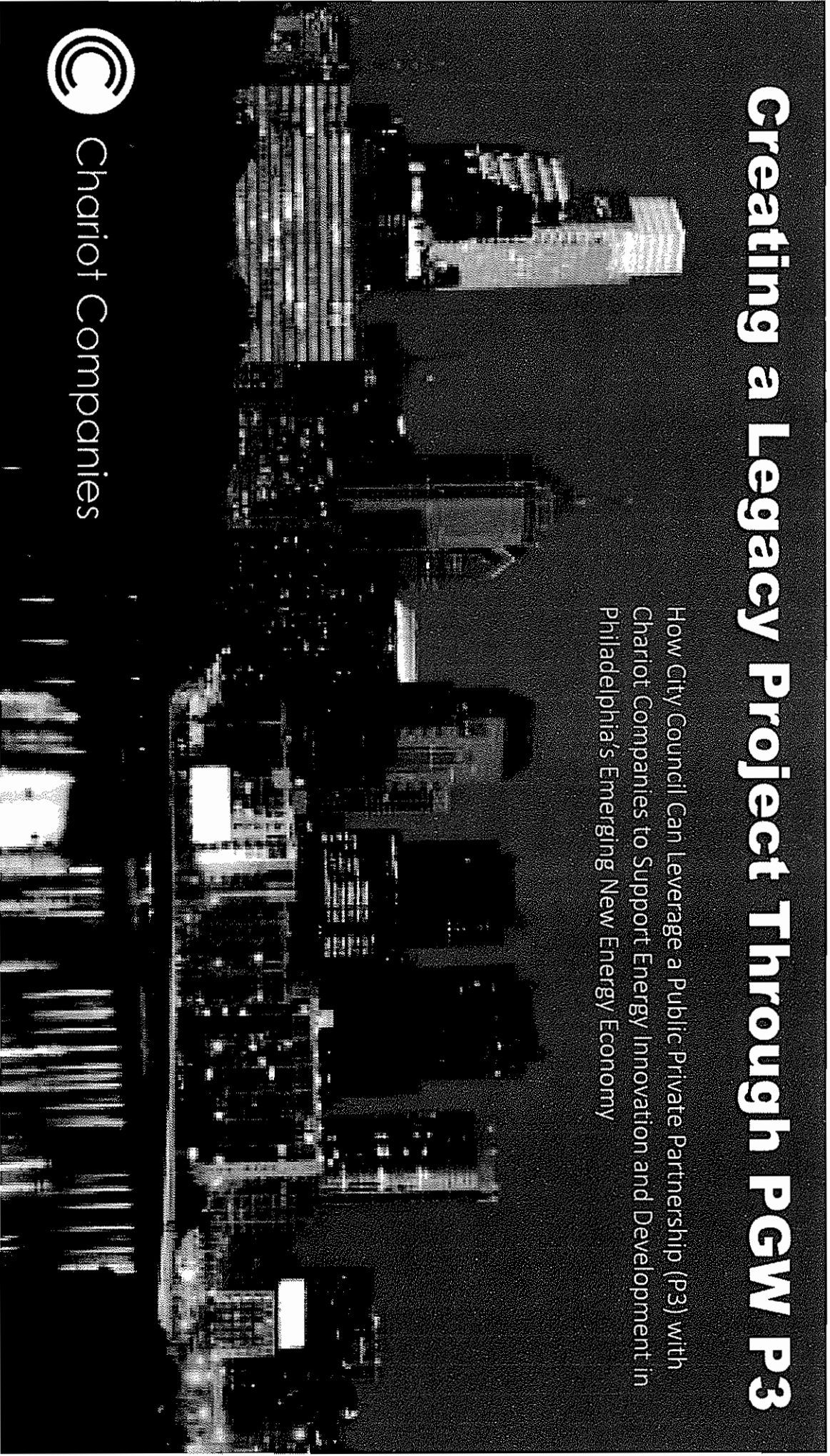
We are happy to answer any questions that you may have at this time.

Creating a Legacy Project Through PGW P3

How City Council Can Leverage a Public Private Partnership (P3) with
Chariot Companies to Support Energy Innovation and Development in
Philadelphia's Emerging New Energy Economy



Chariot Companies



Ernest G. Green
Martin Adams, LLC
160 Third Avenue, 7th Floor
New York, NY 10017

March 10, 2013

Council President Barrett Clark
Philadelphia City Council
c/o Special Committee on Energy Opportunities
Philadelphia, PA 19107

Re: Support Letter for Chariot Companies' Public Private Partnership (P3) with the City of Philadelphia and Philadelphia Gas Works (PGW)

Dear Council President Clark

I am grateful to you, members of City Council and the Special Committee on Energy Opportunities for allowing me the opportunity to provide written testimony expressing my strong support for Chariot Companies, a diversified minority owned Philadelphia based company, to be selected to participate in a Public Private Partnership (P3) with the City of Philadelphia and Philadelphia Gas Works (PGW) due to scheduling conflicts, I am unable to testify before you today

Chariot Companies serves as a portal for upward mobility and wealth creation through its educational and training platform and is a trusted organization that has secured partnerships with the country's landmark institutions. Chariot Companies' vision creates new, or improved workforce development programs providing enriched energy educational and training platforms connecting supply chain needs to meet demand for employment in Philadelphia's expanding energy industry. Chariot also makes the economic case for new revenue growth. As the City of Philadelphia considers P3's, I respectfully request that Chariot Companies receive full, fair and due consideration for this opportunity

John Henry is a courageous, bold and visionary leader that approached me in August, 2012 with a business plan that leverages the natural resources of Pennsylvania's Marcellus Shale to establish an Energy Hub in Philadelphia by intensively connecting economic value chains within the energy ecosystem to build a broad framework benefiting both industries and low wealth communities

I became among the first to accept a position on Chariot's Board of Managers. Perhaps the most compelling reason for my decision was John's ability to synthesize many "systems" into one thoughtful, fully integrated, operational value chain that creates shared value among many stakeholders. Not only did John challenge traditional notions and practices, he conceived and personally drafted a set of strategic energy action plans to serve as the blueprint for Philadelphia and other communities. It comes as no surprise that John is working with industry players to expand Chariot's framework abroad to emerging market countries in Africa and South America

In my view, Chariot Companies is addressing one of the last vestiges of the civil rights movement -- a movement in which I played a small part. At a time when Philadelphia is establishing itself as an Energy Hub, the potential for Philadelphia's low-wealth communities to benefit from, and participate in, the potential economic watershed emerging from the burgeoning energy industry is unprecedented. A Chariot P3 will build upon established action plans, and/or programs that provide the tools needed to overcome the barriers that have constrained Philadelphia's emergence as an Energy Hub. A partnership also will help build new markets for Philadelphia and the U.S. by expanding trade and supporting the emergence of middle class consumers. And we know that stable economies are less vulnerable to crises and crime

Accordingly, I believe that Chariot Companies has the vision, experience and only comprehensive action plan to provide unprecedented, narrowly tailored strategies and solutions to a P3 with the City of Philadelphia. I appreciate your time and attention, and respectfully ask that if you have any questions, comments, or concerns, please feel free to contact me directly

Sincerely,



Ernest G. Green

Ernest G. Green

- U.S. Assistant Secretary of Labor for Employment and Training
- Former Managing Director of Public Finance for Barclay's Capital (formerly Lehman Brothers)
- "75 Most Powerful Blacks on Wall Street" Black Enterprise Magazine
- Director of A. Philip Randolph Education Fund
- Chairman of the Historically Black Colleges and Universities Capital Financing Advisory Board
- NAACP Spingarn Medal
- National Urban League's Frederick Douglas Freedom Medal
- Congressional Gold Medal
- Quality Education for Minorities (QEM) Network
- Chariot Companies Board of Managers

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Accordingly, I believe that Chariot Companies has the vision, experience and only comprehensive action plan to provide unprecedented, narrowly tailored strategies and solutions to a P3 with the City of Philadelphia. I appreciate your time and attention, and respectfully ask that if you have any questions, comments, or concerns, please feel free to contact me directly.

Sincerely,



Ernest G. Green





The Vision

A movement is afoot in Philadelphia. Empowered by Marcellus Shale, the region is in the nascent stages of an emerging new energy economy promising to bring economic growth and prosperity.

In anticipation, Chariot sparked a synergistic movement in 2011 to serve new needs, improve efficiency, create differentiation and competitive advantages and expand markets, while also changing the socio-economic landscape of all Philadelphians.

PGW
Charlari Energy

Michael Krancer, Esq.,

<http://www.forbes.com/sites/michaelkraner/2014/02/26/how-philly-becomes-the-silicon-valley-of-energy-if-it-mails-the-sale-of-philadelphia-gas-works/>





The Opportunity

Moving to a more integrated approach to empowering Philadelphia working class families and people of color is not an easy approach for the oil and gas industry. The social and cultural issues that affect these communities' ability to benefit from an energy hub in Philadelphia lie outside their core business expertise.

Companies have often overlooked opportunities to meet societal needs and misunderstood how societal harms and weaknesses affect value chains. Their field of vision has simply been too narrow. What has been missed is the profound effect that People, Place and Process can have on productivity and innovation.

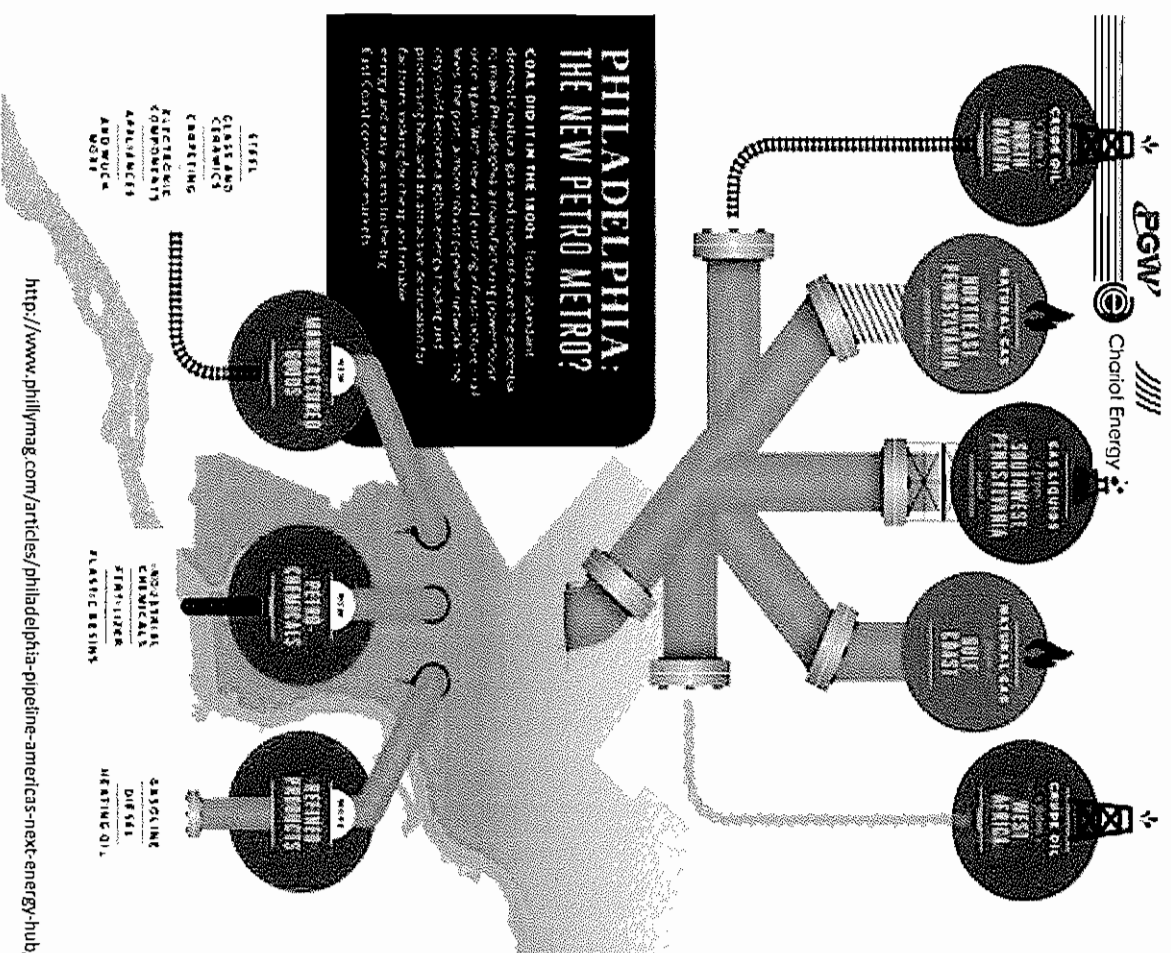


The Opportunity

"Poverty affects not just the poor but the entire city in terms of lost resources and revenue spent on related services..Even the most affluent Philadelphians who have little fear of ever becoming poor are paying for the city's poverty..it is essential to provide a well-educated workforce that attracts employers. Investing more in education is a crucial ingredient in reducing poverty."

Alexandro A. Alvarez

<http://mobile.philly.com/news/opinion?news=/philly/opinion&id=294465641>





The U.S. energy sector is a massive enterprise of interconnected and interrelated systems. Philadelphia is fortunate to have a network of celebrated national labs and universities, sophisticated financial industry, and talented entrepreneurs supported by incubators and accelerators.

Within this diverse ecosystem, there are many opportunities, both to leverage a PGW Public Private Partnership (P3) to use the natural resources, infrastructure and geographic location of Philadelphia to create an economic vehicle that will impact all sectors of the Philadelphia economy and social fabric.

Call to Action

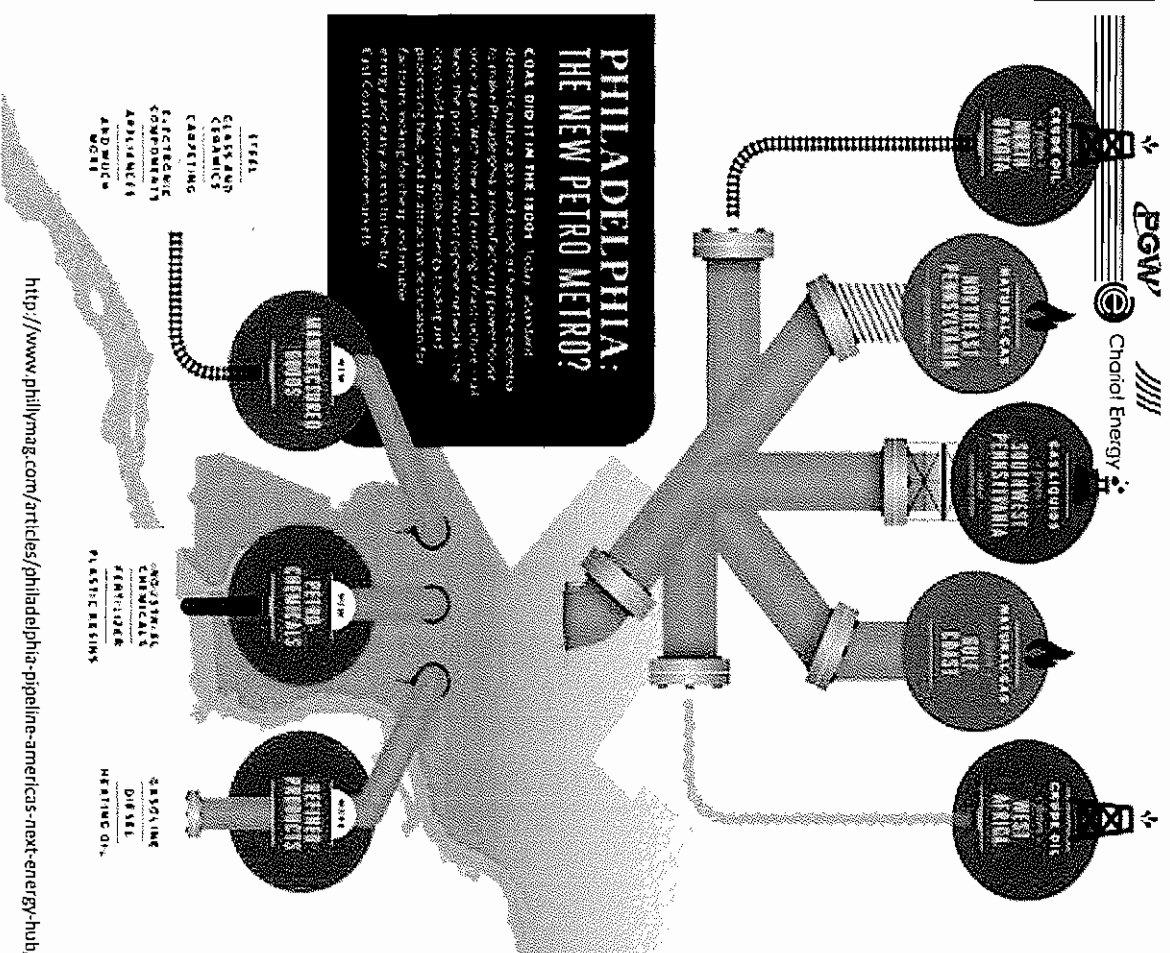
"What is an energy hub? Let's start with what it is not. An energy hub is not a business plan. That means it is not just about building pipelines to bridge an infrastructure gap that would benefit a limited set of firms. Nor is an energy hub a sectoral strategy. That means it is not just about a set of inter-industry connections creating a value chain stretching from upstate and upstream gas wells to gathering pipelines to processing and storage facilities to transmission pipelines to more processing and storage facilities to distribution pipelines to consumers of fuel and feedstock to producers and consumers of intermediate and final products...A true energy hub creates value by connecting things in ways that makes them worth more than the sum of the parts. The hub is... the center of a wheel connected to gears that transform the same pedal power into higher speeds."

Dr. Mark Alan Hughes,
Director, Kleinman Center for Energy

Policy <http://www.policygroup.com/enfiled/2015/01/19/inside-oke-hub-energy-hub/#v1fup1d3RvLdp8.99>

Policy <http://www.phillymag.com/articles/2015/01/14/inside-take-hell-energy-hub/#VtFuplJdARyId98.59>

Policy <http://www.phillymag.com>





Differentiation

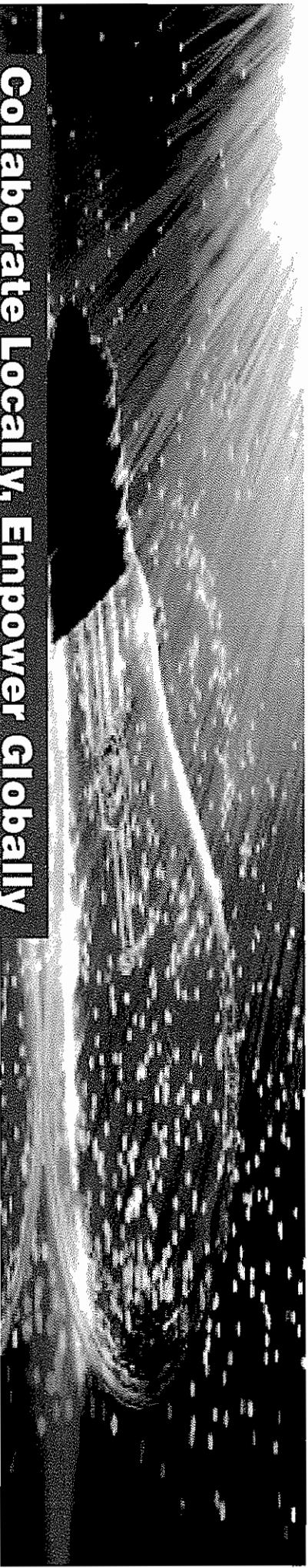
In the traditional market-based approach, each link in the value chain is essentially transactional. In contrast, Chariot's shared value creation model is a strategy of creating economic value in a way that creates value by addressing society's needs and challenges. Change occurs not just at the level of an organization or industry, but also the entire value chain in diverse ecosystems.

In our P3 effort, each party brings different skills and resources to bear on developing programs that are more powerful than any program that either party could develop alone by coming together to develop new practices.

We must, with surgical precision, define the objectives, outcomes, measurements and oversight of the P3.

Societal
needs, not
just
conventional
economic
needs define
markets, and
social harms
can create
internal
costs.

© Chariot Foundation



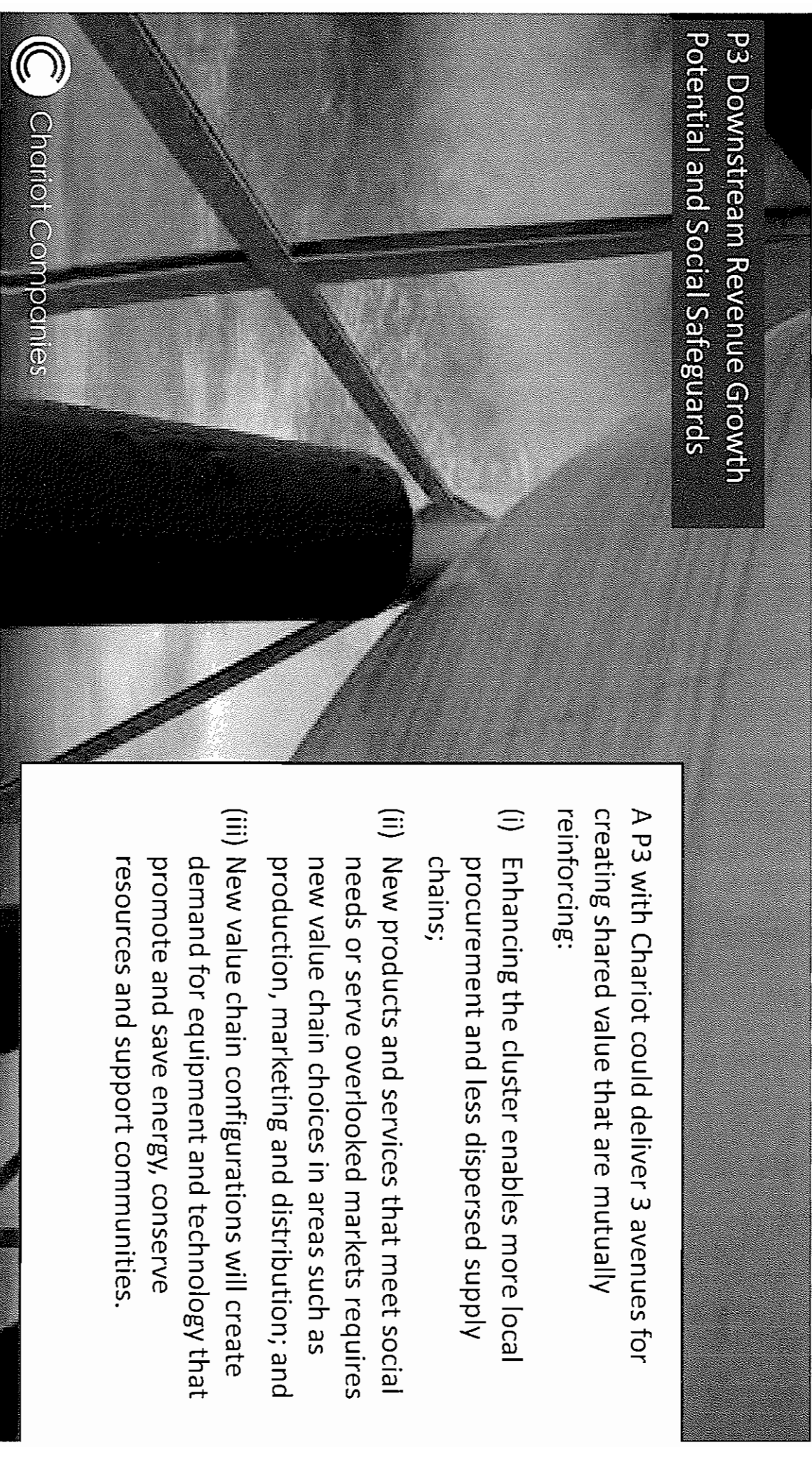
Collaborate Locally, Empower Globally

The Five Conditions of Collective Impact Through P3

- **Common Agenda** (shared vision for change that includes a common understanding of the problem and a joint approach to solving the problem through specific agreed upon actions)
- **Shared Measurement** (All agree on ways success will be measured and reported, with a list of indicators identified and used for learning and improvement)
- **Mutually Reinforcing Activities** (A diverse set of stakeholders across-sector and industries, coordinate a set of differentiated activities through a mutually reinforcing plan)
- **Continuous Communication** (Frequent and structured open communication to build trust, assure mutual objectives, and create common motivation)
- **Backbone Support** (An independent, funded staff dedicated to the initiative provides ongoing support by guiding the initiative's vision and strategy, supporting aligned activities, establishing shared measurement practices, building public will, advancing policy, and mobilizing resources).

Source: Collective Insights for Collective Impact; Stanford Social Innovation Review (2015)





P3 Downstream Revenue Growth Potential and Social Safeguards

A P3 with Chariot could deliver 3 avenues for creating shared value that are mutually reinforcing:

- (i) Enhancing the cluster enables more local procurement and less dispersed supply chains;
- (ii) New products and services that meet social needs or serve overlooked markets requires new value chain choices in areas such as production, marketing and distribution; and
- (iii) New value chain configurations will create demand for equipment and technology that promote and save energy, conserve resources and support communities.



Chariot Companies



Upstream Supply Capacity & Savings Potential by Diversifying PGW's Gas Supply Portfolio

Grow top-line and net revenues from traditional regulated services and emerging competitive market opportunities thereby optimizing the value of PGW's LNG Assets.



Chariot Companies

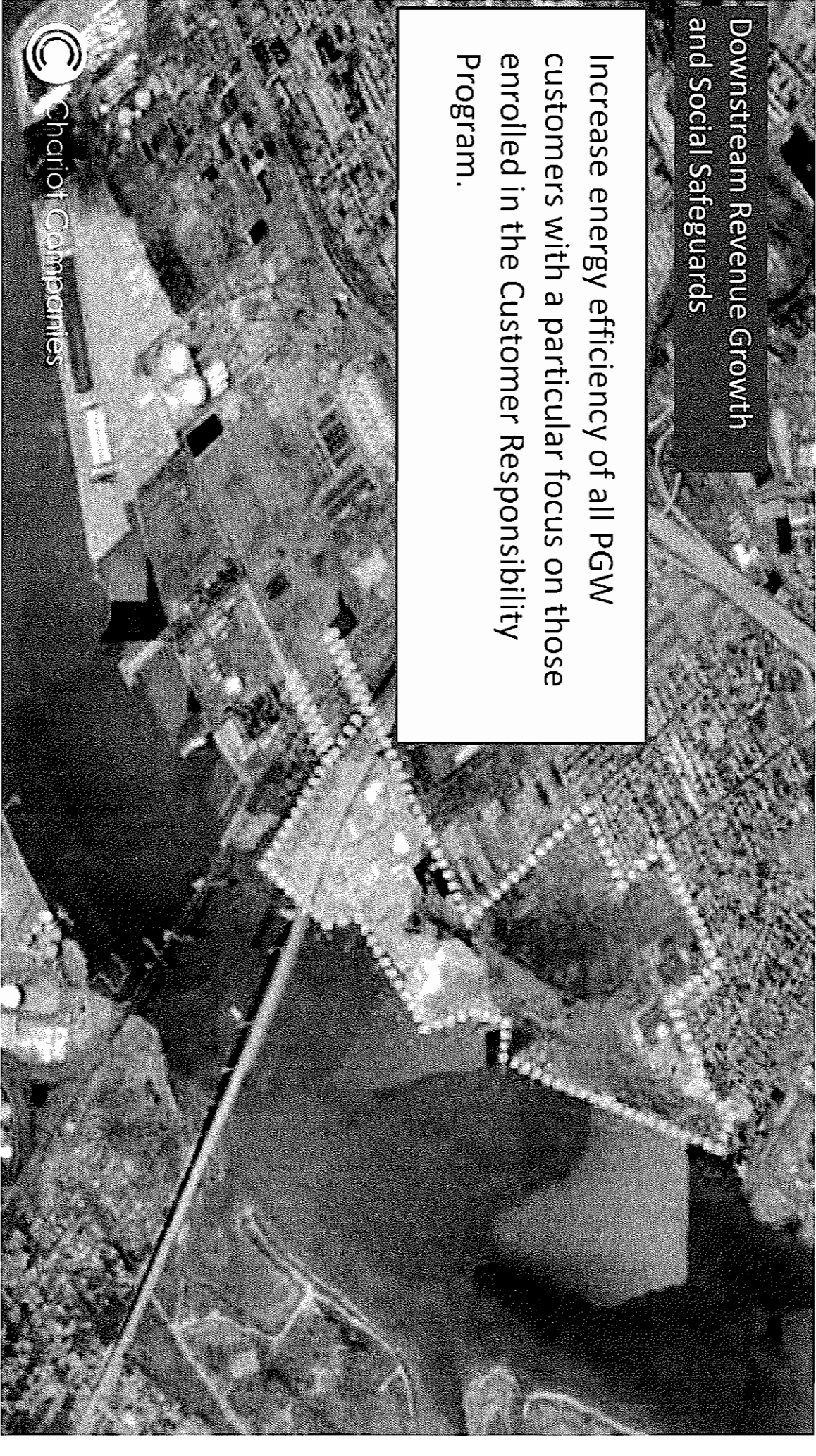
Upstream Supply Capacity & Savings Potential by Diversifying PGW's Gas Supply Portfolio

Diversifying PGW's gas supply portfolio could potentially lower the cost of gas, resulting in lower customer gas bills, especially for those 70,000 Philadelphians that struggle to pay their bills.



Chariot Companies



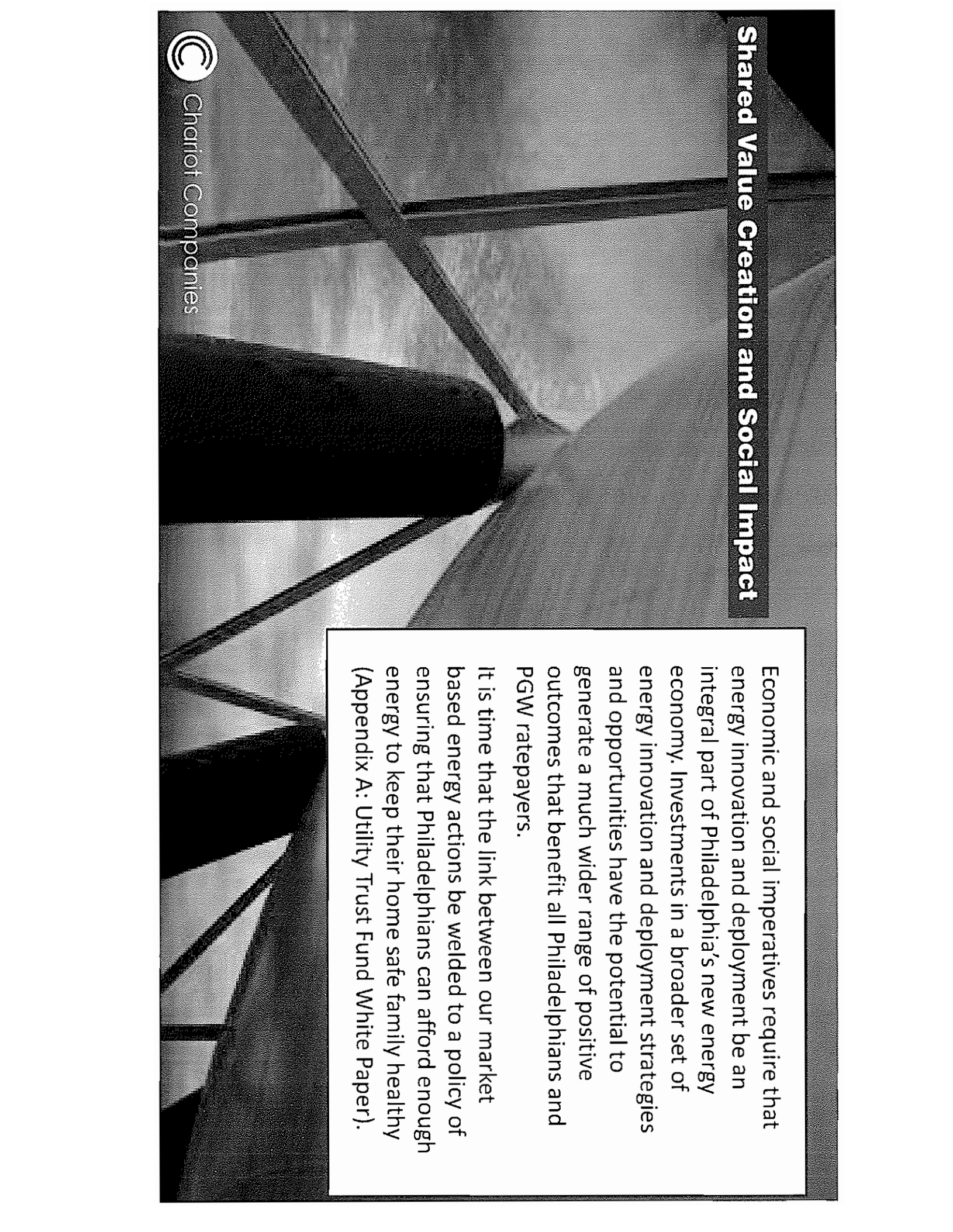
An aerial photograph of a city, likely Los Angeles, with a large area in the center highlighted by a white dotted line. The highlighted area includes a large stadium (SoFi Stadium) and surrounding urban development. The text is overlaid on the top left of the image.

Downstream Revenue Growth and Social Safeguards

Increase energy efficiency of all PGW
customers with a particular focus on those
enrolled in the Customer Responsibility
Program.



Chariot Companies



Shared Value Creation and Social Impact

Economic and social imperatives require that energy innovation and deployment be an integral part of Philadelphia's new energy economy. Investments in a broader set of energy innovation and deployment strategies and opportunities have the potential to generate a much wider range of positive outcomes that benefit all Philadelphians and PGW ratepayers.

It is time that the link between our market based energy actions be welded to a policy of ensuring that Philadelphians can afford enough energy to keep their home safe family healthy (Appendix A: Utility Trust Fund White Paper).



Chariot Companies



Local Roots, Global Impact

Passion is the currency of creation and the energy that comes with diverse stakeholders collaborating to address specific community issues can be a powerful force for change.

Chariot is managed by a seasoned team of energy, infrastructure, real estate and investment professionals who average more than 30 years of experience in each discipline. We are a local minority-owned firm with a real live stake in Philadelphia. We have a shared-interest and stake in improving the lives of ALL Philadelphians.





Chariot's Team



Our Past Shapes Our Future, World-Class Insight, Experience,

Recognition and Highlights of Executive Team – Energy

- First African-American Chairman of the Pennsylvania Public Utility Commission
- Expert testimony in international arbitration proceedings regarding energy sector disputes in Latin America, China, Canada, Federal Energy Regulatory Commission, the Ontario Energy Board, and state public utility commissions.
- Senior Technical Advisor to the U.S. Department of Energy
- Executive Committee and Board of Directors of the Independent Power Producers of New York and Electric Power Generation Association of Pennsylvania
- Energy Star Award for Excellence Energy Efficient Affordable Housing from the U.S. Department of Energy and Department of Housing and Urban Development



Our Past Shapes Our Future, World-Class Insight, Experience,

Recognition and Highlights of Executive Team – Financial Expertise

- “75 Most Powerful Blacks on Wall Street,” Black Enterprise Magazine
- Past Chairman of the National Association of Securities Professionals
- Representative for the U.S. Department of State at the United Nations Trade and Development Conference

Recognition and Highlights of Executive Team – Community, Economic Development

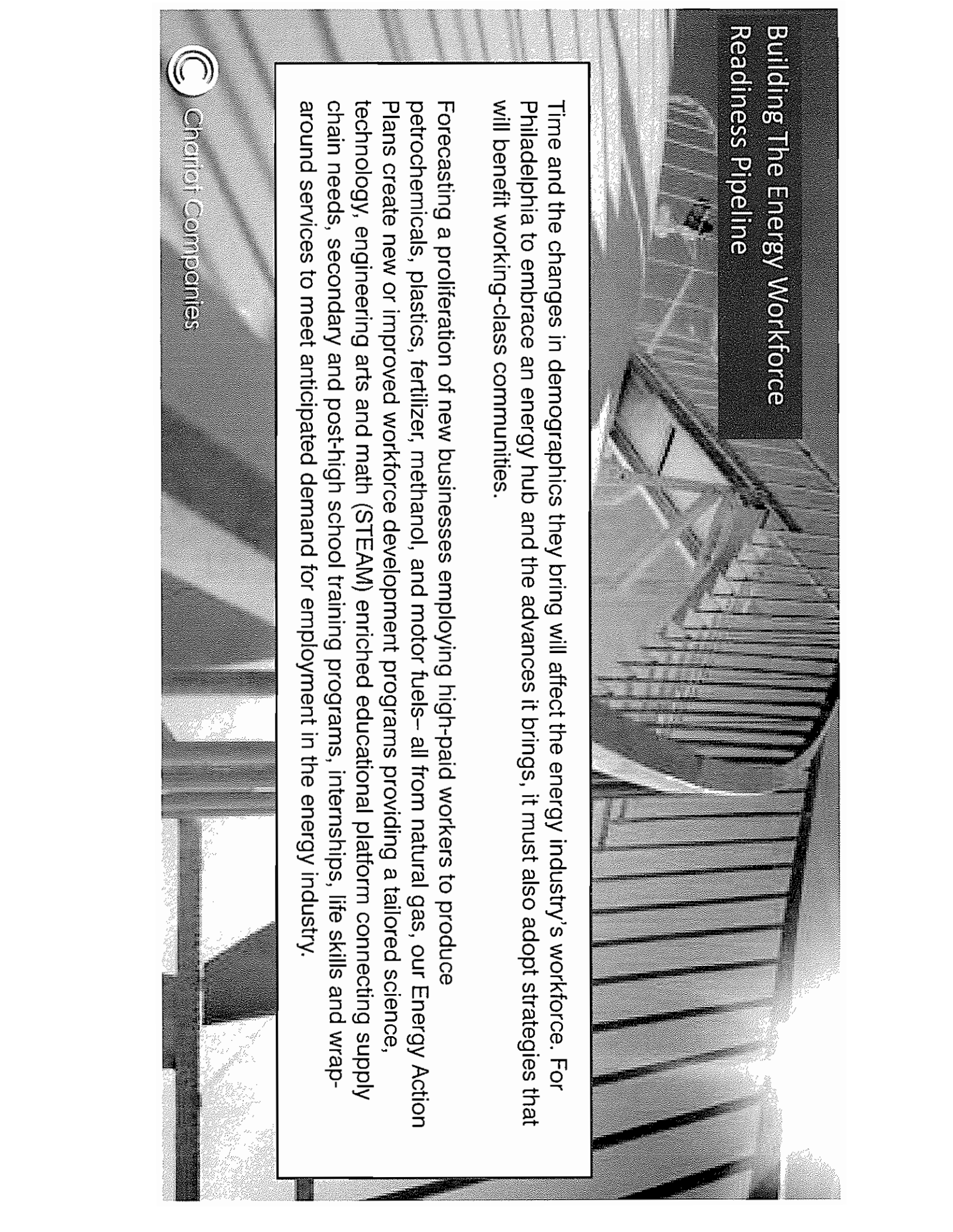
- United Nations Commission on the Status of Women (51st & 57th Sessions Delegate)
- Executive Committee of the Congressional Black Caucus Institute’s 21st Century Council
- Executive Deputy of the New York State Public Service Commission
- Secretary of Education appointment as Chairman of the African Development Foundation

Our Past Shapes Our Future, World-Class Insight, Experience,

Recognition and Highlights of Executive Team – Presidential Appointments

- Congressional Gold Medal, the highest honor given to a U.S. civilian (Clinton Administration)
- White House Task Force on Minority Business Enterprises (MBEs)
- Presidential appointment as Assistant Secretary of Labor (Carter Administration)
- Presidential appointment as Assistant Secretary of Education (Clinton Administration)
- Presidential appointment as Associate Director of Outreach for White House Office of Faith-Based and Community Initiatives (Bush Administration)
- Presidential appointment to the Board of the Pennsylvania Avenue Development Corporation
- Presidential appointment to the United Service Organization
- Presidential appointment to Overseas Private Investment Corporation

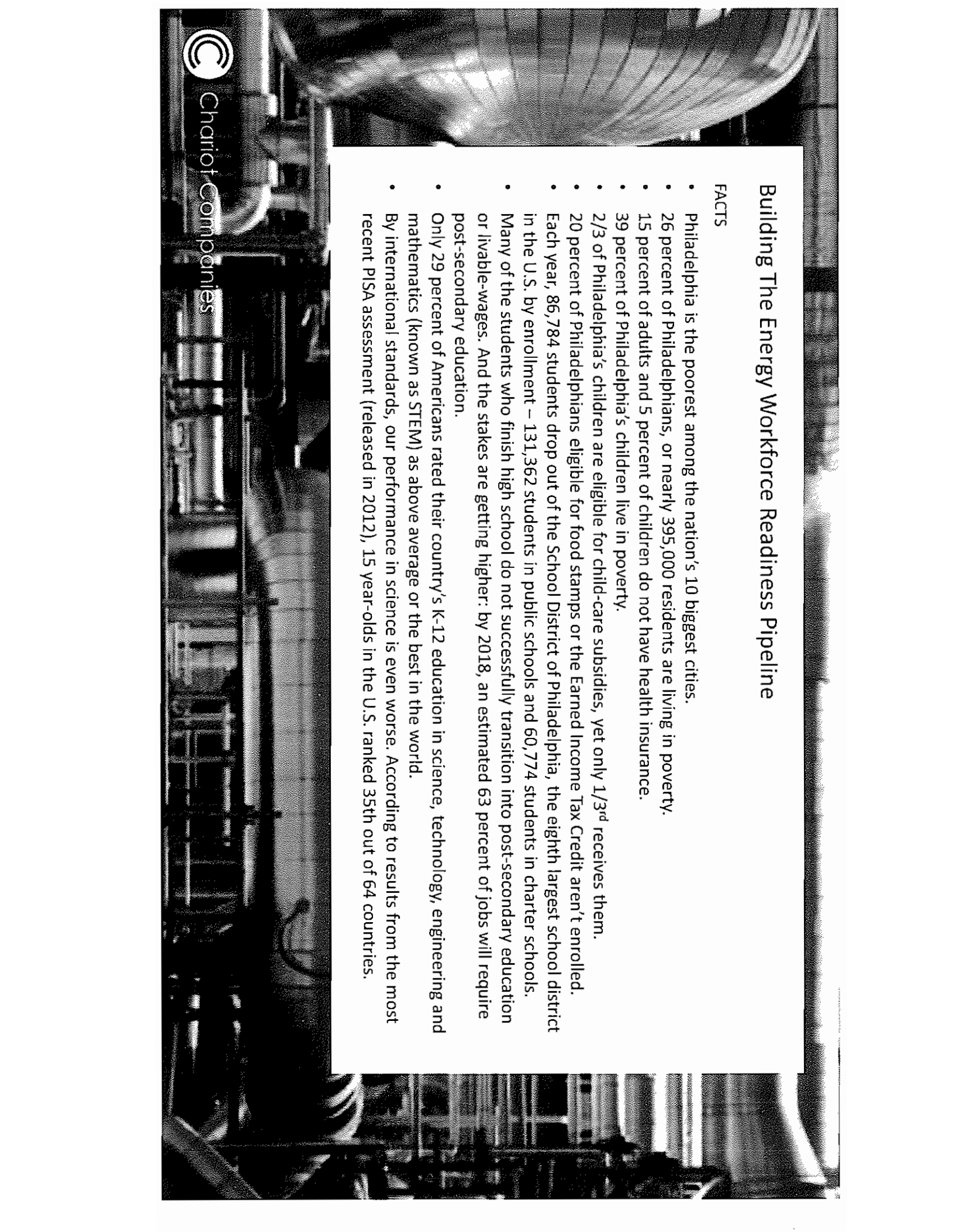




Building The Energy Workforce Readiness Pipeline

Time and the changes in demographics they bring will affect the energy industry's workforce. For Philadelphia to embrace an energy hub and the advances it brings, it must also adopt strategies that will benefit working-class communities.

Forecasting a proliferation of new businesses employing high-paid workers to produce petrochemicals, plastics, fertilizer, methanol, and motor fuels— all from natural gas, our Energy Action Plans create new or improved workforce development programs providing a tailored science, technology, engineering arts and math (STEAM) enriched educational platform connecting supply chain needs, secondary and post-high school training programs, internships, life skills and wrap-around services to meet anticipated demand for employment in the energy industry.



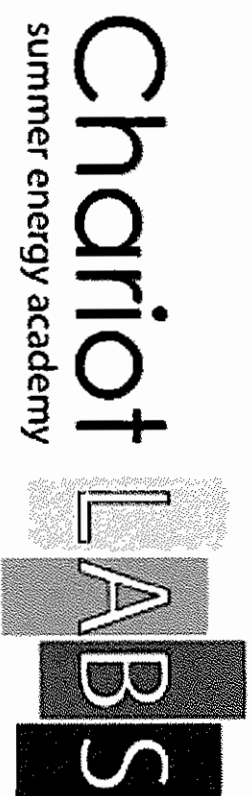
Building The Energy Workforce Readiness Pipeline

FACTS

- Philadelphia is the poorest among the nation's 10 biggest cities.
- 26 percent of Philadelphians, or nearly 395,000 residents are living in poverty.
- 15 percent of adults and 5 percent of children do not have health insurance.
- 39 percent of Philadelphia's children live in poverty.
- 2/3 of Philadelphia's children are eligible for child-care subsidies, yet only 1/3rd receives them.
- 20 percent of Philadelphians eligible for food stamps or the Earned Income Tax Credit aren't enrolled.
- Each year, 86,784 students drop out of the School District of Philadelphia, the eighth largest school district in the U.S. by enrollment – 131,362 students in public schools and 60,774 students in charter schools.
- Many of the students who finish high school do not successfully transition into post-secondary education or livable-wages. And the stakes are getting higher: by 2018, an estimated 63 percent of jobs will require post-secondary education.
- Only 29 percent of Americans rated their country's K-12 education in science, technology, engineering and mathematics (known as STEM) as above average or the best in the world.
- By international standards, our performance in science is even worse. According to results from the most recent PISA assessment (released in 2012), 15 year-olds in the U.S. ranked 35th out of 64 countries.



Chariot Companies



Chariot Summer Energy Academy (SEA), is a **workforce development program** providing a tailored science, technology, engineering, arts, and math (**STEAM**) enriched educational platform connecting supply chain needs, secondary and post-high school training programs, internships, life skills and wrap-around services **to meet anticipated demand for employment** in the upstream, midstream and downstream segments of energy industry (Appendix B: Summer Energy Academy Program).

- It is a **systems thinking** approach to energy and environmental education.
- It is an action plan for dealing with concerns over the **aging of workforce** population in energy
- It is a tool for the **transfer of organizational memory** and **talent development** at a corporate level
- It insures a qualified **workforce replacement pipeline** through the adoption of internationally benchmarked STEAM-based curricula.

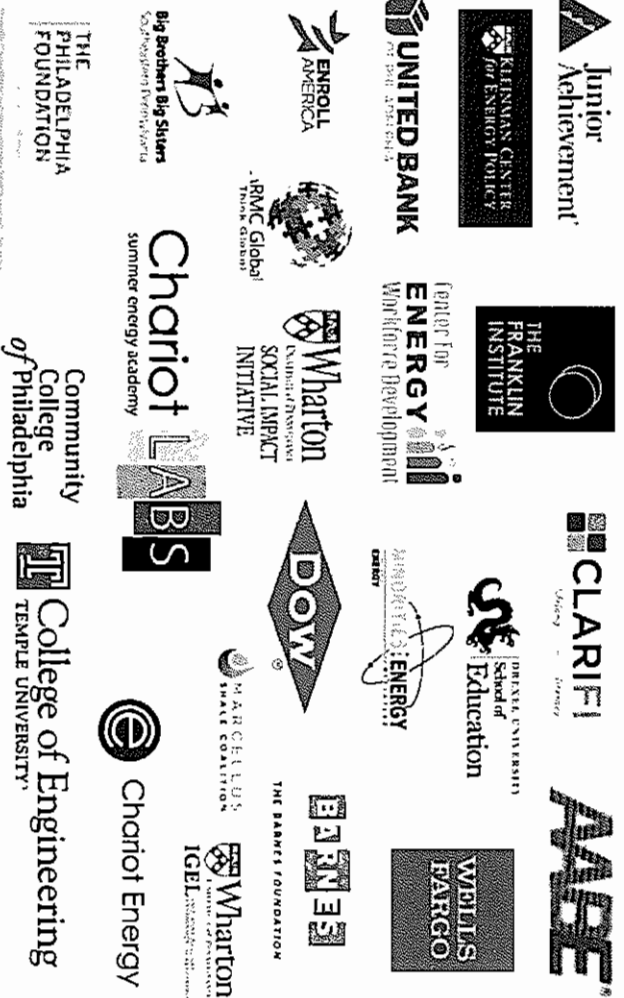
Stadium Village

Chariot Labs, a proposed **20,000-sf** state-of-the-art innovation and educational facility is located at Stadium Village, a proposed **\$260MM** transit-oriented development situated on **45-acres** with 782 market-rate and affordable multifamily housing units, a 115,000 square foot vertical urban farm and 140,000 square feet of retail space.

Stadium Village is expected to **generate 2,060** full-time temporary jobs and **1,290** ongoing full-time jobs according to an economic impact analysis.

Chariot Development is to receive a **\$40MM** direct line-item appropriation under RACP for the redevelopment of Stadium Village, which provides redevelopment and capital assistance for transformative and innovative projects.

Chariot LABS



Trusted community members. We are a community development entity. We have broad and deep networks and a high degree of trust among members of those organizations.

Strategic, culturally grounded players. We understand the cultural, social, political, business and religious obstacles to creating change.

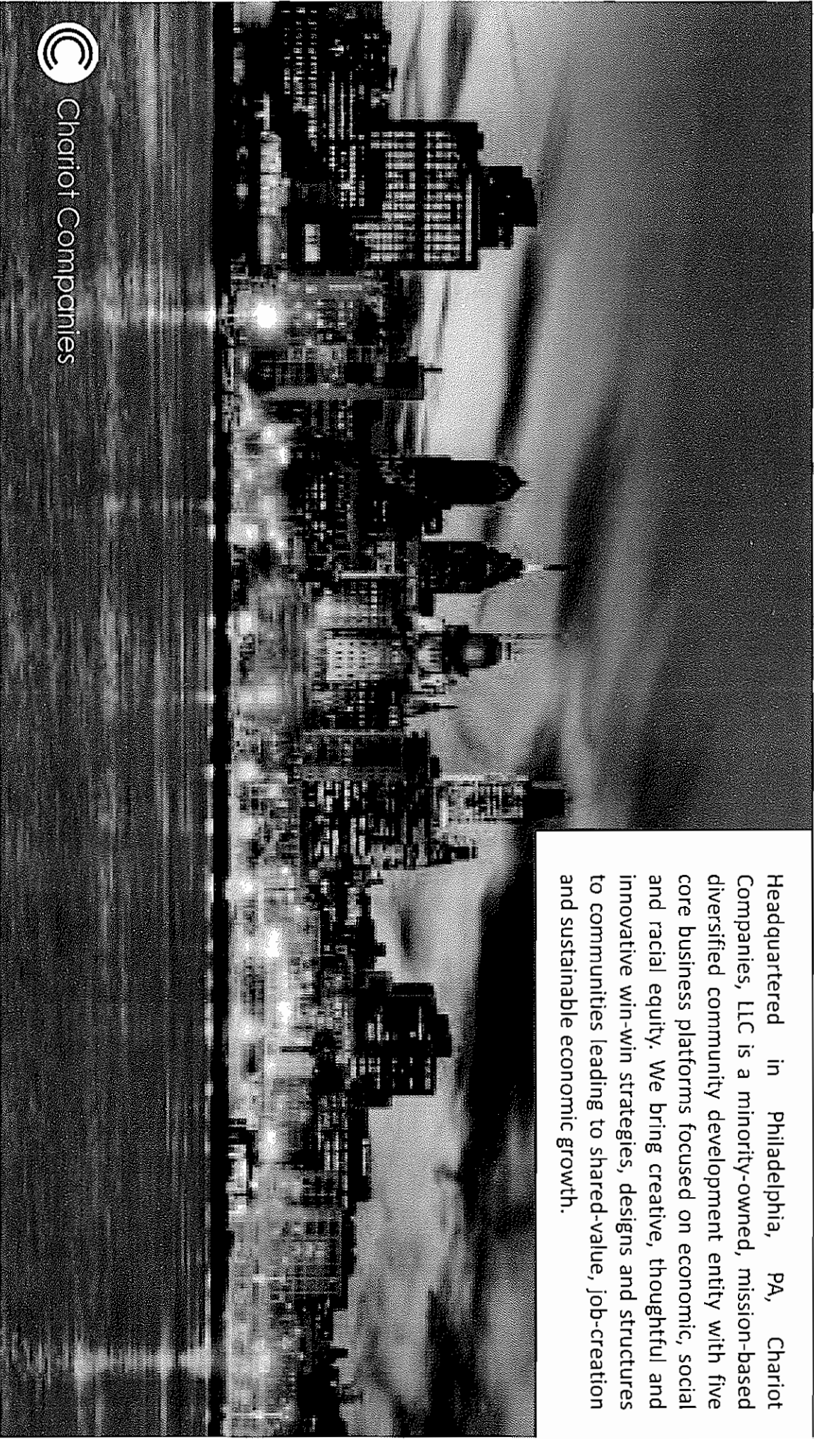
Experienced Navigators. We have extensive experience in steering our way through business and community issues.

Partner Program Providers. We collaborate with numerous partners to collaborate on multi-faceted issues that impact working class families.

Cost-Efficient Partner. Chariot is a highly efficient service provider.

Let's Make History Together





Headquartered in Philadelphia, PA, Chariot Companies, LLC is a minority-owned, mission-based diversified community development entity with five core business platforms focused on economic, social and racial equity. We bring creative, thoughtful and innovative win-win strategies, designs and structures to communities leading to shared-value, job-creation and sustainable economic growth.



Chariot Companies

Sam Bernhart

Food & Water Watch is a national advocacy organization working to champion healthy food and clean water for all. To that end, we are extremely concerned regarding the plan being put forward by Philadelphia's oil and gas industry, to scale up fossil fuel infrastructure in and around our city. This plan means more oil trains, pipelines, trucks and barges transporting dangerous and explosive fossil fuel materials in and out of our city. It also means more harmful air pollution coming from the refineries that are already the leading sources of air pollution for our city. Overall, this vision spells a Philadelphia that is unhealthy and unsafe for its residents.

But the reason I am hear today is to voice concern that this plan threatens Philadelphia's fiscal health through its reliance on public-private partnerships that are risky for the city. Food & Water Watch has a good deal of expertise on the issue of public-private partnerships through our work on water privatization, which increasingly presents itself in the form of public-private partnerships.

Public-private partnerships are intrinsically risky for municipalities, as they disproportionately expose the public side of these deals to risk.

Limited liability corporations can shield themselves from the fallout of financial, environmental or public safety catastrophes. Academic reviews of public-private partnerships have found “many US PPPs are a means of transferring investment risk from the private sector to the public sector.” In addition to uncontrollable market forces or accidents/catastrophes, complexity and uncertainty involved in public-private partnerships leaves municipalities at an inherent disadvantage.

Public-private partnerships involving fossil fuels and energy infrastructure represent an increased level of risk due to their potential for accidents with large environmental or public health impacts. Natural Gas pipelines leak or Liquefied Natural Gas being transported on trucks can leak and explode. This is one of the reasons why energy ventures are frequently moved forward using special purpose vehicles such as LLCs.

We don't need to look very far to see what this looks like. Harrisburg has been crippled by debt resulting from a badly planned deal intended to increase the city's revenues by making upgrades to its incinerator. Harrisburg's public-private partnership around the incinerator was

meant to create a cash cow for the city. Instead, it dragged the city into receivership. Now, proponents of Philadelphia's oil and gas industry are presenting Council with public-private partnerships that could flood the city's coffers with new revenue from environmentally. This sounds eerily similar to Harrisburg's incinerator.

It is important to remember that these advocates from the oil and gas industry motivated by one thing, and its not the city's financial health, but their own corporate bottom lines. Phil Rinaldi is the CEO of PES, not Philadelphia.

That leads me to the third reason Council should be wary of the risk presented in public-private partnerships to further the "energy hub" vision. If Philadelphia should be wary of public-private partnerships involving energy generally, they should be especially wary of working with an LLC formed bring the Philadelphia-area refineries back from the dead. Partnering with any LLC on energy infrastructure is a risky proposition for a city that needs to be there for its residents in perpetuity.

In summary, public-private partnerships are generally ventures that disproportionately place risk on municipal actors. More specifically, municipalities should be wary of public-private partnerships in an energy sector fraught with risk. And even more specifically, this municipality should be wary of partnering with limited liability corporations such as Liberty Energy Trust and Philadelphia Energy Solutions with a limited track record of stability.

Why #BlackLivesMatter Should Transform the Climate Debate

What would governments do if black and brown lives counted as much as white lives?

Naomi Klein /views-field-value *December 12, 2014*

The annual United Nations climate summit is wrapping up in Lima, Peru, and on its penultimate day, something historic happened. No, not the empty promises from powerful governments to finally get serious about climate action—starting in 2020 or 2030 or any time other than right now. The historic event was the decision of the climate-justice movement to symbolically join the increasingly global #BlackLivesMatter uprising, staging a “die-in” outside the convention center much like the ones that have brought shopping malls and busy intersections to a standstill, from the US to the UK.

“For us it is either death or climate justice,” said Gerry Arances, national coordinator for the Philippine Movement for Climate Justice.

What does #BlackLivesMatter, and the unshakable moral principle that it represents, have to do with climate change? Everything. Because we can be quite sure that if wealthy white Americans had been the ones left without food and water for days in a giant sports stadium after Hurricane Katrina, even George W. Bush would have gotten serious about climate change. Similarly, if Australia were at risk of disappearing, and not large parts of Bangladesh, Prime Minister Tony Abbott would be a lot less likely to publicly celebrate the burning of coal as “good for humanity,” as he did on the occasion of the opening of a vast new coal mine. And if my own city of Toronto were being battered, year after year, by historic typhoons demanding mass evacuations, and not Tacloban in the Philippines, we can also be sure that Canada would not have made building tar sands pipelines the centerpiece of its foreign policy.

The reality of an economic order built on white supremacy is the whispered subtext of our entire response to the climate crisis, and it badly needs to be dragged into the light. I recently had occasion to meet a leading Belgian meteorologist who makes a point of speaking about climate change in her weather reports. But, she told me, her viewers remain unmoved. “People here think that with global warming, the weather in Brussels will be more like Bordeaux—and they are happy about that.” On one level, that’s understandable, particularly as temperatures drop in northern countries. But global warming won’t just make Brussels more like Bordeaux, it will make Haiti more like Hades. And it’s not possible to be cheerful about the former without, at the very least, being actively indifferent to the latter.

The grossly unequal distribution of climate impacts is not some little-understood consequence of the failure to control carbon emissions. It is the result of a series of policy decisions the governments of wealthy countries have made—and continue to make—with full knowledge of the facts and in the face of strenuous objections. I vividly remember the moment when the racism barely under the surface of international climate talks burst onto the world stage. It was exactly five years ago this week, on the second day of the now-infamous United Nations climate summit in Copenhagen. Up until that point, the conference had been a stultifying affair, with the fates of nations discussed in the bloodless jargon of climate “adaptation and mitigation.” All of that changed when a document was leaked showing that governments were on the verge of setting a target that would cap the global temperature rise at 2 degrees

Celsius (3.6 degrees Fahrenheit, more than double the amount of warming experienced so far). This was defined as a strategy for averting “dangerous” levels of warming. But the temperature target—pushed by wealthy nations in Europe and North America—would likely not be enough to save some low-lying small island states from annihilation. And in Africa, where drought linked to climate change was at that time menacing many lives in the eastern part of the continent, the target would translate into a full-scale humanitarian disaster. Clearly the definition of “dangerous” climate change had more than a little to do with the wildly unequal ways in which human lives are counted.

But African delegates weren’t standing for it. When the text was leaked, the dull UN bureaucracy suddenly fell away and the sterile hallways of the conference centre came alive with shouts of, “We Will Not Die Quietly” and “2 Degrees is Suicide.” The paltry sums rich countries had pledged for climate financing were angrily dismissed as “not enough to buy us coffins.” Black lives matter, these delegates were saying—even if this corrupted forum was behaving as if that was far from the case.

The highly racialized discounting of certain lives does not just play out between countries but also, unfailingly, within them—perhaps most dramatically within the United States. I was reminded of this while reading about Akai Gurley, the unarmed 28-year-old black man who was “accidentally” shot and killed last month in the dark stairwell of a Brooklyn housing project. Like the dilapidated elevator, the lighting system in the building had been left unrepaired, despite complaints. And when that neglect of a public institution that disproportionately serves African-Americans intersected with armed fear of black men, the result was lethal.

When Superstorm Sandy hit New York City two years earlier, a similar combination of forces showed its brutal face, but on a much larger scale. Housing projects suffering from decades of official neglect were devastated by the storm, with water and electrical systems completely knocked out for weeks. No lights. No heat. No power for lights or elevators. But the worst part was how fear of those darkened buildings clearly played a role in keeping government officials and relief agencies from checking in on elderly and sick residents, leaving them stranded in high-rise buildings without basic provisions for far too long.

And Sandy was by no means the only example of this toxic combination of heavy weather and highly segregated neglect. “George Bush doesn’t care about black people,” Kanye West famously said, going way off script during a 2005 telethon for victims of Hurricane Katrina. As that storm showed so nakedly, the worst impacts of extreme weather follow racial lines with the same devastating precision as the decision about whether to employ lethal police force.

During Katrina, it was overwhelmingly New Orleans’s black residents who were abandoned on their rooftops and in the Superdome; who did not receive emergency aid in the earliest days; who were called “looters” when they took matters into their own hands; who were labeled “refugees” in their own country; and who were shot by both vigilantes and cops on the streets of their city. Race also continues to play no small role in determining whose homes and schools are rebuilt (or torn down, or privatized) in the name of “building back better.”

Taken together, the picture is clear. Thinly veiled notions of racial superiority have informed every aspect of the non-response to climate change so far. Racism is what has made it possible to systematically look away from the climate threat for more than two decades. It is also what has allowed the worst health impacts of digging up, processing and burning fossil fuels—from cancer clusters to asthma—to be systematically dumped on indigenous communities and on the neighborhoods where

people of colour live, work and play. The South Bronx, to cite just one example, has notoriously high asthma rates—and according to one study, a staggering 21.8 percent of children living in New York City public housing have asthma, three times higher than the rate for private housing. The choking of those children is not as immediately lethal as the kind of choking that stole Eric Garner's life, but it is very real nonetheless. If we refuse to speak frankly about the intersection of race and climate change, we can be sure that racism will continue to inform how the governments of industrialized countries respond to this existential crisis. It will manifest in the continued refusal to provide serious climate financing to poor countries so they can protect themselves from heavy weather. It will manifest in the fortressing of wealthy continents as they attempt to lock out the growing numbers of people whose homes will become unlivable.

And in the not too distant future, the firm if unstated belief that not all lives matter could well push our governments to deploy high-risk "geoengineering" technologies like spraying sulfur into the stratosphere in order to reduce global temperatures. Never mind that several studies project that a side effect could be suppressing the summer monsoons in India and Africa, with the water and food security of billions of people hanging in the balance.

Indeed, it is distinctly more likely that our governments will favor these terrifying techno-fixes over approaches to emission reduction that are far more likely to succeed, in no small part because those solutions are being offered by poor people with darker skin. Such casually discounted, eminently sensible responses include free public transit for all; decentralized, community controlled renewable energy; land redistribution to support small-scale agro-ecological farming; and respecting the rights of indigenous people to refuse logging, drilling and mining on their lands.

Here is some good news: if we committed ourselves to responding to the climate crisis on the basis that black lives matter, and that requiring people of color to shoulder even more of the burdens of uncontrolled emissions is morally unacceptable, it would demand these types of hopeful transformations. In practical terms, that would mean unprecedented economic and technological investments in some of the most neglected parts of the world—from Kenya to Ferguson to Pine Ridge—bringing greatly improved services, increased democracy and self-determination, real food security and countless good jobs. In short, a justice-based climate mobilization would do more than end the way neglected communities are policed; it might just help end the neglect itself.

According to Alicia Garza, one of the people who founded the #BlackLivesMatter project, the slogan is not meant to claim that black lives matter more than others. Rather, by highlighting the foundational role that anti-black racism has played in constructing a system of racial superiority, it tells everyone that black lives "are important to your liberation. Given the disproportionate impact state violence has on black lives, we understand that when black people in this country get free, the benefits will be wide reaching and transformative for society as a whole."

What climate change tells us is that this is as true at a global, species-wide scale as it is within the borders of the United States. In Copenhagen in 2009, African governments argued that if black lives mattered, then 2 degrees of warming was too high. By disregarding this basic humanist logic, the biggest polluters were making a crude cost-benefit analysis. They were calculating that the loss of life, livelihood and culture for some of the poorest people on the planet was an acceptable price to pay to protect the economies of some of the richest people on the planet.

Here we are just five years later and the governments of wealthy countries are set to blow past their earlier target, putting us squarely on the road towards 4–6 degrees

Celsius of warming. That is a destination that will leave almost no one safe and may well be incompatible with anything resembling organized society. This is no coincidence: it turns out that once decision-makers start rationalizing the sacrificing of some lives, it's awfully hard to stop.

In the face of systemic state violence, courageous demonstrators shouting "I Can't Breathe" and "Black Lives Matter" are asserting a positive, core principle about the value of every single human being, starting with the lives that are currently most discounted. Supporting the urgent call for justice and a transformation of the criminal justice system is of paramount importance and should not be watered down by piling every issue under the sun on top of it.

At the same time, the clarion call that Black Lives Matter deserves to transform how we approach a great many crises in our societies, from school systems that systematically fail African-American kids, to a healthcare system that too often discards black lives. It must also jolt us out of our climate inaction.

Because if the current race-based hierarchy of humanity is left unchallenged, then we can be certain that our governments will continue their procrastination, redefining "dangerous" to allow for the sacrifice of ever more people, ever more ancient culture, languages, countries. Conversely, if black lives matter—and they do—then global warming is already a five-alarm fire, and the lives it has taken already are too many.

The slogan adopted for die-in in Lima, which has been used in some of the Ferguson protests, was "*somos semillas*"—we are seeds. In this context, it means that the people who have died in storms and droughts from the Philippines to the Horn of Africa can be more than tragedies. Their losses, if we are willing to acknowledge them, willing to fully grieve them, have the power to help us grow a new and safer world. Indeed, they must.

TESTIMONY TO THE SPECIAL COMMITTEE ON ENERGY
OPPORTUNITIES FOR PHILADELPHIA BY MOON SMITH, RN, CNM

My name is Moon Smith. I am a Philadelphia resident. Over the past 25 years I have worked as a nurse midwife, caring for women and their families in the Philadelphia area. In the course of working with thousands of families and attending more than 800 births, I have developed the passion for protecting life and health and planning for the next generation that brings me here to speak today.

I have seen the effects on families of poverty and poor living conditions as well as of infertility, developmental problems, preterm birth, learning disabilities, cancers, asthma and other conditions. The environment we are creating in our region influences the prevalence of all of these conditions.

We are at a crucial juncture in our city. We can make decisions that will improve life for generations to come or we can perpetuate the myth that the extraction economy and fossil fuel dependence has something to offer us. "Isn't natural gas a cleaner fuel option?" you might ask. And the answer is no.

Biologist Sandra Steingraber speaks eloquently of the risks. We are not speaking of just burning natural gas; we are speaking of extracting it in Pennsylvania, then transporting it in pipelines and trains, and refining it in Philadelphia. With the fracking of shale gas, air-born contaminants can travel up to 200 miles. Millions of gallons of water are removed from lakes, streams or groundwater aquifers and entombed below the water table for a single fracking well, making it unusable for human consumption for all foreseeable time. Pipelines can leak unburned methane into the atmosphere, which is worse than CO₂ in raising the ozone level. We all know the risks of fossil fuel trains running through the city. We should not be sacrificing the people of Philadelphia to the last throes of the fossil fuel frenzy.

My children, your children, and all the children and people of Philadelphia have a right to clean, affordable energy. Philadelphia has already made progress towards becoming one of the nation's greenest cities and the momentum must continue in that direction for the sake of this generation and the generations to come.

Energy efficient building, reducing greenhouse gas emissions, storm-water management, sun, wind, geothermal, hydrothermal--this is the CLEAN energy hub Philadelphia must become. Renewable energy creates more jobs than fossil fuel use. Some research suggests renewable energy and conservation create up to 10 x's more jobs. This, too, is good for families. Let's birth a healthy city we can be proud to live in. No Fossil Fuel Energy Hub in this city we love.

Thank you.

B.R.I.D.G.E.S. to a Great City

Beauty—A city's culture is the basis of its greatness. Great cities celebrate the rich and varied cultures of their inhabitants. Philadelphia's inspiring murals reflect the special strengths and aspirations of our diverse communities. This beauty deserves to be reflected in the upkeep and beautification of our public spaces and in support for the arts, particularly in our schools.

Resilience—Great cities are not dependent on private, for-profit entities to provide for the basic needs of their citizens. Great cities do not sell off their public utilities and other valuable assets to the highest bidder, but keep them in the public trust for the benefit of all. Great cities build local and regional self-sufficiency by supporting community banking, coops, sustainable businesses and local food security through urban farming and alliances with local sustainable farmers.

Innovation—Great cities are built on great ideas and do not remain mired in outdated mindsets and technologies. Great cities innovate in every area of commerce, banking, business and especially energy. Great cities look to other great cities for replicable models of public transportation and innovative ways to support community-based businesses and services. Great cities find smart ways to deliver energy and to utilize and restore both natural and built resources, for example daylighting streams, greening rooftops and rehabilitating brownfields and empty lots.

Democracy—Great cities rely on the strength and wisdom of their people, providing means for citizens to maximize their impact on the decisions that affect their lives. Great cities provide open and transparent processes for decision making in which the voice of the public is truly heard. The future of a great city is not decided behind closed doors by self-interested corporations and wealthy individuals.

Green Space—Great cities are in harmony with nature and provide, safe, sustainable, accessible green spaces in all neighborhoods, from pocket parks to community gardens to larger woodland and recreational spaces. Living in a city can dramatically reduce people's environmental footprint and it should be the goal of a great city to enhance this advantage by all means including public transportation, waste reduction and management, safe bicycle lanes and energy conservation.

Equality—Great cities do not exclude, demean or leave any of their citizens behind. Great cities do not respond to crime by occupying the most vulnerable neighborhoods and sweeping their young people into the prison system. Great cities implement and fund community based responses to crime, restorative justice, drug treatment and rehabilitation, and above all, jobs and education.

Solidarity—Great cities encourage and facilitate understanding and compassion among their diverse communities. "Solutions" that privilege one constituency while burdening another, and particularly those that privilege the advantaged over the disadvantaged, are not worthy of a great city.

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WINTER 2015

Dear Councilmember,

All over the world, great cities are leading the way toward a prosperous, sustainable future.

We hope the examples in this special issue

of YES Magazine will inspire you to help keep

Philadelphia a great city, not a fossil fuel

sacrifice zone.

Yours truly,

Philadelphia Be the Change

10

CLIMATE-COOL
CITIES

IS YOURS ONE?

Brooklyn Grange
Rooftop farming 12
stories above the city

CITIES ARE THE FUTURE Now

THE URBAN INNOVATIONS LEADING US
TO A SUSTAINABLE FUTURE

ROOFTOPS TO VACANT LOTS:

WHERE URBAN FARMERS FIND LAND

L.A. RAIN: THE TRICKLE-DOWN THAT WORKS

ISSUE 72

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THE CITY, ALWAYS THE HUMAN HABITAT OF FIRST RESORT,
HAS IN TODAY'S GLOBALIZING WORLD ONCE AGAIN BECOME
DEMOCRACY'S BEST HOPE.

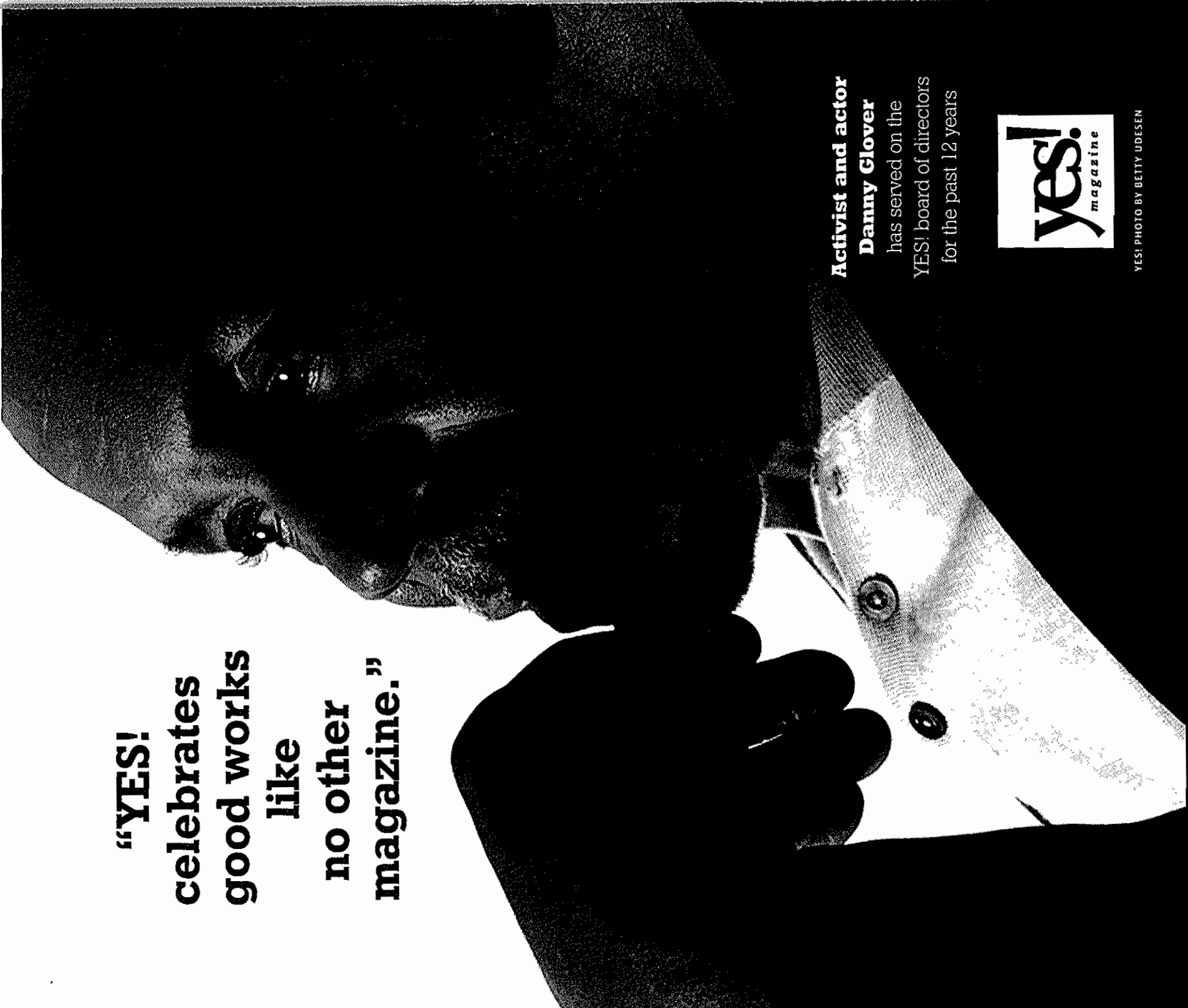
Ben Barber, *If Mayors Ruled the World*



More than 400,000 people turned out for the People's Climate March in New York City on Sept. 21, 2014, days before world leaders debated environmental action at the United Nations climate summit.

PHOTO BY JENNA POPE

**“YES!
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good works
like
no other
magazine.”**



**Activist and actor
Danny Clover**
has served on the
YES! board of directors
for the past 12 years



YES! PHOTO BY BETTY UDESEN

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NEW BOOK FROM YES!

Live Simply, Live Well, Make a Difference

"A stroke of genius ... Sustainable Happiness suggests we dig deeper than retail therapy, that the hours of our lives are not trinkets but rather a gift from and for the living world."

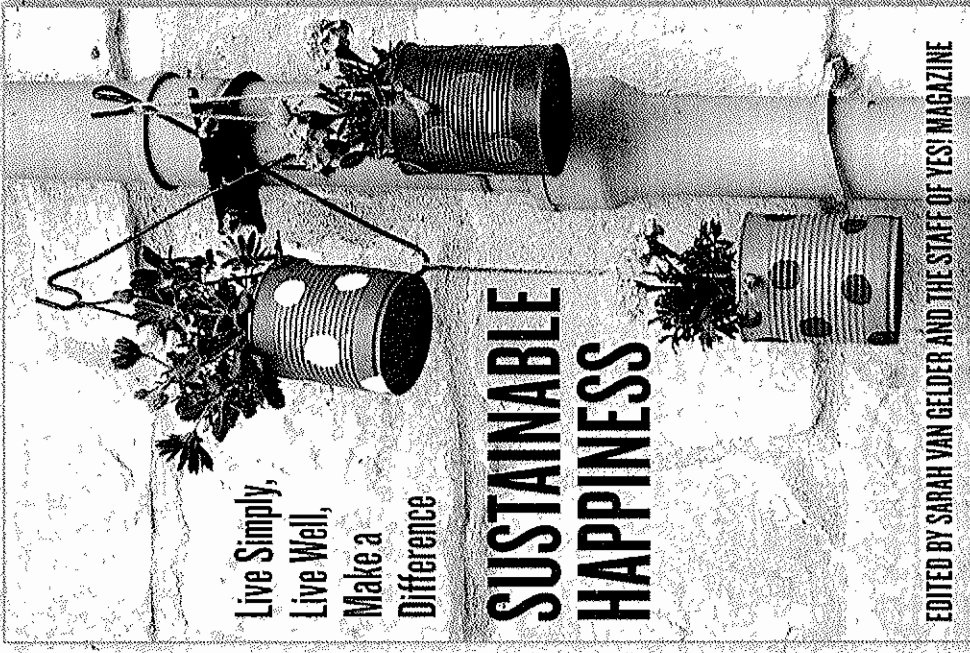
Vicki Robin
Your Money or Your Life and Blessing the Hands That Feed Us

"I love this beautiful compilation of voices reminding us that happiness isn't something we 'find.' It's what we become as we align our lives with thriving community and life-giving Earth."

Frances Moore Lappé
Diet for a Small Planet and EcoMind

"Somehow a working planet, a thriving society, and a satisfying personal life are hitched together—and this fine volume offers some powerful clues on the search for those connections!"

Bill McKibben
Earth and The End of Nature



Live Simply,
Live Well,
Make a
Difference

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EDITED BY SARAH VAN GELDER AND THE STAFF OF YES! MAGAZINE

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Urban Comeback

When I first met Jane Jacobs, I didn't know that she was the author of *The Death and Life of Great American Cities*, that she was dismissed as a "housewife" and "a crazy dame" for her takedown of the orthodox views of cities, and that she had been arrested for inciting a riot.

At the time, I was a preteen, trailing behind my mother on visits to her friend's Hudson Street home in New York's West Village. I remember the adults laughing over the dinner table at the latest attempt to build an expressway through lower Manhattan and discussing how Jacobs and her neighbors would stop it. And I remember lying awake in the guest room, listening to the sounds of a wide-awake city.

I learned later who she was. By that time, her views had replaced those of the men (nearly all were men) who advocated bulldozing neighborhoods for "urban renewal" and building freeways through cities.

Jacobs had little formal education beyond high school, but she paid close attention to the people and ways of life she saw every day. She wrote of the sidewalk ballet, a decidedly unwonky term for the complex ways people move through urban spaces. To her, diversity, density, and mixed use create vitality, and draw "eyes on the street," a term she coined to describe what makes a street safe. These are the factors that make cities vital—even exuberant.

Cities have gone through tough changes. The suburban craze, fueled by two things Jacobs scorned—highways and suburban sprawl—brought with it white flight (blacks were excluded from the exodus), car dependence, and congestion. Racial exclusion squelched opportunities for people of color left behind in cities with shrinking tax bases, neglected city services, and few jobs.

Today, though, cities are making a comeback as young people seek out the sort of walkable and bikeable neighborhoods

FROM THE EDITOR



that Jacobs celebrated. Grassroots groups and elected officials are remaking cities. At a time when nations are gridlocked and corrupted by special interests, cities are taking on poverty, social isolation, and the climate crisis. Author and political scientist Benjamin Barber even proposes that mayors should rule the world (see page 18).

How are cities transforming themselves? Los Angeles is facing chronic water shortages as a result of climate change. In a flash of brilliance (sparked by years of work by TreePeople and others), L.A. is moving away from expensive stormwater drainage to systems that harvest and store the city's surprisingly abundant rainfall (see page 28).

In Medellín, instead of abandoning poor neighborhoods to drug cartels, the city is connecting them to the city center via escalators and gondolas (see page 40).

Boston's Dudley Street Initiative revitalized housing via a community land trust, and did so without displacing low and moderate income residents—now it's working to make land available to urban farmers (see page 34).

What sort of city will our grandchildren live in? Some say cities will be high-tech, massive, and built into the sky. But architect Jason McLennan offers up a humbler, human-scale vision of cities that can thrive in harmony with nature (see page 46).

Where cities go, the rest may follow. Jane Jacobs wrote: "Whenever and wherever societies have flourished and prospered rather than stagnated and decayed, creative and workable cities have been at the core of the phenomenon." Today's signs of an urban flourishing are good news for everyone.

Sarah van Gelder

Sarah van Gelder
Co-founder and Editor in Chief

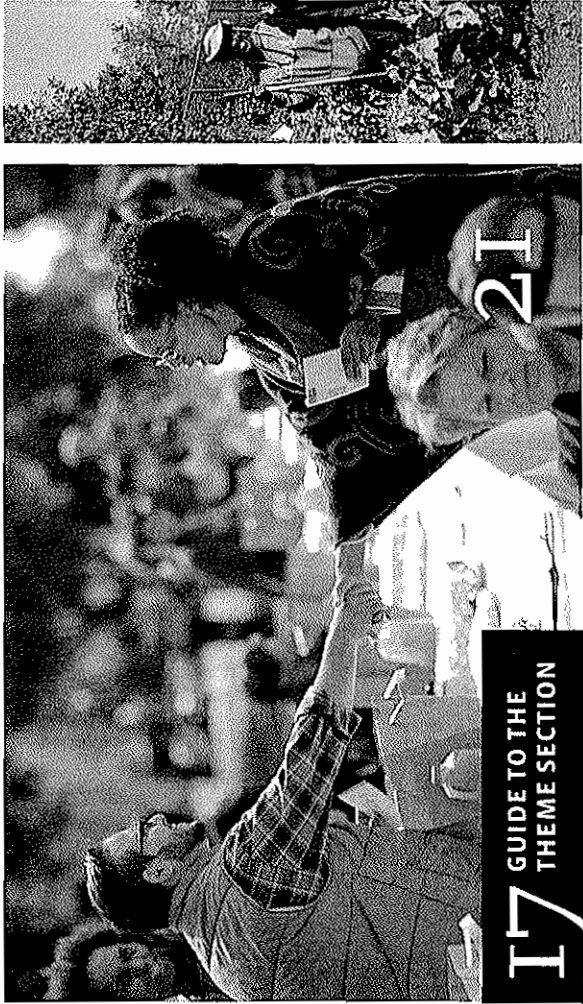


PHOTO BY ANDY KING

THE MISSION
OF YES!

is to support you in building a just and sustainable world. In each issue we focus on a different theme through these lenses:

NEW VISIONS

Solving today's big problems will take more than a quick fix. These authors offer clarity about the roots of our problems and visions of a better way.

WORLD & COMMUNITY

New models that foster justice and real prosperity, and sustain the Earth's living systems. How can we bring these models to life and put them to work?

THE POWER OF ONE

Stories of people who find their courage, open their hearts, and discover what it means to be human in today's world.

BREAKING OPEN

Infographics, visual storytelling, and the arts—taking you into unexpected spaces where business-as-usual breaks open into new possibilities.

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Community land trusts work to ensure affordable housing—and now are securing farmland. *By Penn Loh*

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Medellín's Slow-Moving Miracle

How residents of crime-ridden barrios are regaining access to their city—and each other. *By Sven Eberlein*

INSTEAD OF PLUTOCRACY AND CLIMATE CHANGE, OUR MARKET ECONOMY
WOULD GENERATE **WIDELY-SHARED, EARTH-FRIENDLY PROSPERITY.**

market economy would generate widely-shared, earth-friendly prosperity. And it would achieve these goals automatically, without much need for government intervention.

Is this wild-eyed dreaming? Possibly, but no more so than universal suffrage or social insurance once were. Common wealth dividends could be the next step in America's long march toward equal rights—and the game-changer that leads to a new version of capitalism. But first, we have to see the opportunity and demand it. **❶**



Peter Barnes is an innovative thinker and entrepreneur whose work has focused on fixing the deep flaws of capitalism. He has written numerous books and articles and co-founded several socially responsible businesses (including Working Assets/Credo). He lives in northern California with his wife, dog and vegetable garden.

This article includes material adapted and excerpted by the author from With Liberty and Dividends For All, and other writing by the author.

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wealth into equal dividends for everyone, can the rest of America do the same?

There are many good reasons to ask this question. One is that America's middle class is in steady decline. In the heyday of our middle class, jobs at IBM and General Motors were often jobs for life. Employers offered decent wages, health insurance, paid vacations and defined pensions. Nowadays, such jobs are rare.

It's also unlikely that the jobs of the future will pay more (adjusted for inflation) than today's. In unionized industries like autos and airlines, two-tier contracts are now the norm, with younger workers paid substantially less than older ones for doing the same work. Nor is the picture brighter in other industries. In the Labor Department's latest list of occupations with the greatest projected job growth, only

ALASKANS DON'T SEE THEIR DIVIDENDS AS WELFARE OR REDISTRIBUTION. ACCORDING TO SEVERAL SURVEYS, **MOST ALASKANS CONSIDER THEIR DIVIDENDS TO BE THEIR RIGHTFUL SHARE OF THEIR STATE'S NATURAL WEALTH.**

one out of six pays more than \$60,000 a year. The implication is clear: without some form of supplementary non-labor income, we can kiss our middle class goodbye.

The second reason to ponder Alaska's dividends is climate change. It might seem odd that dividends based on oil could presage a remedy for climate change, but such is the case. Imagine if we charged companies for using another common resource—our air—and distributed the revenue equally to all. If we did this, two things would follow. First, higher air pollution costs would lead to less fossil fuel burning and more investment in renewables. And second, households that used less dirty energy would gain (their dividends would exceed their higher costs) while households that used a lot of dirty energy would pay. This would spur both companies and households to do the right thing.

A third reason for considering Alaska's model is our long-lasting economic stagnation. Not counting asset bubbles, our economy hasn't sparkled for decades, and neither fiscal nor monetary policies have helped much. Tax cuts for the rich have benefited no one but the rich, and as Mark Blyth and Eric Loneragan recently wrote in *Foreign Affairs*, pumping trillions of dollars into banks hasn't stimulated our economy either. What's needed is a system that continually refreshes consumer demand from the middle out—something like periodic dividends to everyone that can be spent immediately.

One further reason for looking north to Alaska is the current stalemate in American politics. Solutions to all major

problems are trapped in a tug-of-war between advocates of smaller and larger government. Dividends from common wealth bypass that bitter war. They require no new taxes or government programs; once set up, they're purely market based. And because they send legitimate property income to everyone, they can't be derided as welfare.

In this regard, it's worth noting that Alaska's dividends are immensely popular. Politicians in both parties sing their praises, as do the state's voters. One attempt in 1999 to transfer money from the Permanent Fund to the state treasury was trounced in a referendum by 83 percent. Nationally, Alaska's model has been lauded by Fox News commentators Bill O'Reilly and Lou Dobbs as well as liberals like Robert Reich.

The reasons for this popularity are pretty clear. Alas-

kans don't see their dividends as welfare or redistribution. According to several surveys, most Alaskans consider their dividends to be their rightful share of their state's natural wealth. There's thus no stigma attached to them, and any attempt by politicians to reduce them is seen as an encroachment on legitimate property income.

Moreover, because the dividends are universal rather than means-tested, they unite, rather than divide, Alaskans. If only "losers" got them, "winners" would be resentful. Universality puts everyone in the same boat. No one is demonized and a broad constituency protects the dividends from political attack.

How might a common wealth dividend system work at the national level? The easy part is distributing the dividends. As in Alaska, enrollment could be done online and payments could be wired electronically at a cost of pennies per transaction. The Social Security Administration could set that up in a jiffy.

The harder part is collecting the revenue. In my latest book, *With Liberty and Dividends For All*, I show how, over time, we could generate enough revenue to pay dividends of up to \$5,000 per person per year. Initially, a sizable chunk would come from selling a declining number of permits to dump carbon into our air. Later, more revenue could flow from our monetary infrastructure, our patent and copyright systems, and our electromagnetic airwaves.

Consider what \$5,000 per person per year would mean. If a child's dividends were saved and invested starting from birth, they'd yield enough to pay for a debt-free

ALSO

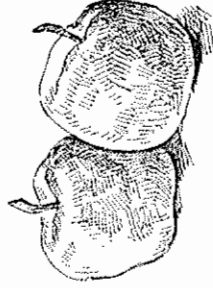


PHOTO BY AARON STERN

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Naomi Klein: The Will to Change Everything

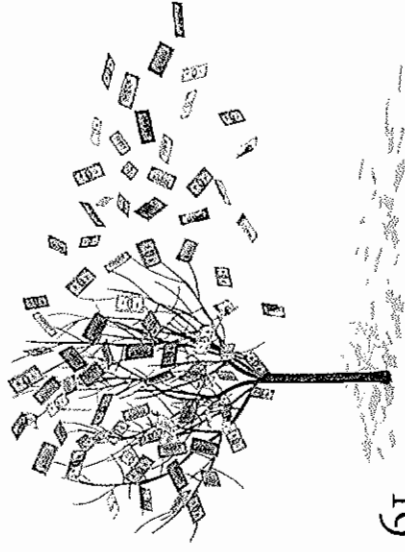
From Native activists to urban youth, new leadership finds ways to deal with climate chaos. *Interviewed by Sarah van Gelder*



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Feasting in the Old Ways

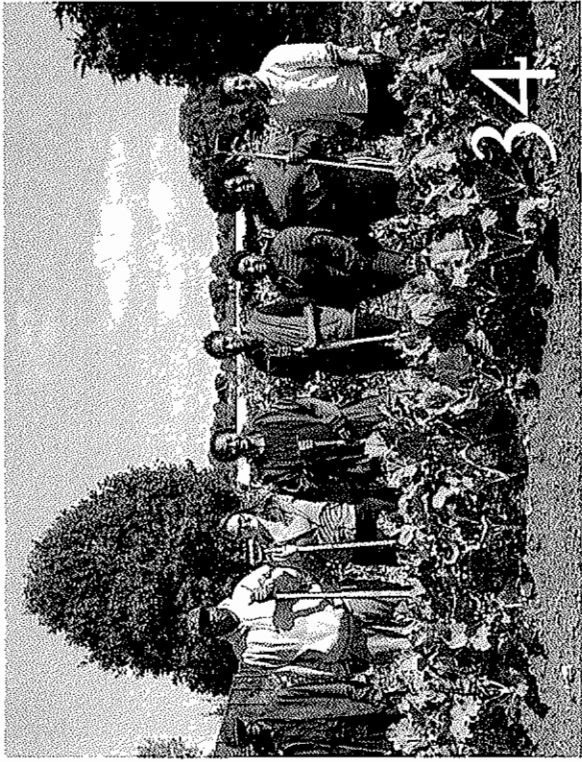
Literary classics offer inspiration for food traditions created from long-ago local and seasonal abundance. *By Nina Bunker Ruiz*



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Paychecks from the Earth and Sky

What we can learn from Alaska about sharing our common wealth. *By Peter Barnes*



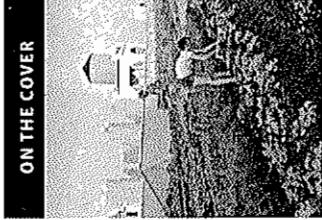
YES! PHOTO BY PAUL OUNN

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No Zombies

Future cities reimagined with lots of room for humanity and nature. *By Jason F. McLennan*



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How Cities Fix It

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By Shannon Stoll

Photo by Valery Rizzo
Brooklyn Grange operates the world's largest rooftop soil farms, located on two roofs in New York City, and grows more than 50,000 lbs. of organically cultivated produce per year. Pictured here is the newest rooftop farm, 65,000 sq ft atop Building No. 3 of the Brooklyn Navy Yard.

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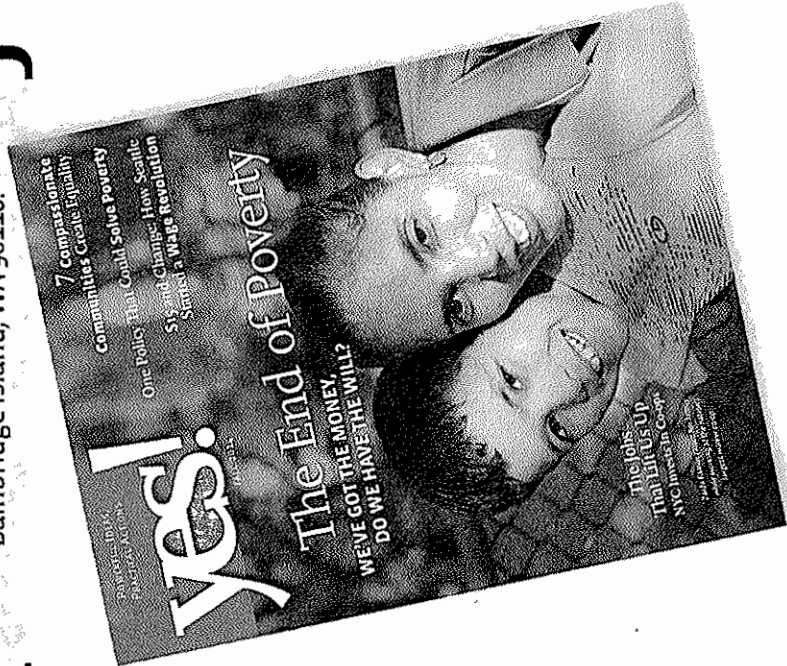
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As in the Beginning

The leading article in "The
End of Poverty" issue states
that "poverty is not inevitable"
(#71, Fall 2014):

Although the following
articles cover ways to counter
the existence of poverty in the
United States, I regret to say
that such poverty IS inevitable
in the United States until
Americans can elect a govern-
ment that is not dedicated
(to misquote your President
Lincoln, who got it wrong
unfortunately) to "government
of the rich, for the rich, and by
the rich."

Yours is a country where
any measure of social
democratic action which has
been the norm in every other
Western nation for the last
century or more is condemned
as being a descent into social-
ism, i.e., communism, to be
avoided at all costs. And so the
dreadful status quo that has
existed almost from the begin-
ning of your history, which is
to cater to the rich and make
them ever richer, will con-
tinue, based on a nonsensical
manufactured fear of true
democracy.



What we can learn from Alaska about sharing our common wealth

Peter Barnes

There's long been a notion that, because money is a prerequi-
site for survival and security, everyone should be assured some
income just for being alive. The notion has been advanced by
liberals such as James Tobin, John Kenneth Galbraith, and George
McGovern, and by conservatives like Friedrich Hayek, Milton Fried-
man, and Richard Nixon. It's embedded in the board game Monopoly,
in which all players get equal payments when they pass Go. And yet,
with one exception, Americans have been unable to agree on any plan
that guarantees some income to everyone. The reasons lie mostly in
the stories that surround such income. Is it welfare? Is it redistribu-
tion? Does it require higher taxes and bigger government? Americans
think dimly of all these things.

But then, there's the exception. Jay Hammond, the Republican
governor of Alaska from 1974 to 1982, was an independent thinker
who conceived of, and then persuaded Alaska's legislators to adopt,
the world's first system for paying equal dividends to everyone. In
Hammond's model, the money comes not from taxes but from a
common resource: North Slope oil. Using proceeds from that gift of
nature, the Alaska Permanent Fund has paid equal yearly dividends
to every resident, including children, ranging from about \$1,000 to
over \$3,000. (Bear in mind that a family of four collects four same-
sized dividends.) While this isn't enough to live on, it nicely supple-
ments Alaskans' other earnings. And paying such dividends regularly
for more than thirty years has bolstered the state's economy, reduced
poverty, and made Alaska one of the least unequal states in America.
The question Americans in the lower 48 should now ask is: Did
Alaska find the right formula? If it can convert part of its common

WHAT CAN DECENT WHITE MEN DO?

IT'S BEEN A TOUGH YEAR for white American males. From law enforcement officers to sports team owners to politicians, we've heard story after story of these men behaving badly. It has gotten to the point that many of us are thinking, "Where can I find a decent white man?"

At the moment, there's a common narrative that white men need to be watched, recorded, and judged. Even the most decent and principled ones have to exercise muscles of consciousness they haven't needed to use before.

A former client asked my advice on what, as a white male, he could do in these times. I shared the following stories of decent white men in action as examples:

1. Be aware of your environment and your place in it. In most settings, a white male can expect to be treated with respect and deference, even if he has no formal authority. To him, this is normal and he may not think twice about where or how he fits into a given situation.

Counter that with my partner, Greg John, who as white male principal of an inner city school, deals with complex dynamics every day. Mindful of this, Greg notes his choice of words, his posture, and his actions by calling out positive behaviors, by kneeling down to meet kids at their level, and by developing close relationships with their caregivers. His awareness and practices have paid off. Parents of color know that they and their children will be treated fairly and with respect—as are all the parents and children.

These small acts of awareness carry over into his personal life as well. Greg knows that opening the door for people, allowing a car to merge in front of him, saying please and thank you may register in others that all white men aren't so bad.

2. Sit still and listen. In the midst of the demonstrations in Ferguson, Mo., my friend Steve Wright posted this on his Facebook page:

"This is another moment in time for white people (white men in particular) to sit still and listen. There is no factual inaccuracy that you (!) need to correct. Listen. Hear the frustration. The anger. Accept the reality of the lived experiences of people of color. Please, please try not to take it personally even when it is. It's not about you (me). Listen."

Steve was challenged by a number of (white) friends, but he kept listening and responding with thoughtfulness and respect. Through the years that I have known Steve, he has always taken the time and care to sit still and listen, especially when it's been uncomfortable to do so.

3. When you witness a white male exhibiting bad behavior, speak up. At a recent dinner party (where I was the only person of color) the topic of reparations for African Americans came up. After I gave my opinion, a white male named James said that slavery occurred because the African people were no match for the superior technology of the Europeans.

I was ready to challenge his statement when my friend Joe Weston spoke up and provided a beautifully worded rebuttal. James gave Joe a quizzical look (as if to say, "I thought you were on my side.") then he said, "I see your point."

If I had delivered the same rebuttal, James would not have seen my point. By presenting himself as James' mirror, Joe was far more effective in providing a teachable moment, not only for James but for all of the white men at the table.

4. Accept being a target. It's not about you. It's about who you represent. After a lifetime contending with white males who behave badly and get away with it, it gets frustrating. When I just need to get it out of my system, I tend to find the nearest decent white male who can take it. That person usually ends up being Greg.

It's not easy for him to be on the receiving end of my rant about his white brethren, e.g., the law enforcement officer or politician that I read about or the guy at the grocery store who cut in front of me and said, "I didn't even see you. But do ya mind? I'm kind of in a rush."

When I go in these spaces, I ask Greg to remind himself not to take it personally. It's not all about him. It's about who he represents.

Every day we are reminded of the injustices of racism. Some stories garner headlines and others are often simple, unintentional and seemingly harmless acts. The movement toward racial healing requires commitment on the part of all of us—people of color and people of European descent—to be mindful of our daily thoughts, words, and actions. I am grateful to my decent white male friends and allies who are willing to put in the time, effort, and humility to walk this path with me. Won't you join us?



Kevin Fong is a former YES! board member and a facilitator, trainer, and speaker in leadership, executive development, and organizational systems, philosophy, and design. He is the founder and principal of Elemental Partners, an organization whose mission is to clarify purpose, align principles, and integrate systems to cultivate health and prosperity in the workplace.



VISUAL ARTS ::

Matika Wilbur, *Darfgather, Bibiana and Eckos Ancheta* (Tulalip), 2014. Inkjet print 16 x 20 inches.

Photographic Presence and Contemporary Indians: Matika Wilbur's Project 562

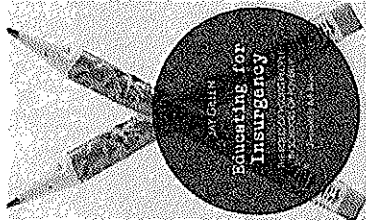
MATIKA WILBUR
Tacoma Art Museum

REVIEWED BY NATASHA DONOVAN

Images of Native Americans made by non-Natives have a problematic history. During the 19th and early 20th centuries, ethnographers often used photos to document and romanticize the last traces of the New World's "dying cultures." Native Americans survived, but

"It's an open question," Bob Moses writes in the book's foreword, "whether our country is mature enough to have an honest understanding about the past and present public school education of its youth." By providing a classroom-tested framework in which to understand the historical antecedents and political implications of young people's resistance to injustice, Gillen encourages teachers, administrators, and pundits to rethink what it means to be "disobedient" in today's "failing" schools. ●

Andy Lee Roth is associate director of Project Centered and teaches sociology at Pomona College.



Educating for Insurgency:
The Roles of Young People in
Schools of Poverty

JAY GILLEN

AK Press, \$15.95, 170 pages

REVIEWED BY ANDY LEE ROTH

The school as factory was a predominant metaphor for education in the middle of the last century. Schools were to churn out young people ready for roles as workers and consumers. In current debates, the laboratory is the model, with successful education defined as controlling variables to produce desired outcomes.

In *Educating for Insurgency: The Roles of Young People in Schools of Poverty*, Jay Gillen, a Baltimore public school teacher, vividly shows the limitations of both models. In each, authorities define successful outcomes in ways that reduce learning to a matter of obedience. By contrast, Gillen says we can address the “mammoth failure” of education reform by trying to understand “what actually happens” in school, as opposed to “what the dominant ideology says should happen.”

Rather than blaming students or their teachers, Gillen says, we stand a better chance if we begin by acknowledging that young people are “often effective in developing and advancing their plans autonomously.” If schools reproduce inequality, the needs and interests of students in poverty are not met, and they resist.

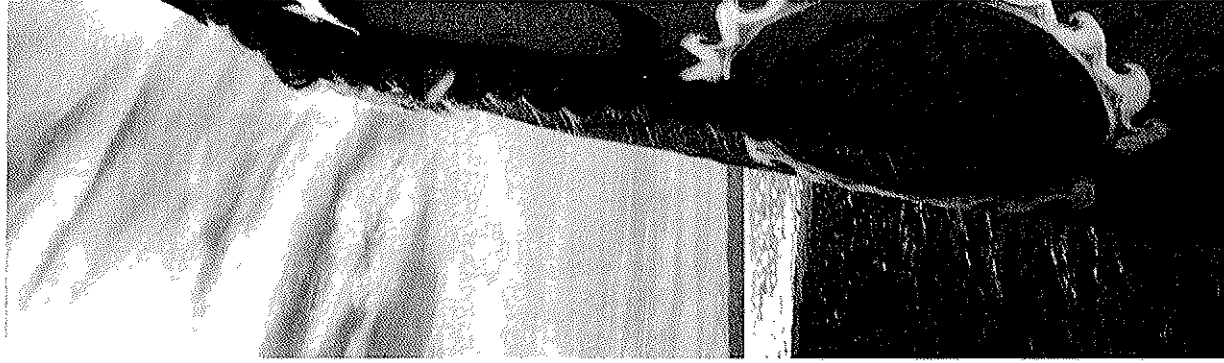
These insights informed Gillen’s

work with the Baltimore Algebra Project, which uses math literacy as a way to teach and encourage political organizing. Its immediate aim is to show students that efforts to learn math do serve their interests. One measure of success: Students use math skills developed in Algebra Project classrooms to teach other students. In the past 10 years, their student-run tutoring co-op has earned more than \$2 million.

The Baltimore Algebra Project’s ultimate goal is to serve as a kind of “mini-society” in which students address systemic educational problems. Students begin by putting demands on themselves—come on time, pay attention, put effort into learning. Then they can make credible demands on their peers, the “beginning of political action.” Thus prepared, students go beyond the classroom to make demands on the larger society. Through this process they experience a “reversal in the direction of authority,” which allows them to envision truly democratic schools and workplaces.

Angry, sullen, and boisterous, adolescents are clearly theatrical. But, Gillen observes, theater is never to be interpreted literally. It is symbolic action. He identifies “pervasive literalism” as a fundamental problem in today’s schools. Adults typically misconstrue adolescent resistance, and fail to recognize the implicit politics of students’ behavior.

Given freedom to address difference and inequality, young people “step into history,” a concept that links the Baltimore Algebra Project with the organizing tradition of Bob Moses and Ella Baker. Gillen presents the Algebra Project’s students as the latest in an ongoing freedom struggle tracing back to fugitive slaves and to the Student Nonviolent Coordinating Committee of the civil rights era. Across generations, young people have refused passive roles, engaged in acts of resistance that pressured societal hierarchies, and accomplished significant increases in freedom.



Lobster Boat Blockaders We Love



JAY O'HARA
Finding “A Way Opening” in
Faith Tradition

IN HIS WORK WITH grassroots environmental movements in Massachusetts, Jay O'Hara went through normal advocacy channels like lobbying the legislature and working with students. But for O'Hara, 32, these methods were too slow for the urgency of the climate crisis. “I realized that this transactional route of change that we expect from a functional democracy wasn’t going to cut it for this issue,” explains O'Hara.

As a Quaker, O'Hara has always liked his faith’s concept of “a way opening.” When Ken Ward came to him with the idea of doing a coal blockade, O'Hara saw a way for transformative change was opening—and it was impossible to say no.

The blockade planning process gave O'Hara insight into how fear causes people to avoid direct action. “Sometimes, when we step out in faith to do the right thing,” says O'Hara, “things actually turn out way better than you could have expected.”

O'Hara isn't sure what the future holds, but he does know that he has a responsibility to communicate that humanity stands at a critical juncture. “Folks who understand the existential nature of the crisis need to start living their lives in some way that represents the truth.”

—Natascha Donovan



SAM SUTTER
Considering Public Safety in
Court Decision

IT WAS A SURPRISE to many in September 2014 when Sam Sutter, the District Attorney for Bristol, Mass., made the unusual decision to reduce the charges against O'Hara and Ward. Even more unusual was his statement about how climate change, “one of the gravest crises our planet has ever faced,” influenced his decision. While speaking on the steps of the Fall River District Court, Sutter held up Bill McKibben’s *Rolling Stone* article, “Global Warming’s Terrifying New Math.”

Sutter says he disagrees with any unlawful action. But in the lobster boat blockade case, he understood O'Hara and Ward’s actions weren’t the only factors to consider. “I think that the climate crisis is a public safety issue,” Sutter explains. The most responsible decision, in his view, involved recognizing the inherent danger of Brayton Point’s carbon emissions. “I have a duty to uphold the law, and they did break the law,” says Sutter. “But I also did what I did because of my view of the climate change crisis.”

Sutter’s decision sets a precedent for public officials to take a stand against practices that accelerate climate change. He says he’s advocating for the planet and hopes others will do the same.

Naomi Klein



IN CONVERSATION
WITH SARAH VAN GELDER



PHOTO BY AARON STERN



One Giant Step

In building her tiny house, the author built a simpler and happier life

EXCERPT:

I thought I'd find something in all of this, and I got more than I bargained for. I discovered a new way of looking at the sky, the winter rain, the neighbors, and myself, and a different way of spending my time. Most important, I stumbled into a new sort of "happiness," one that didn't hinge on always getting what I want, but rather, on wanting what I have. It's the kind of happiness that isn't tied so tightly to being comfortable (or having money and property), but instead is linked to a deeper sense of satisfaction—to a sense of humility and gratitude, and a better understanding of who I am in my heart.

I know this sounds cheesy, and in fact, it sounds fairly similar to the gobbledygook that friends have thrown at me just after having their first baby. But the facts are the facts: I found a certain bigness in my little house—a sense of largeness, freedom, and happiness that comes when you see there's no place you'd rather be.—*Dee Williams*

PHOTO BY BETTY JOESEN



The Big Tiny:
A Built-It-Myself Memoir

DEE WILLIAMS

Haymarket Books, \$26.95, 288 pages

REVIEWED BY ABBY QUILLEN

At 41, Dee Williams was a “normal, middle-class, middle-of-the-road woman with a mortgage and a job and friends.” She worked as a state hazardous waste inspector and owned a 1927 Portland, Ore., fixer-upper that she shared with a rotation of roommates. She “went running and climbing and paddling, racing in a thousand different directions at a thousand miles per hour.” Then one day she woke up in an intensive care unit tethered to a urine bag, IV pole, and heart monitor, and the doctors diagnosed her with a potentially fatal heart condition. “It felt like death, or my mortality, or something bigger still, was leaning into my bed with the moonlight, clattering when I moved hangers in the closet, buzzing behind the sound of the shower running or my car idling in traffic,” she writes in *The Big Tiny: A Built-It-Myself Memoir*.

Soon after her diagnosis, Williams discovered an article about an Iowa City man who built and moved into a house the size of a shed. The idea of building such a little house—the process itself and the paring down it

would require to move in—enticed Williams. “Somehow, it would shrink my life into a manageable mouthful,” she writes. Before long, Williams was drafting blueprints for her own tiny house.

Designing a house, even a very small one, involved some “outright panic” for Williams. She planned to live in the backyard of a house belonging to friends more than a hundred miles away in Olympia, Wash. Thus the house would need to fit on a trailer and be under 13.5 feet tall per Department of Transportation requirements. It would also need to withstand the rough shaking that transporting a house on the highway can present.

As she built, Williams experienced sore muscles, bumps, bruises, smashed fingers—and lost her ponytail after she accidentally glued it to her house. She also had a lot of fun. “Risking life and limb every day” distracted her from her potentially debilitating disease. And she erected an undeniably attractive 84-square-foot cedar-and-knotty-pine house that manages to look open and airy in photos despite its minuscule size.

In a society drowning in commercials, books, and schemes promising to deliver us from hardship, it might have been tempting for Williams to oversell downsizing. She resisted that temptation—*The Big Tiny* abounds with refreshing honesty, humor, and endearing quirkiness.

Williams admits that getting rid of her three-bedroom house full of stuff was more agonizing than she expected, and living in less than a hundred square feet isn’t always comfortable. She has no refrigerator or plumbing. She cooks on a single burner and sleeps with her propane heater off, because she’s afraid her house will catch fire. She estimates she’s happy about 85 percent of the time, about the same amount of time she was happy in

her big house.

When she escaped the “mindless rotisserie of work and projects” that guided her in her old house, Williams discovered a satisfaction that came from getting to know herself. “Letting go of ‘stuff,’” she writes, “allowed the world to collapse behind me as I moved, so I became nothing more or less than who I simply was: Me.”

The house and its large skylight helped her connect with nature in a new way. “I like the excitement of the windstorms and the rain pounding down a thousand different ways, inches from my head,” she writes. She also has more time for drinking tea on her porch and chatting with friends, because she no longer has to juggle bills and worry about constant home repairs.

What Williams celebrates most is that her new lifestyle requires her to depend on others. She lives “in community” with her friends Hugh and Annie, their two sons, and Hugh’s elderly aunt Rita because she’s located in their backyard and needs their running water. Williams happily takes on the role of Rita’s caretaker in exchange for using Rita’s shower and occasionally her oven. “If more people understood how nice it is to have a sense of home that extends past our locked doors, past our neighbors’ padlocks... we’d live in a very different place,” she insists.

Williams’ enthusiasm for small living and her charming hand-built house have already helped launch a tiny house movement. *The Big Tiny* will encourage many more people to assess whether bigger and more means happier—proof that making something tiny can ignite something very big. **Q**

Abby Quillen is based in Eugene, Ore. Her articles and essays have appeared in *The Christian Science Monitor*, *Common Dreams*, *Nation of Change*, *Truthout*, *The Daily Good*, and *Shareable*. abbyquillen.com.

The Will To Change Everything

From Native activists to urban youth, new leadership finds ways to deal with climate chaos

The climate crisis is no longer a future danger: Extreme weather, water shortages, heat waves, and flooding are here now. And the impacts of burning fossil fuels continue to worsen.

Why has it taken so long to respond? Naomi Klein’s new book, *This Changes Everything: Capitalism vs. the Climate*, explores that question. Klein points to the “terrible timing” of the climate crisis coming into public awareness—with NASA scientist James Hansen’s 1988 testimony to Congress—right at the time free-market “neoliberal” ideology was on the rise. This ideology led to:

- 1) Anti-government sentiment, austerity budgets, tax cuts, and deregulation, which undercut government’s ability to lead a transition to a clean economy and to protect residents from climate impacts.
- 2) Global trade deals that override environmental regulations and local green-jobs initiatives.
- 3) Privatization of sectors needed to transition to renewables. But Germany has gone the other direction, Klein reports. Taking back their electric utilities helped Germany generate a record 27 percent of electricity from renewables this year.

Unlike many who write about climate change, Klein goes beyond analysis of the crisis. She reports on the grassroots activists who are standing up to the coal, tar sands, and gas industries and building alternatives that are green and just. These are the powerful people’s movements that together, she says, could “change everything.”



Sarah van Gelder: One of things I love about your book is that you show we can still rise to the challenge of the climate crisis. Let’s start by talking about “Blockadia”—the places where people are shutting down oil, coal, and gas extraction and transportation. Why is that so important?

Naomi Klein: The term Blockadia, as you know, comes from the tar sands fight in Texas around the southern leg of the Keystone XL Pipeline. But the movement to keep the carbon in the ground didn’t begin there. We’ve always had local resistance in places like Appalachia and the Alberta tar sands. And, in the book, I start with the Ogoni struggle against oil extraction in the Niger Delta in the 1990s.

But in the past five years, we’ve seen Blockadia emerge very forcefully in North America as the flip side of the fossil fuel frenzy.

In the past, the people who enjoyed more socio-economic privilege were protected from having to see the sacrifice zones and face the risks. But now the hunger to get at the hardest-to-reach fossil fuels is voracious and requires so much new infrastructure. If you’re going to dig up the Alberta tar sands, for example, you have to build a whole network of new pipelines. If you’re going to open up Montana to Wyoming-style coal mining, you’ve got to build new railways and new export terminals to get the coal out, because the market for it is collapsing in the U.S.

So this network of fossil fuel infrastructure—and I would include fracking—has built a movement that includes unlikely coalitions, like the Cowboy and Indian Alliance.

I think it goes deeper than alliances of convenience, though. The fight against the Northern Gateway Pipeline

through British Columbia to carry tar sands bitumen has provided a real education for non-Native Canadians. They're seeing on a deeper level the extent to which First Nations' land rights are the single most powerful barrier to putting our whole ecology at risk.

van Gelder: I was in Bella Bella, British Columbia, at a First Nations rally to protest the pipeline. I remember a Haida leader saying, "The non-Natives are finally coming out on the front lines with us."

Klein: When [Prime Minister Stephen] Harper approved the Northern Gateway Pipeline, the immediate response was, "We'll see about that!" Even mainstream editorials were saying, "Wait a minute. How can he do this when our Supreme Court has ruled that First Nations' rights are real and can't just be rolled over?"

In the book, I write that there is also a history in the

THEY'VE WON SOME BIG VICTORIES, BUT WHEN COAL IS THE MAJOR EMPLOYER, IT CAN'T JUST BE "NO." THERE HAS TO BE A "YES."

environmental movement of an extractive relationship to indigenous rights, where it's: "OK, I just want to use your special rights to win our lawsuit." It isn't a reciprocal relationship—it isn't based on fighting for decolonization and for real sovereignty.

van Gelder: What does it look like when the relationship is done right?

Klein: Part of the way it's done right is by listening to people in frontline communities, where the extractive industries are offering jobs that potentially destroy a way of life. What I heard again and again in my research is that their biggest problem is entrenched poverty and decrepit services.

Phillip Whiteman Jr., a spiritual leader in a Northern Cheyenne community, has been fighting coal on Northern Cheyenne land for a very long time. When I first met him, he said, "I can't keep asking my people to suffer with me." When you have unemployment levels around 80 percent and all you're saying is "just say no to coal," but you're not offering other economic opportunities, it wears people down. We need to be able to offer something else.

One of the best examples of people trying to do that is the Black Mesa Water Coalition and their proposal to convert land that has been depleted by coal mining into a utility-scale solar generation farm owned and operated by the Navajo. They say they've taken the coal fight as far as they can take it. They've won some big victories, but when coal is the major employer, it can't just be "no." There has to be a "yes."

van Gelder: As part of Climate Week this fall, there was a big announcement of a \$50 billion divestment from fossil fuels. How can the divest/invest movement help build the sort of local economy that can alleviate poverty?

Klein: Divestment isn't about trying to bankrupt ExxonMobil. It's about delegitimizing this industry so that taking fossil fuel money is like taking tobacco money—there is a moral taint to it. Also, if those profits are illegitimate, then that means the public has a right to them to help get us off fossil fuels.

The unexpected piece of news was that the Rockefeller family is divesting parts of the Rockefeller Brothers Foundation. Valerie Rockefeller Wayne [chair of the foundation] said, "I have a moral responsibility—because my family fortune comes from oil—to fund this transition." I think we should call that the Rockefeller Principle.

But it's not just about flipping from big coal to big green.

We need to invest in the tools that frontline communities need to win, like real economic options that are owned and controlled locally. We need investments in the next economy and the next paradigm so that people in Richmond, Calif., for example, have the opportunity to work in a solar co-op instead of in the Chevron refinery.

van Gelder: What was it like for you to be part of the People's Climate March in New York City? Did you experience the coming together of social movements that you were hoping to see when you wrote *This Changes Everything*?

Klein: Oh, yeah. The march was a glimpse of the movement we need. It wasn't just that it was so diverse. It was that the most energetic parts of the march were the nurses' unions—they were just incredible—and the transit workers, and the South Bronx contingent, which was made up of young people making the connections between climate justice and things like health and jobs.

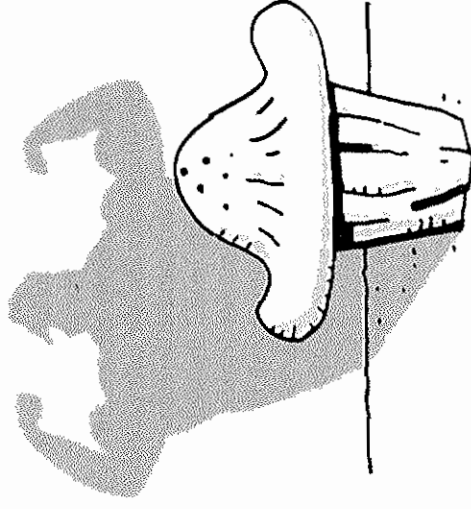
The sense of threat from climate change and the hope were so powerful. It was in every way different from the last big climate march at a U.N. gathering I attended, which was in Copenhagen in 2009.

van Gelder: How was the New York march different?

Klein: In Copenhagen, it felt like only professional activists were there. This one felt like a people's march, and that was because of a remarkable, often painful, coalition that was built.

PACKED WITH NUTRIENTS

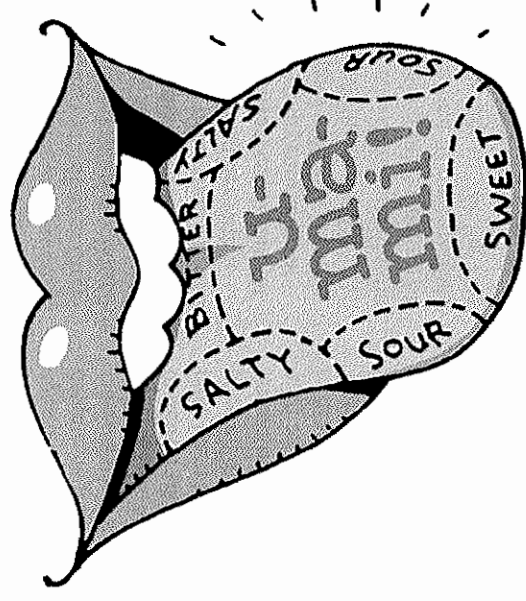
Mushrooms are a good source of protein, energy-releasing B vitamins, and selenium, a mineral that supports the immune system and fertility. They're especially helpful for vegetarians and vegans, whose sources of selenium are limited. Counterintuitively, the shade-loving mushroom is the only produce source of vitamin D, "the sunshine vitamin."



MUSHROOMS AS MEDICINE

Some varieties of mushrooms amp up their production of vitamin D when exposed to sunlight. Mushrooms high in vitamin D are already being sold in supermarkets, and they could be a future non-animal source of vitamin D supplements.

Western medicine is catching up on an ancient aspect of Asian medicine—the medicinal properties of mushrooms. Recent research has shown shiitake mushrooms may help control the inflammation associated with conditions like arthritis and cancers. Some Japanese researchers are already treating cancer patients with lentinan, a compound derived from mushrooms.

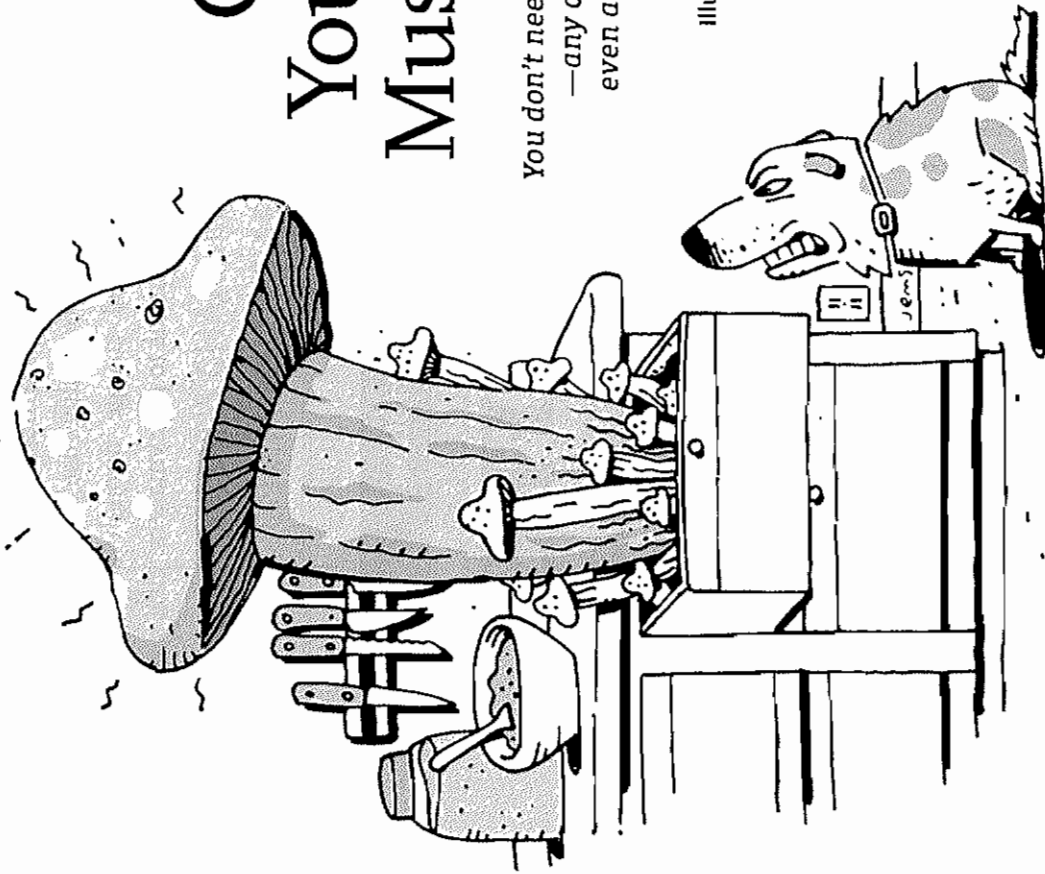


DRY THEM FOR UMAMI

Alternatively described as earthy, meaty, smoky, or savory, umami is the taste that brings flavors together and gives a dish substance. Dried mushrooms are an excellent pantry staple for instant, intensified umami. Cut clean mushrooms into thin slices or dry delicate mushrooms whole. Place the mushrooms on a baking sheet—without oil. Dry them slowly in the oven at about 180 degrees, turning them over once, until they are brittle and completely dry on both sides.

Some cooks swear by the transformative magic of mushroom powder. Pulverize dried porcini or shiitake in a spice grinder or blender. Mix in herbs, chili flakes, salt, and pepper to taste. Sprinkle on eggs, greens, risotto, pasta—even popcorn.

YES! But How?



You don't need a garden to grow mushrooms
—any cool, shady space will do,
even a cupboard or dark corner

Text by YES! editors
Illustrations by Jem Sullivan

IN COFFEE GROUNDS

It's fairly easy to grow oyster mushrooms indoors in a bag or a 2-gallon bucket using sawdust or spent coffee grounds as the growing medium. Mushrooms appreciate the nitrogen in coffee grounds, and the coffee-making hot water treatment clears grounds of mold or microorganisms that might compete with your fungi as they get their mycelium running.

Collect used coffee grounds from a cafe or save your own at home. Keep them in the freezer until you have enough to get growing, or pasteurize your growing medium in the microwave. Depending on the variety, it may only take two weeks or so to get your first crop of mushrooms.

Grow Your Own Mushrooms

BEGIN WITH YOUR BUTTS

Novice mushroom farmers stand the best chance of success by starting with a modest mushroom-growing kit, consisting of "spawn" of an easy-to-grow variety and a container of growing medium. But some mushroom varieties, notably oysters, can be established from the mycelium trailing from stem ends, or "butts."

Look for mycelium on freshly-picked mushrooms from the wild or from your farmers market.

THAT'S BEEN THE MOST INSPIRING THING FOR ME—WATCHING THIS NEW GENERATION OF WOMEN LEADERS COME UP WITH GREAT CONFIDENCE AND HUMILITY AND ELOQUENCE AND JUST LOVE. **THEY'RE DRIVEN BY LOVE. AND THEY'RE FIERCE.**

One of the things that happened is that the big NGOs checked their branding at the door and actually made real space for communities to lead and speak.

I think that the whole funder model has been part of the problem, where it's all about getting your photo op and showing "Our brand's here!" and then going to a foundation and going, "Look! We did this. Look at our logo. It's everywhere."

People get so pissed off when organizing is done that way. This was the first time that I've seen real progress in this regard. Because everybody is so happy with how the march turned out, I think that, with any luck, this will lead to lasting change in how we build a movement.

van Gelder: You talk in your book about the "unfinished liberation struggles." Many of the people's movements we celebrate—civil rights, anti-apartheid, women's rights—succeeded in some ways, but failed to win economic power. Did you see in the People's Climate March renewed attention to these "unfinished liberation struggles"?

Klein: The kind of hope that climate action represents—to people in the South Bronx and other low-income communities of color in the U.S., but also in countries like Bolivia—is because it directly addresses foundational issues around why our societies are so unequal. Colonialism predates coal, but coal supercharged the colonial project, allowing the pillaging of the Global South, and locked us into these incredibly unequal extractive relationships.

We in the Global North have built up an ecological debt. Fossil fuels built the modern world. And the countries that have a 200-year head start on emitting carbon have a special responsibility to both cut emissions first and fastest, and also to help countries that have not been contributing to this problem for nearly as long to leapfrog over fossil fuels and not be forced to choose between poverty and pollution. This is a process by which we begin to heal these colonial wounds.

And so, yeah, I talk about this as the unfinished business of liberation because so many of the past great social movements won on the legal and cultural sides but not on the economic side. There never were reparations for slavery. There never were the investments in the public sphere that the Civil Rights movement demanded.

So the dream is that in responding to climate change

through a justice lens—through a lens that is not afraid to look at history and the real roots of inequality—we build a movement of movements that brings together all of these struggles. The hope is that climate is the biggest tent—it's our atmosphere. We just have to know we're all in the tent.

van Gelder: Among the people who you've met in your travels, who has moved you most personally? Who has deepened your connection to this work?

Klein: A few of the women in the book are my heroes. Crystal Lameman is from the Beaver Lake Cree First Nation in northern Alberta, which is suing the Canadian government over the tar sands expansion. Meeting Crystal and seeing what she's up against and how accountable she is to her community and to her elders—and just the huge burden being placed on some of the poorest people in the world to fight some of the biggest battles—is both inspiring and heartbreaking.

Also Melina Laboucan-Massimo. It was exciting for me to see Melina and Crystal at the front of the climate march on either side of Leonardo DiCaprio.

And Alexis Bonogofsky, a goat rancher in Billings, who says, "Love will save this place." I think that's the best quote in the book. She says, "That's what Arch Coal will never understand—that it isn't about hate."

And Jess Housty who's from Bella Bella, who taught me early on how much these movements are based on the deep love of place.

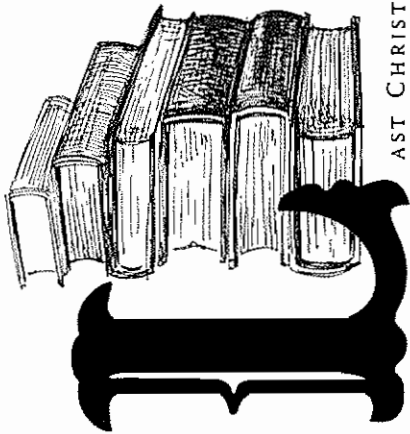
All are deeply connected to where they live. And they are all relatively young women. There are particular challenges about being a woman in that kind of leadership role, but the joy that all of them bring to the struggle ... I mean, it's not simple. It's painful. But it is so much about love of community and love of place.

Jess in particular, when she talks about the fight against the Northern Gateway Pipeline, she's so eloquent in describing this as being a transformative process of people becoming more deeply connected to one another and to the land and water.

That's been the most inspiring thing for me—watching this new generation of women leaders come up with great confidence and humility and eloquence and just love. They're driven by love. And they're fierce. **•**

Sarah van Gelder is editor in chief and co-founder of YES! Magazine.

Feasting In the



LAST CHRISTMAS, over several nights, my husband read Charles Dickens' *A Christmas Carol* aloud to our two daughters, ages ten and eight. Propped up on the couch on either side of their father, they were alternately thrilled by time-traveling ghosts and bored by Dickens' long, wandering descriptions. In the third chapter, in which Scrooge walks the streets of London with the Ghost of Christmas Present, Dickens launches into such an animated, detailed description of food in a Christmas market that I asked my husband, as the girls sighed and rolled their eyes, to reread the passage. I later found myself looking up the history of the unfamiliar varieties he describes, the filbert nuts and Norfolk Biffin apples.

A few generations ago, people spent more time in the field and the kitchen, grew more local varieties of crops, and were conversant with the nuanced use of each. Some apples were best fresh off the tree, others after six months in the cellar. There were specific apples for pie, for cider, and even a variety for frying. These days most of us are only familiar with the apple meant for our lunchbox.

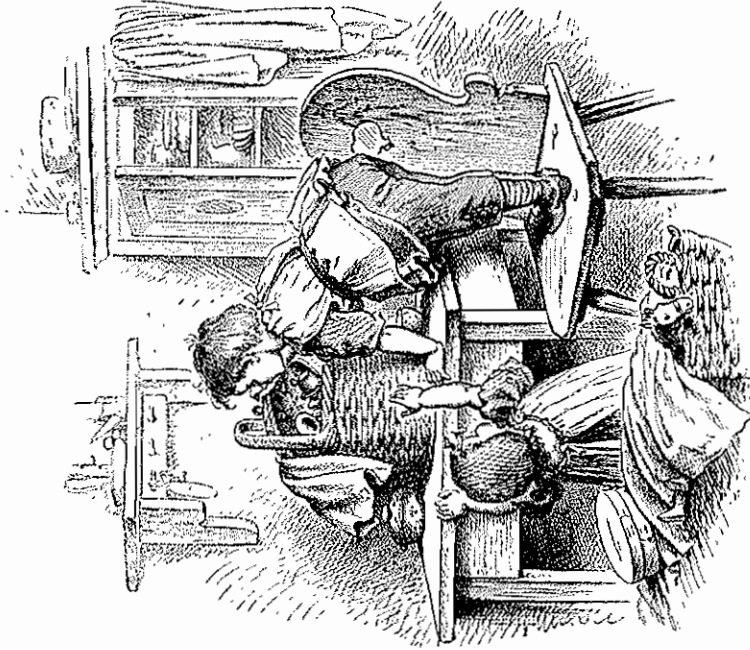
For most of our history, end-of-season feasts celebrated local harvests. Here in North America, we prepared feasts when turkeys were fat, apples were plump, and pumpkins were ripe. But we're not reliant on local harvests anymore. Nowadays, our festivities often involve opening a can and pouring its contents into a premade crust, ordering a shrink-wrapped factory-raised turkey, and filling it with stuffing from a plastic bag. It's hard to know when or where these foods were harvested, but it's likely they're from far away, and, especially if they arrive frozen or canned, not from a recent harvest. Local varieties and their accompanying traditions fall by the wayside.

From a modern perspective, Dickens' lavish passage about Christmas food in London can read like a dirge for disappearing foods, dishes, and customs. After hearing Dickens' description of the Christmas market, I began mulling over the connection between food, place, and literature, and wondering if some wisdom or inspiration about how to eat sustainably over the holidays (and the rest of the year) could be gleaned from old stories that focused on celebration of place and the food of that place.



Literary classics offer inspiration for food traditions created from long-ago local and seasonal abundance

Nina Bunker Ruiz



Winter 2015 Issue 72

yes!

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WHAT'S CHANGED IS THAT SO MANY
COMMUNITIES ARE COMING TOGETHER
UNDER A COMMON UMBRELLA.

The New Economy Comes of Age

IN JUNE, I ATTENDED an event in Boston that signaled to me that the concept of the New Economy—and the grassroots movement behind it—had come of age.

The event was the conference of the New Economy Coalition. The halls were full of students, cooperative leaders from the deep south, climate justice activists from Native reservations, labor leaders, and others identifying with the New Economy.

Folks who had been at conferences such as this for years were also there—farmers, Main Street business owners, sustainability entrepreneurs, and big thinkers. But suddenly the movement felt bigger. A diverse set of communities is coming together in a shared recognition that our economic structures are the root cause of many different crises.

The New Economy Working Group, based at the Institute for Policy Studies, formed just six years ago. The group was one of the first to adopt the term “New Economy” to describe an economy that supports ecological balance, shared prosperity, and deep democracy. Now, many individuals and organizations are using that term.

I have been struck that even as the New Economy movement diversifies, its advocates are converging regarding the actions to take, including:

- Place ownership in the hands of real people, not globalized corporations;
- Localize control of food, energy, land, housing, retail;
- Advance cooperative enterprises where workers share in profits and decision-making;

- Shift from fossil fuels to renewables and from destructive to regenerative agriculture;
- Expand credit unions, community banks, and public banks so that finance benefits communities rather than Wall Street;
- Reform trade rules to reduce the power of global corporations and enable local economies to flourish;
- Adopt a worldview that we humans are part of the ecosystem and our economy must work with nature rather than against it.

The ideas are not new. Some are ancient. Many have been advocated for years in places deeply affected by poverty, pollution, and racism. What's changed is that so many communities are coming together under a common umbrella, forming new alliances and lifting up new messengers. For example, at a recent Praxis Peace Institute conference Michael Peck, who advocates union-cooperative alliances, told of a group of East African taxi drivers in Denver. The Communication Workers of America

helped them form a taxi cooperative so they didn't have to work for an out-of-state company. The result? They increased their incomes, benefits, and well-being. Many leaders are pointing out ways the New Economy movement can collaborate with the racial-justice movement, as Anand Jahi did in “My Cousin Was Shot Dead by a Police Officer: Here's What it Means for the New Economy,” published at yesmagazine.org.

As those identifying with the New Economy expand, the movement gains power. And a wider embrace brings the danger of cooptation. Corporations will be happy to put on a New Economy gloss. One already doing so is HBSC, which tags itself “The World's Local Bank.”

To continue to grow its power and avoid cooptation, the New Economy movement must keep broadening its communities while maintaining its principles. Of special importance will be the principle that ownership of enterprises must be in the hands of real people who directly bear the consequences of their decisions, not in distant computerized markets. If the movement holds fast to its key ideas, its growing embrace can create what is truly a New Economy.

Fran Kortzen, Publisher

Old Ways



MY SEARCH LED ME FIRST to *The Good Life*, by Fabiola Cabeza de Baca Gilbert, a book featuring food local to my place: New Mexico. This book, first published in 1949, combines traditional New Mexican recipes with stories of a quasi-fictional family—actually a composite of the many northern New Mexican families Cabeza de Baca worked with during her years as an agent for the Agricultural Extension Service, which aimed to help rural families make their farms more productive. From 1929 to 1959, when most of her female contemporaries married and stayed home to raise children, Cabeza de Baca traveled to remote corners of New Mexico to show ranching and farming families everything from the latest agricultural techniques to how to use a sewing machine. Her ethnicity, gender and love of traditional ways (most extension agents in New Mexico during those decades were white men who spoke only English), helped her win the hearts of ranching and farming women. But Cabeza de Baca, who herself grew up on a ranch in New Mexico, was conflicted about her success. She knew that modern technology made the lives of rural families easier, especially women's, but she deplored “the passing of beautiful customs which in spite of New Mexico's isolation in the past, gave happiness and abundant living.”

Despite passing time and changing customs, Cabeza de Baca's description of Midnight Mass and posole evokes strong memories from my childhood Christmases. Posole, a stewed hominy, has long been a food staple in Mexico, and most likely came to the Southwest during the colonial period. Over the centuries each region developed its own unique preparation method. Cabeza de Baca's character prepares hers with ingredients traditional to New Mexico: “There was so much to be done before Midnight Mass,” she writes. “The lime hominy had been cooking all day and it was all ready but the seasoning. Doña Paula who was a proud cook had to have everything well seasoned. From a

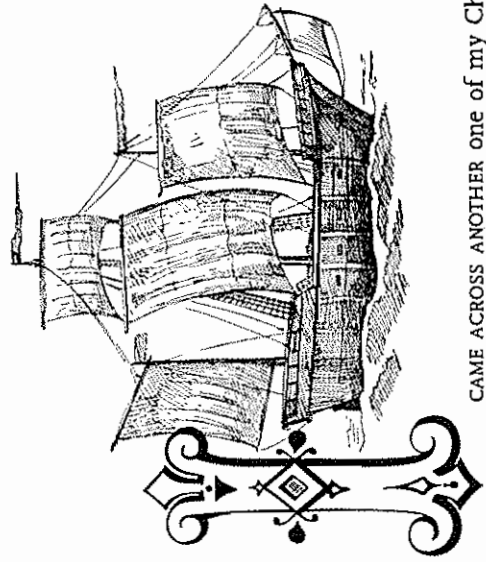
string of chile in her store room she took three pods; she removed stems and seeds and washed the pods. She took the lid off the kettle, added the chile, oregano, salt, garlic and onion. Now she could get ready for Mass.”

The elderly character Doña Paula could be any of the diminutive, white-haired ladies who brought posole to Christmas-season potluck suppers I attended as a child. They'd arrive lugging immense Crock-Pots of posole, prepared just like Doña Paula's, to be set among the dishes of pinto beans, tamales, empanaditas, biscochitos, and Jell-O salad on long, sturdy tables in the parish hall.

Hominy is made from dried corn kernels that have been soaked in a mineral bath, usually lime—a process called nixtamalization. Processing corn in an alkaline bath is a 3500-year-old Mesoamerican tradition that makes it possible to make it into masa (the dough used in tortillas or tamales), and makes the niacin in corn available to the body. The women that Cabeza de Baca visited at their post-Depression-era farms processed their own hominy, but I don't know anyone who does this at home nowadays. Other traditions in New Mexican cooking have likewise fallen out of use: the hype against saturated fats has compelled many cooks to replace lard with margarine in tortillas and biscochitos (my favorite Christmas cookie), despite recent evidence that lard has several health benefits and margarine none. The factory-raised, ungainly, and unnaturally breaded white turkey has replaced the elegant, tastier Black Spanish heritage turkey as the centerpiece of a New Mexican Thanksgiving or Christmas meal.

Noting that the recipes she records “have been passed down in New Mexico households for generations, often adapted to conditions and to the availability of certain ingredients of the locale,” Cabeza de Baca reminds us that using traditional recipes and local ingredients deepens our understanding of what makes our region unique and what our local fields can sustainably produce for our table.

CABEZA DE BACA REMINDS US THAT USING **TRADITIONAL RECIPES AND LOCAL INGREDIENTS DEEPENS OUR UNDERSTANDING OF WHAT MAKES OUR REGION UNIQUE AND WHAT OUR LOCAL FIELDS CAN SUSTAINABLY PRODUCE FOR OUR TABLE.**



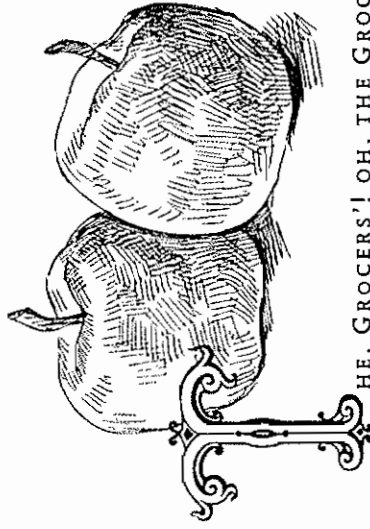
CAME ACROSS ANOTHER one of my Christmas favorites in Herman Melville's *Moby Dick*—in this case, a dish local to New England. On a cold winter's evening, after anchoring at Nantucket, whaler Ishmael and his shipmate Queequeg go ashore for a hot meal: "Oh! sweet friends! hearken to me. It was made of small juicy clams, scarcely bigger than hazel nuts, mixed with pounded ship biscuit, and salted pork cut up into little flakes; the whole enriched with butter, and plentifully seasoned with pepper and salt. Our appetites being sharpened by the frosty voyage—and in particular, Queequeg seeing his favorite fishing food before him, and the chowder being surpassingly excellent, we despatched it with great expedition."

Like his characters, Melville whaled and ate chowder during the mid-nineteenth century, the golden age of Yankee whaling, when marine life was plentiful. Ishmael describes the inn where he and Queequeg eat and sleep as the "fishiest of all fishy places," and he cheers for the profusion of clam and cod chowder: "for the pots there were always boiling chowders. Chowder for breakfast, and chowder for dinner, and chowder for supper, till you began to look for fishbones coming through your clothes."

Today in Nantucket, clams and other mollusks do not pour forth from great cauldrons as they did for Queequeg and Ishmael. Chef Brian Williams of the aptly-named Nantucket bistro, Queequeg's, is "concerned about the lack of local harvests," and says he has to outsource clams for his chowder. He suspects global warming is to blame, and adds that the supply has grown so sparse that Nantucket fishermen simply cannot bring in enough local clams to supply his restaurant.

In the 200 years since the advent of the Industrial Revolution, human activity has released about 500 billion tons of carbon dioxide into the atmosphere. The world's oceans have absorbed a good deal of that, becoming 30 percent more acidic. Ecologists, hatchery staff, and fishing communities all along the Northeast coast are concerned about ocean acidification, which kills mollusks by dissolving their shells.

I envy Ishmael and Queequeg as they steep themselves in chowder. My aunt Susan makes a creamy Christmas oyster chowder that I have loved since I was little. If I take Cabeza de Baca's wisdom to heart and consider the "availability of certain ingredients of the locale," I have to accept that oyster chowder is a special treat, honor that mollusks are a strained resource, and for the rest of the year stick with my posole, which, for where I live and the time I live in, is much more sustainable.



HE, GROCERS'! OH, THE GROCERS'!" beckons Dickens: "The poultryers' shops were still half open, and the fruiterers' were radiant in their glory. There were great round, pot-bellied baskets of chestnuts, shaped like the waistcoats of jolly old gentlemen, lolling at the doors, and tumbling out into the street in their apoplectic opulence. There were ruddy, brown-faced, broad-girthed Spanish Onions, shining in the fatness of their growth like Spanish Friars; and winking from their shelves in wanton slyness at the girls as they went by, and glanced demurely at the hung-up mistletoe. There were pears and apples, clustered high in blooming pyramids; there were bunches of grapes, made in the shopkeepers' benevolence to dangle from conspicuous hooks, that people's mouths might water gratis as they passed; there were piles of

Why I Give to YES!

AFTER COLLEGE, I got a great job, but I wasn't happy. It was then that my first issue of YES! Magazine, "Sustainable Happiness," arrived. As I read it, my eyes filled with tears—happy ones! The message of hope, community, and love rang true. I realized there was a good life to be had—one that money couldn't buy and that mainstream media weren't portraying.

Soon after, I gave up that "great" job and spent six months as an intern at YES! Magazine. There I found an amazing network of people who are spreading that message of hope and love through their own communities and activism.

A year later, I became a mom and stopped paying attention to the news. When I finally reconnected I was shocked at how much worse things had become: We'd crossed climate change thresholds and corporations had more power than ever. Now I was ready to fight for my children's future, only where was the fight? Mainstream media coverage of social movements, if they covered them at all, was cynical and lackluster.

YES! Magazine has been right there covering those movements with issues like "The Human Cost of Stuff." Because YES! doesn't sell ads, they're free to provide us a vision of a world that works for all, and a real way to get there.

That vision is the world I want for my kids, and that's why I support YES! with my monthly donations. — Alyssa Ballinger Johnson



Alyssa in Seattle with her children, James and Fiona.
YES! PHOTO BY PAUL DUNN

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THANK YOU GIFTS



Our insulated Kanteen™ comes with 2 caps



Building Challenge we are proving it is possible to build within the carrying capacity of any given ecosystem—building structures that are completely powered by renewable energy, working within the water balance of a given site, treating their own waste, and doing so with materials that are non-toxic and local.

The Bullitt Center in Seattle is one such model—a six-story office building completely powered by the sun when averaged over the course of the year, with composting toilets on all six levels. The Bullitt Center is a symbol of a revolution in modern architecture: bigger than the majority of buildings in the United States, yet free from the burden and legacy of fossil fuels in the country's least sunny major city. Throughout the world, living schools, parks, homes, offices, and museums are cropping up in a variety of climate zones against various political backdrops. Currently more than 200 of these transformative buildings are taking shape in communities as far flung as New Zealand, China, Mexico, Brazil, and in nearly every U.S. state. If these diverse projects can achieve Living Building Challenge goals, there is no limit to how broadly we can apply these systems. Because we now have the technology to build truly regenerative communities, it is no longer a stretch to imagine the "living" paradigm as the new normal.

The Scale Revolution

Another relevant topic in the context of this discussion is something I call the "Boundary of Disconnect." I define the Boundary of Disconnect as any system's metaphysical and tactile boundary at which the individual (or any species or colony of species) is no longer able to connect or relate to the totality of the system itself. This concept is all about scale, and how we as humans should best live and relate to each other within the communities we build. In our current model of the built environment, we typically develop without heeding scale, or build

slavishly to the scale of the automobile. We binge on materials, energy, and water, climbing higher and sprawling farther without considering the natural, social, or emotional consequences. But if we were smarter about the appropriate scales for our systems—building, agriculture, transportation—we would minimize problems that arise from disconnectedness. As the writer Richard Louv put it: When density is disproportionate to nature and we are disconnected from our earthly surroundings, we succumb to "nature deficit disorder."

When it comes to scale, a powerful litmus test for any community is its ability to support and nurture children. Child-centered planning would focus on our most precious and delicate citizens. It would heed the advice of Enrique Peñalosa, a former mayor of Bogotá, Colombia, who wrote, "Children are a kind of indicator species. If we can build a successful city for children, we will have a successful city for all people."

The good news is that a child-centered city is not simply generous; it's practical. And what nurtures small people often helps our elders as well. For starters (this is a very incomplete list) we would: Involve children in local food production. Sprinkle bike racks, sport courts, public art, and natural playgrounds throughout the city. Eliminate poisonous substances from the built environment. Design sheltered public waiting areas. Install swings designed for all ages across the metropolis. Create "sound parks" powered by fountains, wind chimes, drums, and live-music performances that amplify the music of nature. Scatter courtyards linked to public spaces that offer acoustic and visual privacy from the street. Get rid of most advertising.

Even if more and more people are moving to cities, we can design streets, sidewalks, and pathways at a scale that is safe and pleasant when experienced by someone under four feet tall rather than designing everything around the scale of 3000-pound automobiles. We

can design neighborhood features that support child development through welcoming natural systems such as flowing water, trees, and a myriad of ways for children to interact with the living world rather than merely being presented with a lifeless concrete jungle.

The Living Community Revolution

Ultimately, Living Communities of the future are both scaled to the human dimension and include functioning ecological systems throughout, where greater biodiversity and resilience can occur. Instead of flying cars and moon colonies, Living Communities will be filled with ultra-efficient, nontoxic Living Buildings that generate their own energy onsite using renewable resources, capture and treat their own water, are made of nontoxic sustainably sourced materials, and inspire their inhabitants. But only if we start imagining and insisting now.

The game-changing success of the Living Building Challenge is proof that Living Communities are feasible within a fabric that supports strong social and cultural networks. As we imagine and then build examples of this new paradigm, it is essential that we do not use our most economically disadvantaged as guinea pigs. Indeed, the human dimension of our cities must be carefully considered as we go forward to overcome the legacy of racial and economic prejudice that has pervaded city planning in the past.

Perhaps in the future, popular books and films will portray how we overcame mind-numbing odds and defeated the seemingly unstoppable Culture of Inevitability, and instead embraced a new vision for the way we will live on the planet—one that puts people and life squarely where they belong: at the heart of our communities. ❶



Jason F. McLennan is CEO of the International Living Future Institute. He is the creator of the Living Building Challenge, as well as the author of five books, including his latest: *Transformational Thought*.

filberts, mossy and brown, recalling, in their fragrance, ancient walks among the woods, and pleasant shufflings ankle deep though withered leaves; there were Norfolk Bif-fins, squat and swarthy, setting off the yellow of the oranges and lemons, and, in the great compactness of their juicy persons, urgently entreating and beseeching to be carried home in paper bags and eaten after dinner."

This is the passage I asked my husband to reread, that had both of us giggling at Dickens' playful verbal romp; it made me realize that we lose this joy when our holiday foods are shipped over oceans and across continents, with no distinguishable or relevant cultural starting place. In Dickens' time a Christmas orange was a special treat. Grapes and lemons came from far afield to London grocers in the winter season. Why don't we get excited about the miracle of citrus in our stockings or grapes on our holiday table anymore? Can we find our way back to treasuring what comes from far away while reveling in local, abundant foods, whose proximity makes them affordable and sustainable?

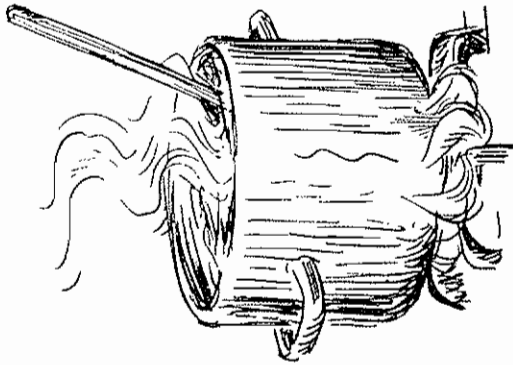
My friend Janet has a rogue apple tree, of no distinguishable ancestry. The apples are pithy, hard and small, undesirable as snack apples. Many of us would have considered them a nuisance, swept them up, and chucked them out with the trash. But, as Janet happily discovered, these tart little apples are perfect for pie.

The Norfolk Biffin Dickens described is a localized endangered variety, now rarely seen in English orchards. Like Janet's apples, it is wonderful for cooking, but less for snacking, which is all we expect of apples these days. Janet's apples, the Norfolk Biffin, and all the other local varieties that spill uneaten fruit into our yards and roads need new fans. A little culinary creativity can transform a seemingly undesirable food into apple pie. We don't always have to spend a lot to enjoy local abundance, we just need to look at what grows locally, is often free, and is wasted otherwise.

In her work in the field and in her writing, Cabeza de Baca balanced embracing the best of the new and holding on to the best of the old. Although she brought new methods to isolated villages, she was always appreciative of the local traditions and the people who still understood them: "As you use the recipes I hope you will think of my people and the occasions in the lives of those people who added 'un poquito de...y un poquito de...' to produce savory and nutritious New Mexico foods." She speaks specifically of northern New Mexico but her words ring true for anybody's people, home place, and traditional foods. As we tuck into our holiday banquet, let us consider Cabeza de Baca's behest to remember the food history of our place, wherever we live, and, be it posole, Christmas chowder, or Norfolk Biffin pie, to honor the sumptuous food on our doorstep. ❷



Nina Bunker Ruiz is a freelance writer native to New Mexico. She currently lives in Santa Fe with her husband and two daughters.



Pozole de Nixtamal/Hominy Stew

- 2 c. hominy
- 6 c. water
- 1 lb. pork ribs or other pork cuts suitable for boiling
- 1/2 lb. pork rind
- 1 medium onion
- 4 dried red chile pods
- 2 t. salt
- 2 cloves chopped garlic
- 2 t. orégano
- 2 t. saffron

Cook hominy until corn kernels begin to burst; add meat, pork rind, onion, chile pods (seeds and stems removed). When meat is nearly done add seasonings. Cook until well done. If the pressure cooker is used, cook corn without pressure until kernels begin to burst then add meat, pork rind and chile pods. Close cooker and cook for 30 minutes at 15 pounds pressure. Open, add seasonings and cook slowly for at least 15 minutes. —From *The Good Life: New Mexico Traditions and Food*, by Fabiola Cabeza de Baca Gilbert, Museum of New Mexico Press, 2006.

Percentage of American children enrolled in preschool who are black: **18**
Percentage of all preschool students suspended from school who are black: **48**¹

Percentage of families of fast-food workers who are enrolled in one or more public assistance programs: **52**
Cost of public assistance to families of workers in the fast-food industry: **\$7 billion**²
McDonald's net income in 2013: **\$5.6 billion**³

Value, according to ecological economists, of the planet's annual "ecosystem services" (including clean water, fertile soil, and atmospheric regulation): **\$125 trillion**⁴
Annual gross domestic product worldwide: **\$74.9 trillion**⁵

Percentage of 27 Appalachian streams in mined valleys that were impaired according to Clean Water Act Standards: **90**⁶
In a 78-year lifespan, number of days of ill health directly associated with residence in a mountaintop removal mining county: **1,404**⁷

Length, in feet, of the world's largest beaver dam (found in Canada's Wood Buffalo National Park): **2,789**⁸
Estimated duration, in years, of the dam's ongoing multigenerational construction: **25**⁹

Amount taxpayers saved when 85 chronically homeless individuals in Charlotte, N.C., were provided with permanent supportive housing: **\$1.8 million**
Percentage reduction in emergency room visits by tenants after moving into supportive housing: **78**
Average cost of hospital bills per tenant in the year prior to living in housing: **\$41,542**
Average annual cost of hospital bills per tenant while living in housing: **\$12,472**¹⁰

Tons of toxic materials from mobile and stationary sources removed from the air every year since the Clean Air Act was amended in 1990: **3 million**
Compared to 1990 levels, percentage by which the EPA predicts airborne toxic materials from cars and trucks will fall by 2030: **80**¹¹

Value of a single elephant's tusks: **\$21,000**
Estimated lifetime ecotourism value of a single elephant: **\$1,607,625**¹²

remakings of cities, towns, cultures, religions, governments, and more. We changed every community in America after World War II from ones that functioned primarily around walking and streetcars, to ones that function to serve automobiles. Now, clearly, it is time to switch to a more resilient paradigm. Human behavior is shaped in large part by our ability to pursue what we can imagine.

The task before us now is to harness the power of imagination to create a different future—one of our own choosing, and one crafted to sustain our communities, ourselves, and the other creatures with which we share this planet.

Reimagining a More Livable Future

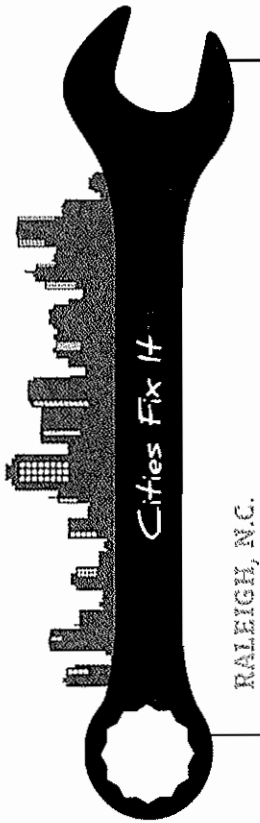
The Human Revolution

To take control of our next evolution, we must embrace and prioritize what it means to be human; what it means to live in concert with nature. Creating a truly living community will mean changing our role on—and as a part of—the planet. It starts by reimagining our role as a species—not as separate from and superior to others, but inextricably linked to all other life and with a profound purpose as steward or gardener, helping to ensure that each act of our doing creates a net positive benefit to the greater web of life.

Instead of *Homo sapiens* we become (a term I have coined) *Homo renaissance*. *Homo renaissance*, which suggests moving beyond our current state as *Homo sapiens*, is suggestive of our next evolution to a state of being with a profound love of life; an affection for and affinity with living organisms and natural systems that is prioritized over a fondness for technology and mechanized systems. Understanding *Homo renaissance* means understanding the fundamental truth that only life can create conditions for life.

The Building Revolution

Next we'll need to build models of the future we seek—now. My organization, the International Living Future Institute, has been pushing the Living Building Challenge as an essential framework for all new buildings. With the Living



OPEN-SOURCE CITY HALL

In Raleigh, N.C., residents don't have to sit through hours of evening meetings at City Hall to engage with their local government. Public participation can happen any time, any place—so long as a good Internet connection is available.

Open Raleigh is like a Wikipedia page for city data. Information is free, easy to access, and editable by anyone. The citywide initiative aims to bring transparency to government and foster public participation using an open-source web platform. Residents can provide direct input on everything from budget proposals to development applications or click through pages of public finance, police, or environmental data. It's all there, presented in colorful, interactive charts and graphs, and easily searchable by "keyword" or "most public comments." It's all editable, too, and residents can reorganize, revisualize, and repost data. The city's website calls the project a "living document under the guiding principles of availability and access, reuse and redistribution, and universal participation." It's open governance with an IP address.

BERKELEY, CALIF.
RENEWABLES

Sometimes bold innovations on a local scale can set the stage for change nationwide. In 2008, the City of Berkeley launched a pilot program to make it easier for property owners to invest in renewable energy. Steep installation costs often make converting to renewable energy prohibitive for property owners. To overcome this hurdle, Berkeley offered 100 percent funding for renewable energy projects. Property owners could repay the funds gradually over 20 years through a special property tax assessment.

Berkeley's program served as a model for the nationwide Property Assessed Clean Energy (PACE) program. Today, PACE financing is available to commercial or residential property owners in more than 800 municipalities. When property owners invest in efficiency upgrades or renewable energy, they save money, reduce carbon emissions, and supply green jobs. With the widespread success of PACE, local governments are clearing the way for investments in a new energy future. —Shannan Stoll

Complete citations at yesmagazine.org/jtc
1. CROC "School Discipline" March 2014. 2. Allegretto et al., UC Berkeley Labor Center, Oct 2013. 3. Forbes, January 23, 2014. 4. Global Environmental Change, May 2014. 5. World Bank, 2013. 6. Environmental Health Perspectives, November 2011. 7. American Journal of Public Health, May 2011. 8. CBC, Sept 2014. 9. Canadian Geographic. 10. UNC Charlotte. 11. EPA report, 2014. 12. David Sheldrick Wildlife Trust, "Dead or Alive? Valuing an Elephant."

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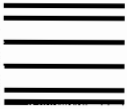
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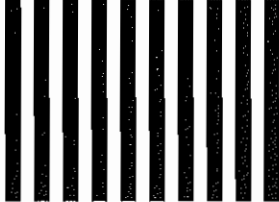
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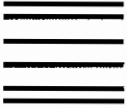
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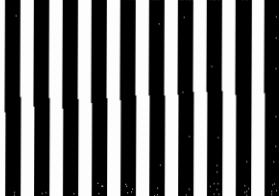


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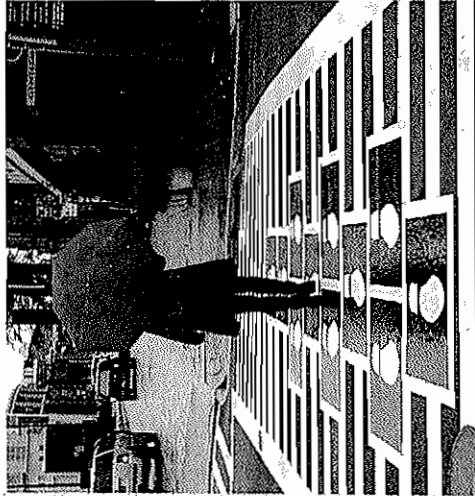
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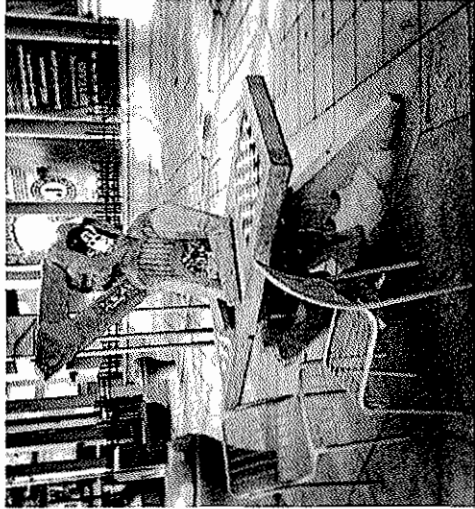


THE CITIES ISSUE

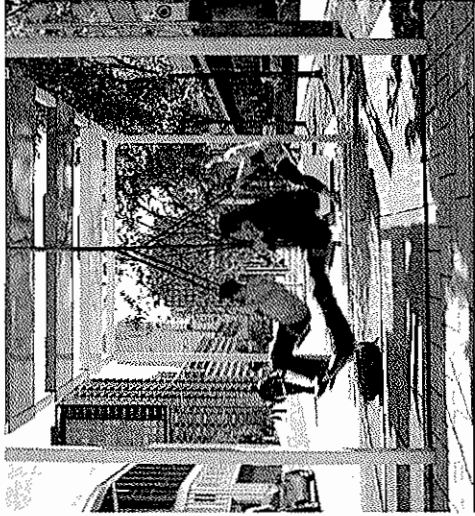
What is it about cities that enables them to move forward while the nation as a whole is stalled? An urban revolution has cities across the country becoming hotbeds of democracy and progressive innovation. Here are the most exciting ways cities are leading us into the future.



Baltimore



Denver



Montreal

THE GOOD NEWS IS THAT A CHILD-CENTERED CITY IS NOT SIMPLY GENEROUS; IT'S PRACTICAL. AND WHAT NURTURES SMALL PEOPLE OFTEN HELPS OUR ELDERLY AS WELL.

conducted in disadvantaged communities, most often populated by African American residents. Most of these social experiments supplanted viable working communities with "new urban visions" that increased crime and diminished community bonds. It should not be lost on us that planning paradigms have often tested ideas on the poorest among us, only to reinforce race and class distinctions once the polished plans are eventually implemented.

Many famous architects of the last century proposed plans for communities that, while well-intentioned at the time, had seriously negative outcomes. In 1924, architect and planner Le Corbusier unveiled his Radiant City, a proposal to bulldoze the heart of Paris and replace it with tall, monolithic towers—something Paris wisely ignored. Unfortunately, his ideas gained traction in American planning circles, and cities here lacked the wisdom of French city planners. Chicago's Cabrini Green and St. Louis' Pruitt-Iggoe (both public

housing projects) mimicked Le Corbusier's model only to be torn down after a few decades because the living conditions in these concrete environments grew so dreadful. Frank Lloyd Wright's Broadacre City concept, which in the 1930s pictured "people living in parks connected by highways," brought us the decentralized sprawl that now mars our landscapes, separates people from the natural world, and discourages healthy walkable communities. Meanwhile, no positive, ecologically grounded conception of the future has been presented convincingly to counter these assumptions in our collective consciousness. Most futurists, whether basing their predictions on fact or fiction, seem so focused on techno-marvels they omit resilient environments and healthy communities from the stories they proffer. As a result, a more pessimistic, less natural set of mythologies has shaped our default assumptions about where we seem to be headed.

We have grown used to imagining an increasingly mechanistic future, with greater and greater densities, but what we have forgotten is that a future that crowds out the natural world is not simply bleak. It is impossible. A world without a healthy and vibrant natural biosphere cannot sustain human life.

with greater and greater densities, but what we have forgotten is that a future that crowds out the natural world is not simply bleak. It is impossible. A world without a healthy and vibrant natural biosphere cannot sustain human life.

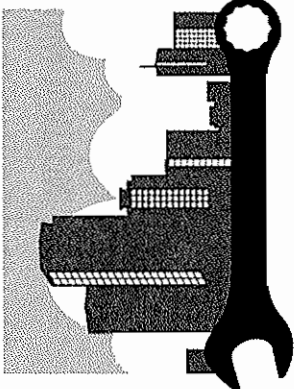
Debunking the "Inevitable"

Despite what the commercial real-estate industry or science-fiction authors might want us to imagine, our future does not have to be defined exclusively by megacities, mile-high skyscrapers, machines that do everything for us, and hyperdensity filled with flying cars. This "culture of inevitability," defined by popular culture as well as market-driven development—despite being an imaginary concept—tells us into inaction because it can seem futile to resist something so inescapable.

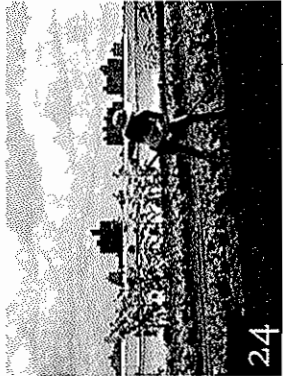
Remember: The future hasn't happened yet. With enough people, wisdom, and ideas it's possible to resist the culture of inevitability. We've done it before. Human history is filled with



Urban Revolution. From bicycling in Chicago to neighborly dining in St. Paul, cities are transforming.



Simple Fixes. Seattle, Helsinki, New York, Philadelphia, Vallejo, Calif., Cleveland, Ohio, Raleigh, N.C., Berkeley, Calif.



10 Best Climate-Ready Cities. Curb that carbon. These cities are leading the way.



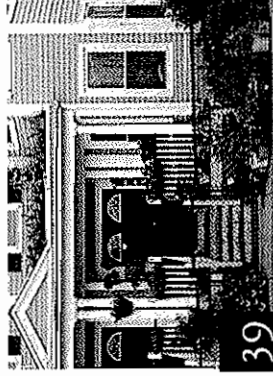
Thirsty Los Angeles? The new regional strategy to collect drinking water every time it rains.



Detroit's Water Wars. Grassroots action has backed down the city's aggressive water shutoffs.



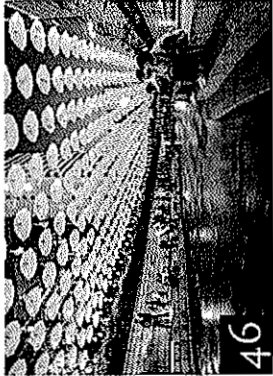
Farming Vacant Lots. Community land trusts work to ensure affordable housing—and now urban farmland.



Community Land Trusts. From rural Georgia during the civil rights movement to inner cities today.



Slow-Moving Miracle. Bottom-up change gets support from the top in Medellín's newly connected barrios.



Future Cities Reimagined. Ignore the futurist doomsayers. We can make room for humanity and nature.

URBAN REVOLUTION

NEW ENERGY IS TRANSFORMING
OUR CITIES INTO HOTBEDS OF DEMOCRACY AND
PROGRESSIVE INNOVATION.
THEY ARE LEADING US INTO THE FUTURE.

Sarah van Gelder

If you've been looking to the federal government for action on big challenges such as poverty, climate change, and immigration, this has been a devastating decade. Big money's dominance of elections, obstructionism by the Tea Party, and climate denial have brought action in Washington to a near standstill. But while the media focuses on the gridlock, a more hopeful story is unfolding. Cities are taking action.

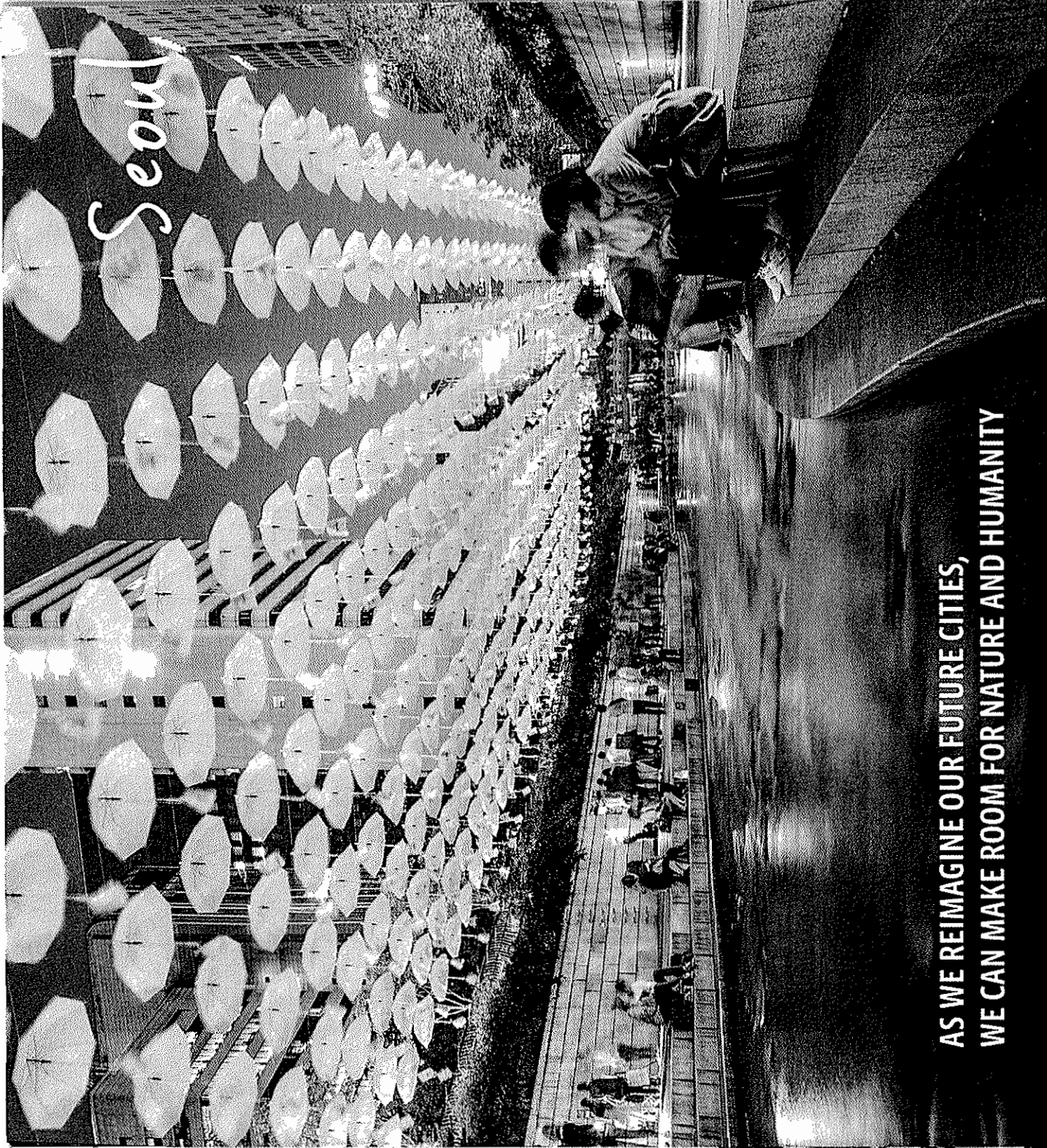
Climate change is a case in point. Cities are already experiencing the damage caused by an increasingly chaotic climate. Many are located along coastlines, where rising sea levels coupled with giant storms bring flooding and coastal erosion. Some low-lying areas are being abandoned.

Others cities face protracted water shortages due to diminishing rainfall and shrinking snowpack. And cities are subject to the urban heat island effect that can raise temperatures to lethal levels.

Cities can't afford to wait for the ideological wars to play out.

On Oct. 29, 2012, Hurricane Sandy slammed into the East Coast, flooding lower Manhattan, filling subway tunnels, twisting up the boardwalk along the beaches in the Rockaways, and turning Long Island and New Jersey communities into disaster zones.

Just two weeks later, Munich Re, a major insurance company, reported that weather-related disasters in North America had increased five-fold over the previous three decades, causing \$1.06 trillion worth of damage. And the disasters are just starting, the report said.



AS WE REIMAGINE OUR FUTURE CITIES,
WE CAN MAKE ROOM FOR NATURE AND HUMANITY

NO BLADE RUNNERS, NO ZOMBIES

The gleam of an heroic Act
Such strange illumination
The Possible's slow fuse is lit
By the Imagination.

EMILY DICKINSON

Jason F. McLennan

If there's one thing that's certain, it's that the future hasn't happened yet. How we will live a few decades from now is anything but clear, despite predictions from our wisest architects, planners, politicians, philosophers, futurists, and science fiction writers.

For anyone committed to creating a more sustainable and just culture, here's a sobering exercise: Try looking into the past as a way of tracking society's expectations for itself. Look back a few decades and see how yesterday's visionaries predicted we'd be living now. I must do this routinely in my work in setting standards and developing tools for change at the International Living Future Institute. So I can tell you a common thread weaves through most fictionalized, artistic, and scientific forecasts: that the ongoing march of technological progress will continue unabated, further mechanizing our experience as humans and separating us from nature until everything we need is provided by machines and computers whose intelligence surpasses that of their operators. A companion theme in futuristic prophecies is the subjugation and taming of nature or, in extreme cases, nature's total elimination. In these depictions, there is little room for stories you've read and think for a moment about the sheer bulk of stories you've read and movies you've seen, and how many of them warn of a bleak future for society—books such as Aldous Huxley's *Brave New World* and Cormac McCarthy's *The Road*, and a catalogue of dystopian cinema: *Metropolis*, *Blade Runner*, *Road Warrior*, *Terminator*, and *Wall-E*, just to begin the short list. The current epidemic of zombies chasing after us through our popular culture is, I think, nothing less than a psychological manifestation of our species' sense of worthlessness. The undead trudge through our cities consuming us like a cancer. What better symbol of hopelessness and lack of self-worth could we possibly conjure up?

After World War II, there was a brief age of technological optimism. People, particularly Americans, believed in the promise of new frontiers. We saw residential and commercial potential in everything from our emerging suburbs to our rising office towers—we even pictured ourselves living "soon" on the moon or in terraformed space colonies. In the mid-20th century, we were suddenly (and curiously) willing to dump models of living and community that had worked well for hundreds of years in favor of these new ideas. We raced to build an automobile-dependent world, lined with interstates and freeways that would provide the straightest path toward the idealized future. Usually these new freeways carved through our least affluent neighborhoods, separating rich from poor—and typically, black from white. It is tragic that many of our first and largest social experiments in reshaping community were



The seven-mile Cheonggyecheon Stream runs through downtown Seoul, South Korea. The stream had at one time been covered over by roads and eventually an elevated highway. In 2005 it was uncovered and turned into a popular public space.

PHOTO BY ADZBIN MANJOR

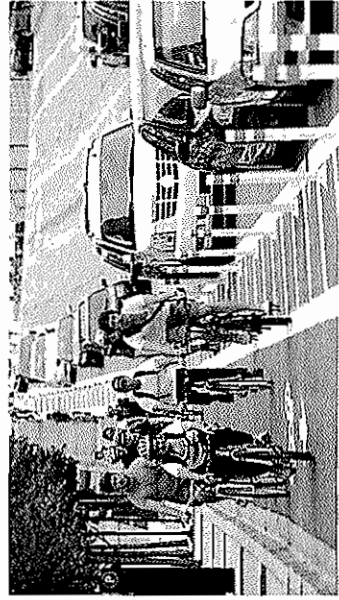


PHOTO BY JOHN GREENFIELD

Chicago will have built 100 miles of protected bike lanes by next year, and the Chicago Streets for Cycling Plan 2020 calls for a 645-mile network of bikeways, up from the current 235 miles, to be in place by 2020. The goal is to make sure every city resident is within a half-mile of a bike path.

While Congress debates whether climate change is a vast left-wing conspiracy, Houston is spending \$200 million to restore wetland ecosystems in anticipation of increased flooding. The 4,000-acre Bayou Greenways project will absorb and cleanse floodwater while creating space for trails and outdoor recreation.

"Houston's best defense against extreme climate events and natural disasters is grounded in its local efforts to leverage ... its bayous, marshes and wetlands," Houston Mayor Annise Parker said in a press release.

In Philadelphia, if you look up while waiting for a bus, you might find you are standing under a living roof. Philadelphia is dealing with excessive storm water runoff by encouraging rain gardens, green roofs—large and small—and absorbent streets that allow water to soak through into the soil.

Given the threat posed by runaway climate change, one would expect ambitious national and international action to reduce greenhouse pollution. But cities are out in front, taking action to reduce their own climate impacts with or without federal support. From New York to Seattle,



PHOTO BY MARTHA WILLIAMS

WHILE CONGRESS DEBATES WHETHER CLIMATE CHANGE IS A VAST LEFT-WING CONSPIRACY, HOUSTON IS SPENDING \$200 MILLION TO RESTORE WETLAND ECOSYSTEMS.

cities are adopting efficient building standards, taxing carbon, switching to energy-efficient street lighting, promoting local food, and financing building-scale conversion to solar energy.

Cities are responsible for a new surge in bicycling, not just on the crunchy West Coast, but in old industrial cities. In September, *Bicycling Magazine* named New York the number-one U.S. city for bicycling, noting its hundreds of miles of bike lanes, ambitious bike-share program, and long-term commitment to cycling. “One million more people will come to New York City by 2030, and there’s simply going to be no more room for cars,” Janette Sadik-Khan, commissioner of the Department of Transportation, told *Bicycling*.

Chicago, named number two, is set to meet its goal of creating 100 miles of protected bike lanes by 2015, and it will soon have the nation’s largest bike-share program.

These developments are in part thanks to enlightened city officials, including those looking for low-cost ways to attract young, entrepreneurial residents.

But cities are getting more bike-friendly in large part because of persistent pressure by activists. For more than 20 years, Critical Mass bike rides have taken over streets in more than 300 cities around the world, with large groups riding together and claiming the right to a safe ride.

A citizens’ group in Minneapolis made the point about bike safety by building pop-up bicycle-only lanes, using DIY plywood planters to separate the bike riders from automobile traffic. Bicycle advocates in Atlanta, Denver, Oakland, Calif., Fargo, N.D., and Lawrence, Kans., followed suit. These urban climate solutions are

not only homegrown. Increasingly, cities are sharing their best climate innovations. In September, the mayors of Philadelphia, Los Angeles, and Houston announced the Mayors National Climate Change Action Agenda. The initiative will be built on other urban collaborations, including the U.S. Conference of Mayors, the C40 Cities Climate Leadership Group, and the Urban Sustainability Directors Network.

Responsive to the Poor and Excluded
Cities are leading in other realms, too, where the federal government has failed to act.

Immigration reform is stalled at the national level. But Los Angeles, San Francisco, New Haven, Conn., and New York City are issuing identification cards to undocumented residents, allowing them to open bank accounts, sign leases, and access city services.

On issues of poverty and inequality, cities have a mixed track record. Some neglect poor and minority neighborhoods or steer polluting projects and noisy highways to those areas. Others promote policies that displace the most vulnerable residents, making desirable land available to the wealthy and well-connected. Some cities have even criminalized homelessness.

But in many cities, strong people’s movements are electing leaders with a greater connection to the poor and middle class.

New York City, one of the most unequal cities in the country, is a case in point. The top 1 percent of New Yorkers took in 32.3 percent of the city’s total personal income in 2009, according to the city’s comptroller. The bottom 50 percent shared just 9.9 percent.

But organizations like the Working Families Party have spent years

St. Paul

A PLACE AT THE HALF-MILE LONG DINNER TABLE

Artist Seitu Jones was troubled to see people relying on convenience foods because healthy shopping choices are difficult in his St.

Paul, Minn., neighborhood. Jones wanted to start a community-wide conversation about food access and food justice—and where better to talk than over a good meal?

With the help of Public Arts St. Paul, funders, farmers, chefs, and 400 volunteers, Jones created a free dinner of ginger chicken, green vegetables, collard greens, beans, rice, and apple cider for 2,000 guests. Poetry and choreographed table service made the event a meal to remember. Next on the menu for Jones’ multiyear project, Create: The Community Meal, are mobile demonstration kitchens and classes on affordable, healthy cooking.

PHOTO BY ANDY KING

don’t care about being innovative just because we have an escalator. We want to know what the priorities are.”

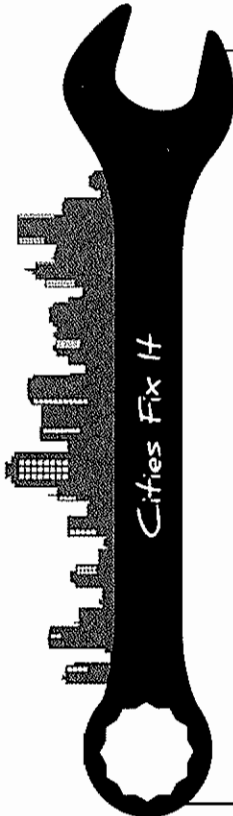
EL AKA agrees that the city is too focused on their pet projects rather than much-needed services. “The library parks are great, but the problem is the way the city runs them. There are no nighttime activities, the security is excessive, and the territorial division of the programs is not appropriate.”

With the buzz from the World Urban Forum wearing off, the city is poised to push ahead with its 46-mile, \$260 million Metropolitan Green Belt and \$160 million Medellín River Park. No doubt these massive projects will benefit the city as a whole—economically, environmentally, and socially. But Anadón feels grassroots groups like Pazamanos that have a more horizontal relationship with the community provide an important alternative to big government projects. “I think we’ve received such good responses because people are getting tired of all the interventions all the time. We are friends and they understand our logic. We never think we have all the right answers. It’s more about trying to see through their eyes.”

In Anadón’s view, a miracle really is happening in Medellín, but it’s much more gradual, subtle, and people-powered than the effusive odes to libraries and escalators would have you believe. “Even though the government and rule of law has been missing for most of the people in Medellín for a long time—and the city is trying to fix that—the people are still trying. They’re resilient. They are tired of the situation and they’re trying to find new ways to go forward, and often those ways are through art.”



Sven Eberlein is a freelance writer based in San Francisco. He is also community liaison for the Ecocitizen World Map Project, a global initiative connecting neighborhoods on the ground with online crowd-mapping tools designed to explore, understand, and measure holistic urban health from a citizen’s perspective. Medellín is one of the project’s pilot cities.



VALLEJO, CALIF.

PARTICIPATORY BUDGETING

Just over one year after emerging from bankruptcy, the city of Vallejo, Calif., put its budgeting process into the hands of its residents. From October 2012 to early 2013, Vallejo citizens gathered in senior centers, elementary schools, and other public spaces to decide how to spend more than \$3 million of their city’s tax dollars. The process, called participatory budgeting, began in Brazil in 1989 and has since spread to more than 1,500 cities worldwide. In the United States, the process first rooted in neighborhood districts in Chicago and New York City. Vallejo is the first place in the country to implement the process citywide.

It works like this: residents brainstorm ideas at budget assemblies held throughout the city, and a handful of residents volunteer to turn those ideas into full proposals. Then, the public provides feedback and votes. Solar-powered parking lot lights, public murals, and bike lanes were some of the ideas brainstormed earlier this year during Vallejo’s second round of participatory budgeting. Any resident age 16 and up, regardless of citizenship status, has a vote. The second year of voting concluded in October, and a proposal to provide skills training and services to homeless veterans, seniors, and children received the most votes. Over the next year, city staff will implement this and seven other projects picked by the people of Vallejo.

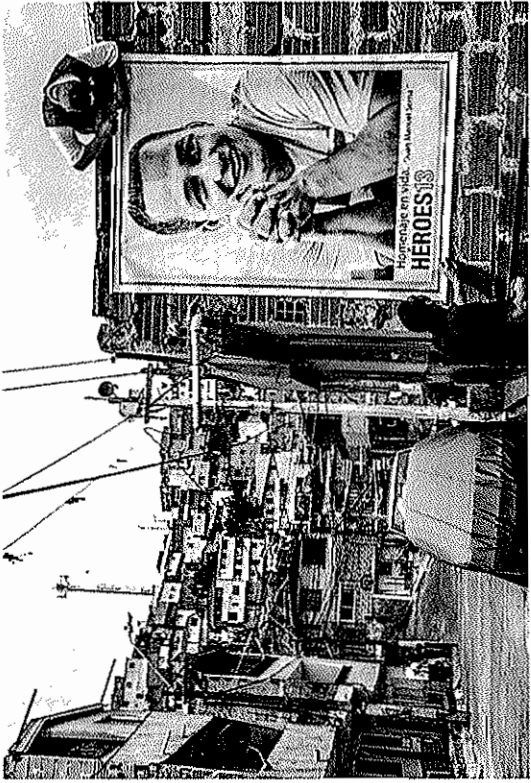
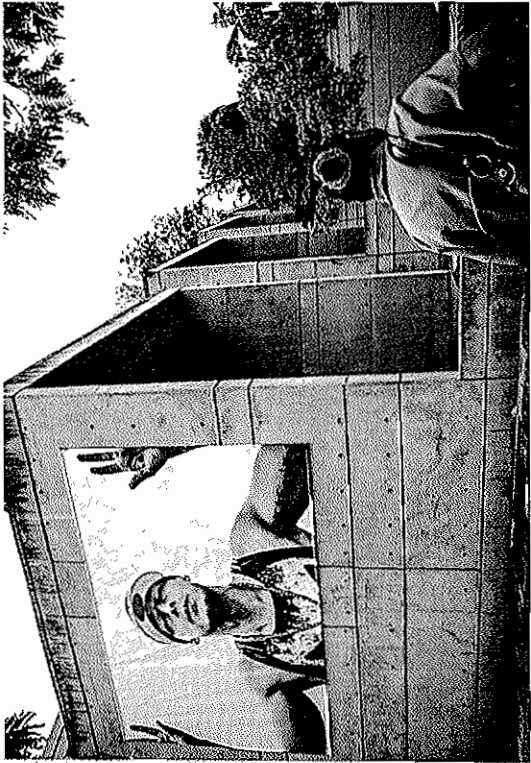
CLEVELAND, OHIO

RESPONSIBLE BANKING

Banks aren’t always in the practice of investing in their communities. Across the country, city governments are demanding change. Cities deposit big money in banks—billions nationwide—so they have some leverage for their demands. Cleveland, San Jose, Seattle, New York, Los Angeles, and other cities have passed responsible banking ordinances that require banks to track and report the ways they’re investing in their local communities. The banks with the best track records win big city deposits.

Cleveland’s 1991 responsible banking ordinance was the first of its kind. To qualify for a Cleveland city contract, banks must open more branches in low- and moderate-income neighborhoods, employ more women and minorities in executive positions, and provide more financial services for local businesses than other banks. Cleveland’s ordinance ensures that city wealth is invested in the institutions that invest in community welfare. Since 1991, 12 cities across the country have adopted similar ordinances.

—Shannan Stoll



Popular hip hop artist EL AKA, pictured in a Héroes sin Fronteras mural at left, says creative projects like the murals, urban hop collectives, and arts nonprofits have been major factors in building a new identity and bringing dignity to the most isolated, neglected, and impoverished parts of the city.

PHOTOS FROM PAZAMANOS FOUNDATION

gems—located in the most neglected parts of the city—opened between 2005 and 2008.

Books are just part of the public treasure that is Parque Biblioteca San Javier in the heart of Comuna 13—it's a community hub where people gather, learn, and play, aided by inspiring architecture, lots of light, and open space. On the day of our visit, a group of teenagers practiced a dance in the main courtyard, while the classrooms, computer labs, and meeting halls were filled with studious individuals, groups, and families.

"The library park here has been spectacular," said Amparo Guerra, a woman who lives nearby. "The classes, the libraries, the internet access, and all the other services and activities offered to the community have been so helpful. People who never had the resources now have a lot of opportunities, and everyone is welcomed and treated the

same way, regardless of their social class. It truly is total social inclusion."

The power of participation

Medellín's transformation is still only half a miracle. Over the past five years, gangs have murdered ten hip-hop activists whose work advocated nonviolence. There are social land mines here that can't be defused with gondolas, escalators, and libraries alone.

"I think all the government projects are good in a sense," says Juan Carlos Anadón, Project Coordinator for the nonprofit Fundación Pazamanos. "But things are really complex when you work in the trenches of social development. You have to have flexibility to address problems you find along the way, which people who work in government often don't have."

That "work in the trenches" is recognized by Fundación Pazamanos' crowd-funded Héroes sin Fronteras campaign,

gigantic posters of La Trece leaders who offer alternative visions to kids and teenagers in a community with few resources. EL AKA is one of the heroes, featured in a triptych captioned "Yo me llamo AKA, no como el arma AK, sino como AKA disparador de rimas," "My name is AKA, not like the gun AK, but like AKA the slinger of rhymes."

"There are such heavy barriers that keep people from connecting," Anadón says of the stigma of poverty and violence residents still endure, notwithstanding the positive impact of the escalators. He says the international attention on projects like escalators paints a somewhat distorted picture of who is driving grassroots changes, as well as of the many struggles that still exist. "The government likes these kinds of projects because it can show them to the world and win 'Most Innovative City' awards," he says. "But there are still people being killed here. We



“CITIES ARE POINTS OF INTERSECTION, COMMUNICATION, SHARING, AND TRAVEL, AND CITIES HAVE ALWAYS—TO PARAPHRASE WHITMAN—CONTAINED MULTITUDES.”

building a grassroots power base, and their work paid off when they helped elect Mayor Bill de Blasio in November 2013. Today, de Blasio is working to boost the minimum wage and is requiring developers to offer affordable housing. And thousands of new prekindergarten slots opened up this fall, with the goal of universal access to free pre-K.

Richmond, Calif., and Newark, N.J., also have progressive mayors elected in cities with strong popular movements. Both were hit hard by the foreclosure crisis and the predatory lending that especially targets poor people and people of color. And both cities are now exploring using eminent domain to reduce home mortgages to current market value and restructure loans so that current homeowners can retain ownership.

Seattle is leading the nation by raising its minimum wage to \$15 an hour, following a successful grassroots initiative in the nearby city of Sea-Tac, and an insurgent city council race that focused on a higher minimum wage. Popular movements across the country are pressing for better pay and human rights for the working poor.

Why Cities?

What is it about cities that enables them to move forward while the nation as a whole is stalled?

Benjamin Barber, political scientist and author of *If Mayors Ruled the World*, thinks a lot about what makes urban leaders effective problem solvers.

City leaders can't afford to be ideologues, Barber said in an interview with YES! Magazine. "Their job is to pick up the garbage, to keep the hospitals open, to assure fire and safety services and that police and teachers do their jobs."

This pragmatism requires civility.

"Mayors simply can't afford to trade in bigotry," he said. "A businessman like [former New York Mayor Michael] Bloomberg has to deal with the unions, and a progressive like de Blasio has to deal with business and developers."

Perhaps this focus on getting work done explains why nearly two-thirds of Americans polled by the Pew Research Center have a favorable view of their local government, at a time when just 28 percent approve of the federal government.

Along with pragmatism, cities have the advantage of multiculturalism and the innovative spark that goes with it, Barber says. "Cities are points of intersection, communication, sharing, and travel," he said. "And cities have always—to paraphrase Whitman—contained multitudes."

Nations, on the other hand, are a more recent idea, more oriented around independence than interdependence, and more competitive. "The last 400 years of nation-states ruling the world has gone very badly, with war, genocide, rivalry, and very little social justice as a consequence," Barber said.

Cities are solving problems while nation-states are failing, Barber said. So it's time to put cities in charge. Of the whole world.

Barber laid out a plan for a global parliament of mayors in his recent book, and now he's working with city officials on bringing the idea to reality.

Should Cities Rule the World?

Mention global governance, and some people imagine black helicopters. But Barber insists he is not proposing a top-down system. Instead he sees mayors and other city leaders reaching consensus on solutions and then bringing the policy ideas home.

The result, he said, would be a sort of horizontal, pragmatic, noncoercive

form of global governance.

Cities could agree on a universal minimum wage, for example. Such a move would remove incentives for companies to relocate to low-wage regions. Metropolitan regions are where most economic activity is happening, Barber said. So if enough cities agreed on a minimum wage, companies would just have to pay it, thus helping to alleviate poverty and inequality.

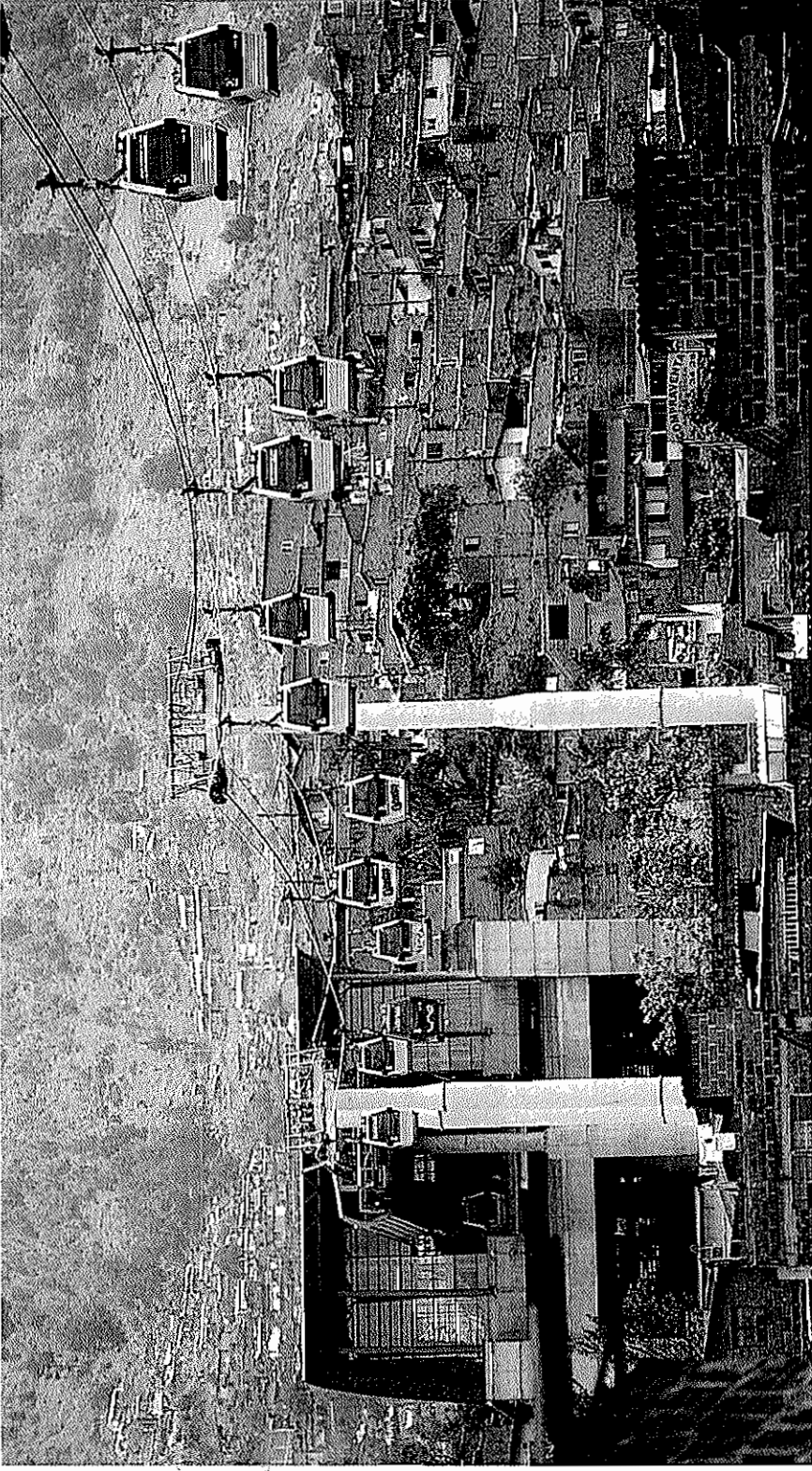
A first step in making this vision a reality is to incorporate the suburbs and central cities into metropolitan regions. Such a move would make sense for cities whether or not they rule the world. If Detroit, for example, were redefined to include the well-off suburbs, instead of being bankrupt, it would be the fourth most prosperous metropolitan region of the United States, Barber said.

From that foundation, cities could lead even in arenas like immigration that are not normally part of urban decision-making. If more cities begin issuing their own immigration documents, "you're going to have a fast track to citizenship inside cities, since 85 or 90 percent of undocumented workers are in cities," Barber said.

A global parliament of cities "is a means to regulate the global economy, address climate change, deal with immigration and global trade," he said.

It's a bold idea that is capturing the imagination of an international group of urban leaders. On Sept. 19, mayors, city planners, and others met in Amsterdam. If all goes as hoped, Barber said, 600 mayors could join him in London in September 2015 to launch a pilot parliament.

Not everyone thinks cities are up to the challenge. Following the Amsterdam meeting, Reinier de Graaf, a Dutch architect and city planner, wrote in *European Magazine*, "The current



Gondolas and massive escalators mean the hillside communities of Comuna 13 are no longer isolated from the rest of the city.

PHOTO FROM CREATIVE URBAN PROJECTS AND REX FEATURES

followed in 2008 by a 2.7 kilometer line connecting the hillside communities of Comuna 13 with the Metro stop in San Javier.

The stunning gondola ride not only reduced commute times by hours, it gave residents like Maria a sense of local pride. "The Metrocable, just like the escalators, has been great for Medellín," she says, "not just because they made life easier for us but they've improved our reputation in the world."

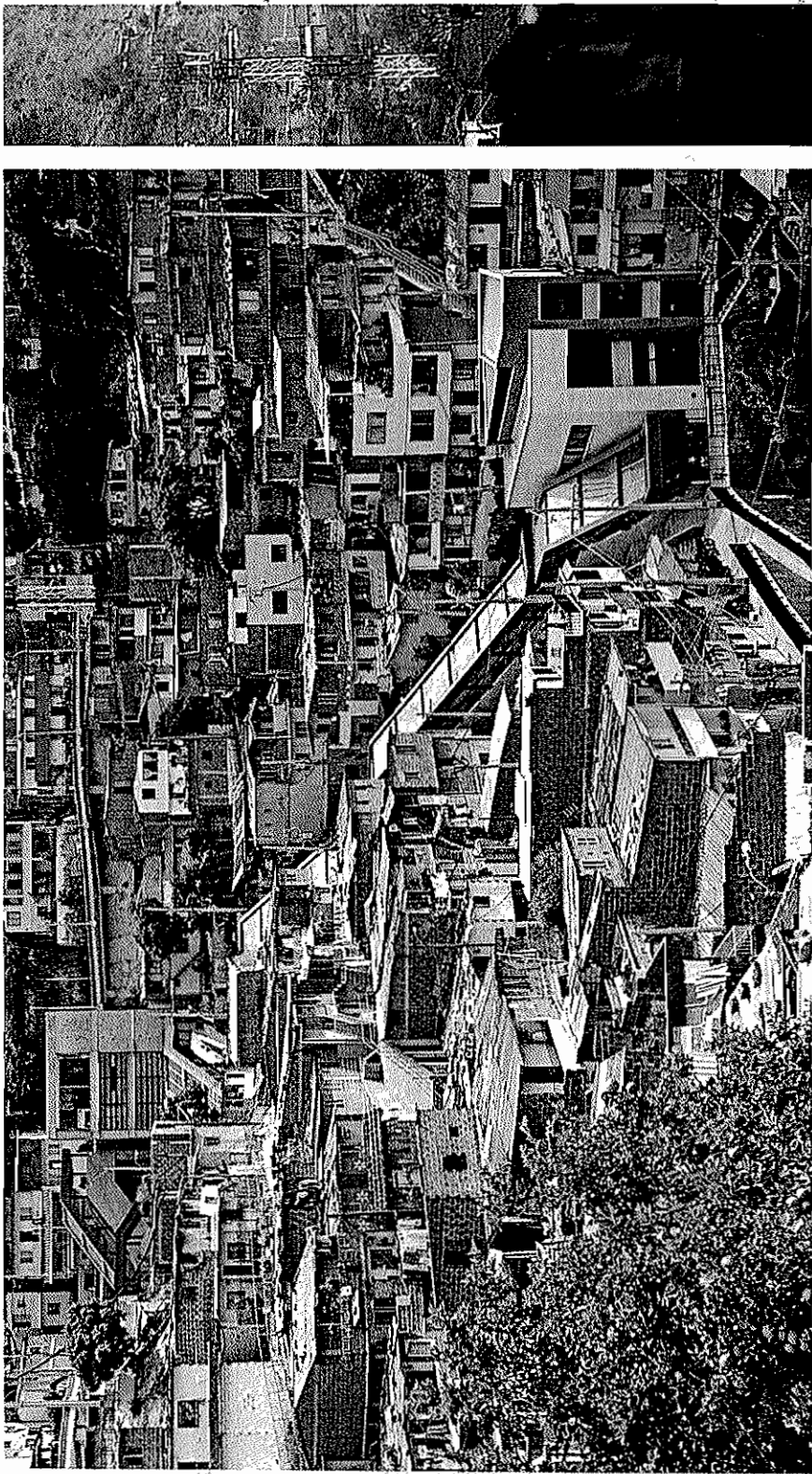
Fajardo's vision of connecting the informal with the formal city was rooted in his belief that education, in the broad sense of the term, has the power to open doors. "Many people in our society

social fabric. Instead of giving alms to the poor, the idea was to give them improved streetscapes and state-of-the-art public transit, parks, libraries, schools, and cultural centers.

Campaigning on the slogan "Medellín: from fear to hope," GCC swept Fajardo into the mayor's office in 2003. His administration broadened the scope of changes through an Integral Urban Project strategy (Proyecto Urbano Integral) to create inspiring living spaces and symbols of empowerment. In 2004, the new Metrocable, a gondola system traditionally used in ski resorts, opened service with a 1.8 kilometer line to the eastern barrio of Santo Domingo,

have a wall in front of them. ... Our challenge has been to open doors in that sealed wall, so that people can pass through and participate in the construction of hope. What is hope? When someone in the community sees a path they can follow."

The centerpiece of Fajardo's plan, the city's new *parques biblioteca* (library parks), were funded with the help of Medellín's city-owned public utility company, Empresas Públicas de Medellín, which donates about 30 percent of its annual profits to social investment projects. A combination of library, green space, cultural center, and town square, five of these architectural



BEFORE ANY OF THESE PUBLIC-WORKS PROJECTS WERE ESTABLISHED, THE CITY'S MARGINALIZED COMMUNITIES WERE ALREADY REMAKING THEMSELVES.

that dramatically improved residents' mobility.

Colombia's first metro system, launched in 1995, soon connected downtown Medellín with San Javier in the heart of Comuna 13. The government also began investing in cultural and social programs for youth. By the late 1990s, the city started participatory budgeting, a process by which 5 percent of the city's budget is allocated by residents of each neighborhood, often in support of local health, education, or art projects.

Perhaps most significantly, before any of these public-works projects were established, the city's marginalized

communities were remaking themselves. Comuna 13 in particular, ground zero of gang wars to this day, has produced a long line of hip-hop and graffiti artists who protest the militarization of their neighborhood with messages of civic participation, social justice, and peace.

"We were building this city long before the government arrived," says EL AKA, a rapper from La Trece (as locals refer to Comuna 13) who calls for the recovery of open space and urban agriculture in his music. He says creative projects like the murals, urban gardens, hip-hop collectives, and cultural arts nonprofits have been major

factors in building a new identity and bringing dignity to the most isolated, neglected, and impoverished parts of the city.

Transformation of space and mind

In 1999, Sergio Fajardo, a math professor dissatisfied with the government's piecemeal approach to reform, founded an independent civic movement, the Citizens Commitment Group (Grupo Compromiso Ciudadano, or GCC). Its members believed the only lasting way to break cycles of ingrained violence and poverty was to integrate the most isolated neighborhoods into the rest of the city's physical and

vitality of cities is largely based on the luxury that more heavy duty political responsibilities are kept at bay."

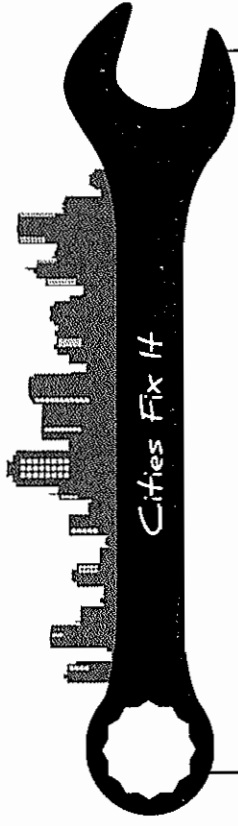
But British journalist Misha Glenný found the proposal intriguing. In a column for the BBC he wrote: "This group of can-do politicians may end up rewriting constitutions across the globe ... by doing what they always have—getting on with the job."

The idea is worth exploring when so much else isn't working, Barber said.

"In a time of pessimism about democracy, pessimism about government, a sense of too many problems, I believe the cities movement is a powerful note of hope and optimism," he told YES!

"Moving the focus from states to cities is a new brief for democracy," he said. "It's a new brief for hope. And a new sense that maybe we can, after all, control some of the forces that seem to be pushing us toward an unsustainable, unjust world, so we can move instead in the direction of the more sustainable and more just world." ❧

Sarah van Gelder is co-founder and editor in chief of YES! Magazine.



SEATTLE

EQUITY FILTER

Despite pervasive inequity, race often sits on the periphery of national policy discussions. In Seattle, racial inequity mirrors national trends, but a sweeping initiative is putting concerns about race and equity at the center of city government.

The Race and Social Justice Initiative requires city departments to apply an equity filter. Employees are to consider how their decisions impact racial equity using a "Racial Equity Toolkit" to screen policies, programs, budgets, and contracts. Since the program started in 2004, the city has increased contracts with women- and minority-owned businesses from \$11 million to \$34 million, expanded outreach to historically underrepresented communities, and developed special criteria to prioritize transportation improvements. "The toolkit builds racial equity into the city's work from the outset, instead of as an afterthought," reads the city's website. The procedure helps "ensure that the voices of communities of color are part of the city's planning processes."

NEW HAVEN, CONN.

SAN FRANCISCO

OAKLAND, CALIF.

RICHMOND, CALIF.

LOS ANGELES

ASBURY PARK, N.J.

MERCER COUNTY, N.J.

TRENTON, N.J.

PRINCETON, N.J.

WASHINGTON, D.C.

NEW YORK

MUNICIPAL IDENTIFICATION

While immigration policy is contested on the national stage, many local governments are taking steps to improve the lives of the undocumented people living and working in their communities. From Los Angeles to New Haven, 11 cities across the country have instituted municipal ID programs. Now New York, a city with an estimated half-million undocumented immigrants, is preparing to launch the country's largest program in January 2015.

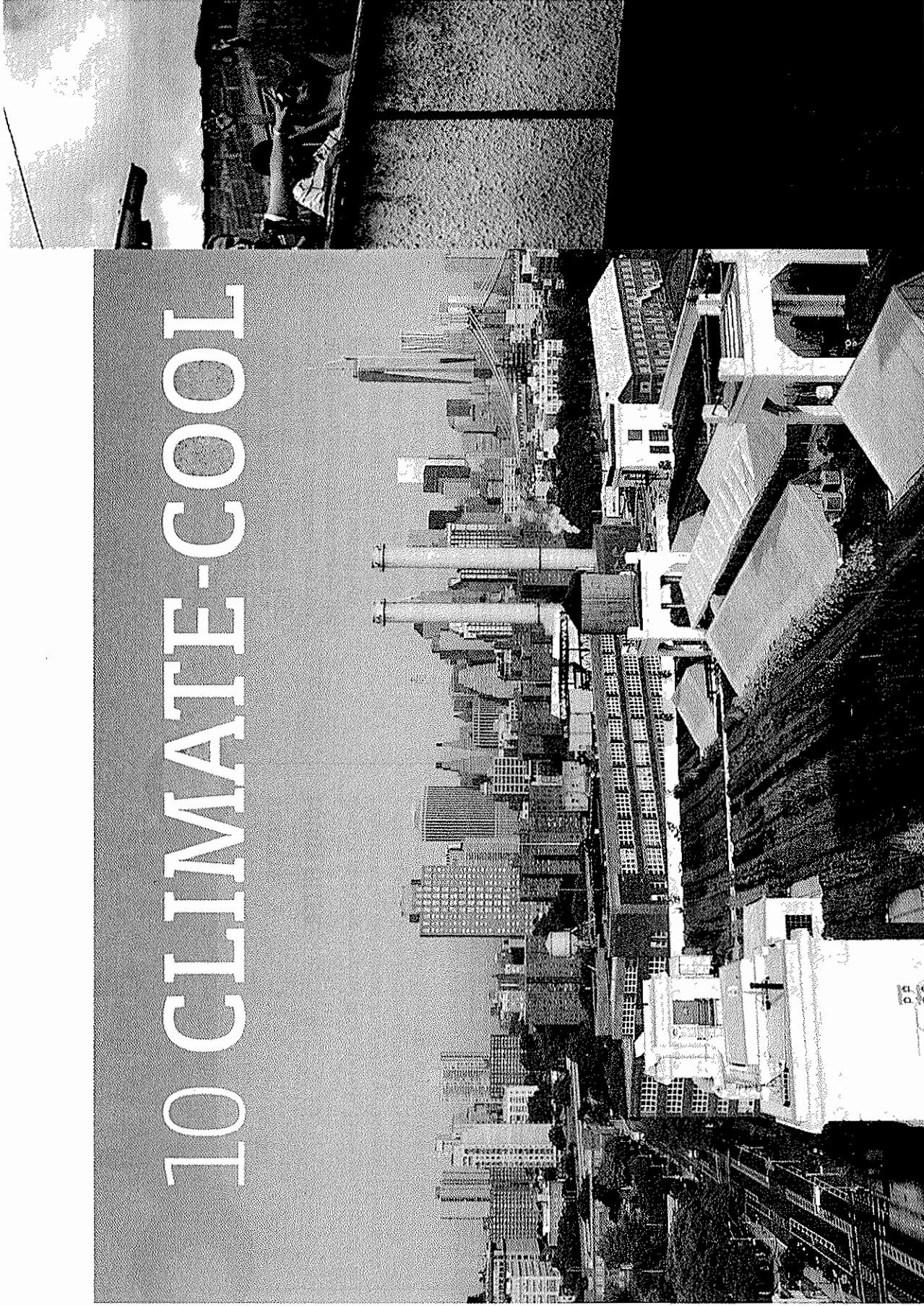
With the new city IDs, New Yorkers, regardless of immigration status, will be able to apply for a job or library card, access health services, sign a lease, or file a police report. Services like these are often unavailable to the people who need them most: the undocumented, homeless, and low-income-elderly people who commonly lack identification. By offering city ID cards, New York is providing a pathway to better health, safety, and participation for its most vulnerable community members. —Shannan Stoll

HELSINKI

NO NEED FOR CARS

By 2025, public transportation in Helsinki will be so good that no one living in the city will have any reason to own a car. That's the goal the city announced earlier this year, and Helsinki is serious about it. The Helsinki Regional Transport Authority is piloting an on-call minibus service called Kutsuplus. The service uses an algorithm and a smartphone app to combine the affordability of ride sharing with the on-call service of a taxi. Riders hail buses on a smartphone, an automated system routes and reroutes the fleet to create the most efficient service for patrons heading in the same direction. It's cheaper than a taxi and more convenient than a bus. Free wi-fi and storage for bikes or strollers are included, too. Compared with traffic jams, parking fees, and car maintenance, on-demand public transit in Helsinki is looking pretty good.

10 CLIMATE-COOL



Posters throughout Comuna 13 neighborhood. The *Héroes sin Fronteras* campaign features gigantic posters of leaders who offer alternative visions to kids and teenagers in a community with little resources.

PHOTO FROM PALZAMANOS FOUNDATION

There's something uplifting about an apology for a matter as small as an unfinished paint job in this neighborhood. Until a few years ago, residents here kept their doors and windows shut against the bullets exchanged by street gangs. Our guide Maria, one of the young people who work on the neighborhood's *escaleras eléctricas* security and maintenance crew, is also a community ambassador and docent. She tells us how her community collaborated on the international prize-winning design for the escalators and how much life has improved in her neighborhood since the completion of the project in 2012. "There used to be a lot of stairs," she says, "but now people with disabilities, the elderly, and kids—who have to make frequent trips to school—have a lot more mobility."

The "Medellín Miracle"—the city's transformation from most dangerous city in the world in the 1980s to current U.N. poster child for urban equity—draws more than just foreign visitors. Juliana, one of our Couchsurfing hosts, is a Medellín native who lives just one barrio north of here and has traveled the world. She had never set foot in Comuna 13 until today. Now she and Maria are chatting about food and art like old friends.

Collapse and rebirth of Medellín

It's not uncommon for a city to become so ghettoized that a visit to an adjacent neighborhood is less likely for many residents than a trip to a foreign country. The number of cities with populations over 750,000 has quadrupled in the last 50 years. By 2050, 70 percent of the world's population is projected to live in urban areas. Rapid growth often brings increased spatial and social inequalities, as poor immigrants from rural areas settle in unplanned and unregulated urban peripheries. With regional and global economic, political, and environmental dynamics driving migration, cities are often faced with large waves of disenfranchised people.

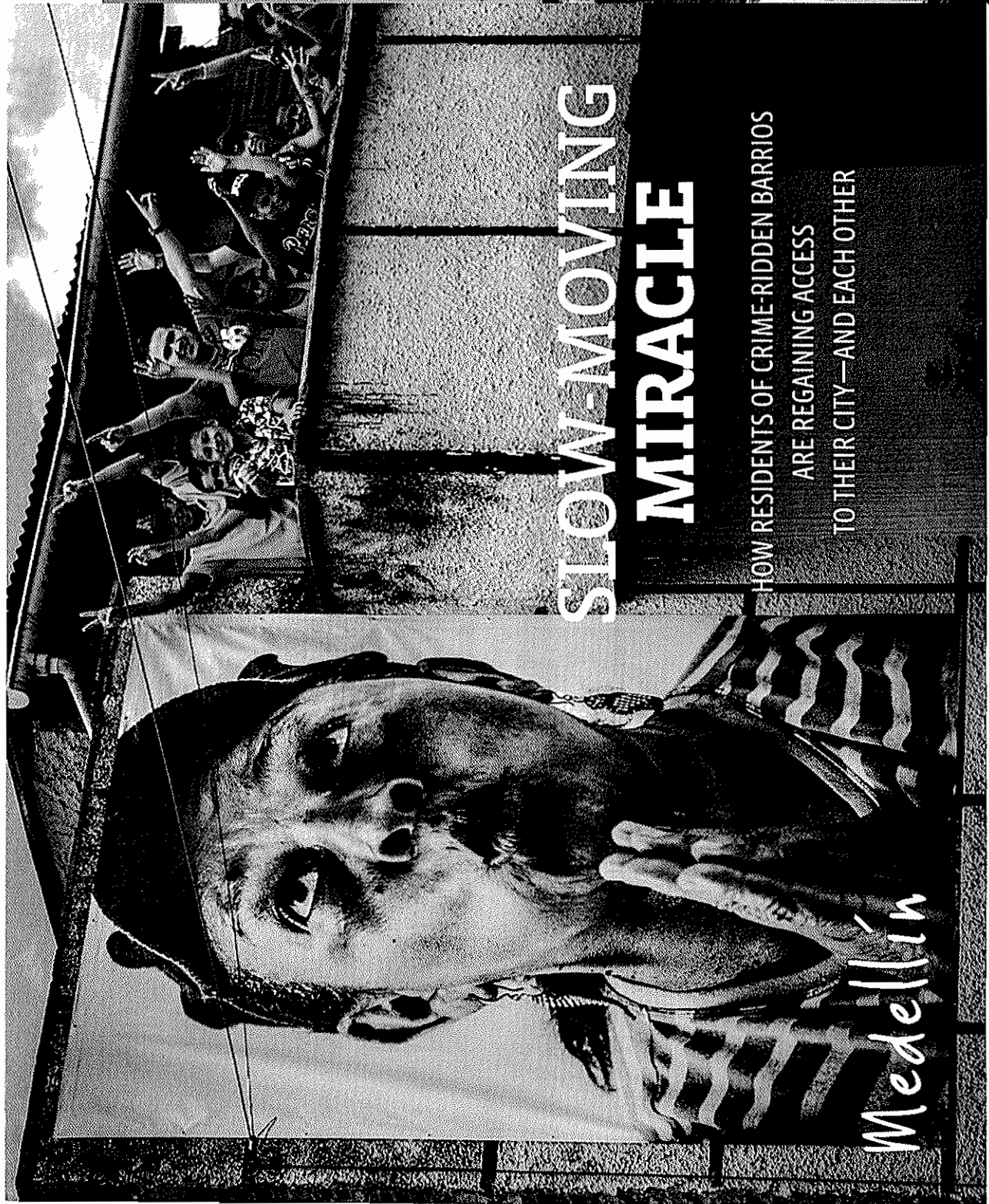
That was the case for Medellín.

Nicknamed "City of Eternal Spring" for its mild year-round mountain-valley climate, the city's history of disjointed urban growth is linked to Colombia's struggles. From the collapse of the coffee market in the 1930s to the country's brutal civil war in the 1950s and the infamous drug wars two decades ago, rural Colombians have fled to Medellín to escape violence and find economic opportunity.

Medellín's population tripled between 1951 and 1973, and has almost tripled again since. As in Rio de Janeiro's *favelas*, much of the growth occurred along the city's steep hillsides, where new arrivals desperate for shelter built the ramshackle houses that define Medellín's poorest communities. These streets were used as a refuge by armed guerrilla and paramilitary groups fighting to dominate the booming cocaine market in the 1980s. A weak local government—there were 49 mayors between 1948 and 1988—was unable to provide any kind of regulation or security. The city's poor were stuck in a war zone, and everyone else barricaded themselves behind walls and barbed wire.

With 6,349 murders in 1991 alone, Medellín had been in crisis for years by the time drug warlord Pablo Escobar was killed by Colombian special forces in 1993. While gunfights between right-wing paramilitaries and left-wing guerrillas raged on, things began to improve with a new Colombian constitution that gave city governments new autonomy to base urban planning on citizens' needs. Aspiring to rebuild as a "City for Life," Medellín began its celebrated *urbanismo social* (social urbanism) agenda, aiming for genuine civic engagement, participatory democracy, and solidarity.

The Integrated Slum Upgrading Program of Medellín (PRIMED) in 1993 was a radical departure from traditional forms of city planning in that it drew on full community participation. In addition to building schools, incorporating and upgrading existing houses, installing street lights, and expanding public services, PRIMED led to the construction of a system of paths with railings



SLOW-MOVING MIRACLE

HOW RESIDENTS OF CRIME-RIDDEN BARRIOS
ARE REGAINING ACCESS
TO THEIR CITY—AND EACH OTHER

Sven Eberlein

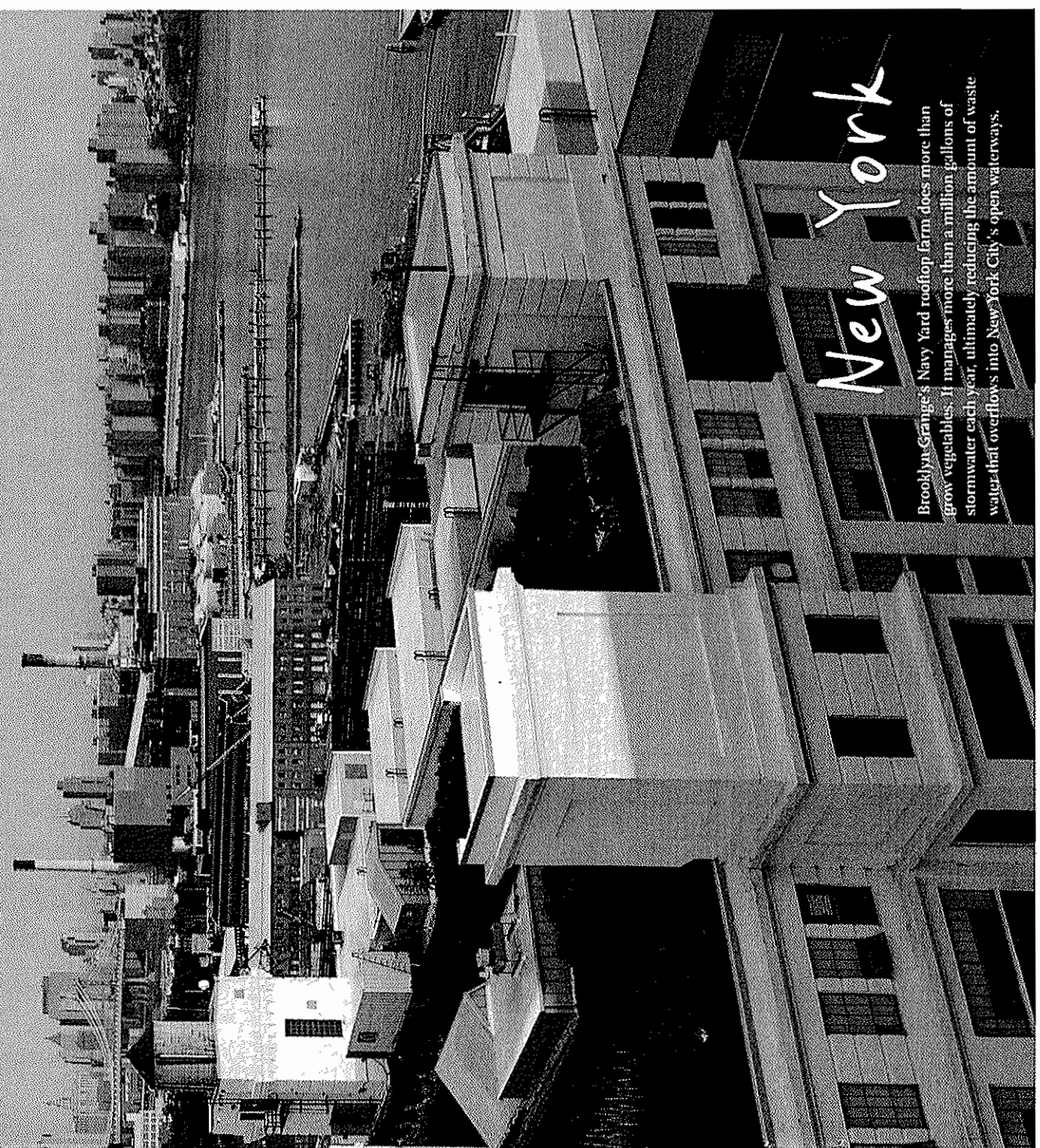
I'm sorry about the look of that house, we haven't gotten around to painting it yet." The woman leading us down the steep hillsides of the Comuna 13 neighborhood in Medellín, Colombia, is pointing at the lone faded building in a row of homes that looks like a tidy, earth-tone color guide.

My friends and I—visiting Medellín for the United Nation's Seventh World Urban Forum—are riding down escalators that have replaced 357 arduous steps. Luminous murals cover the walls below us, while above are flower-filled planters and skylights. At the end of each flight there are public patios where kids play soccer and people sit on benches to enjoy the view. Meanwhile, the escalator stereo plays Frank Sinatra singing "I did it my way."

CITIES

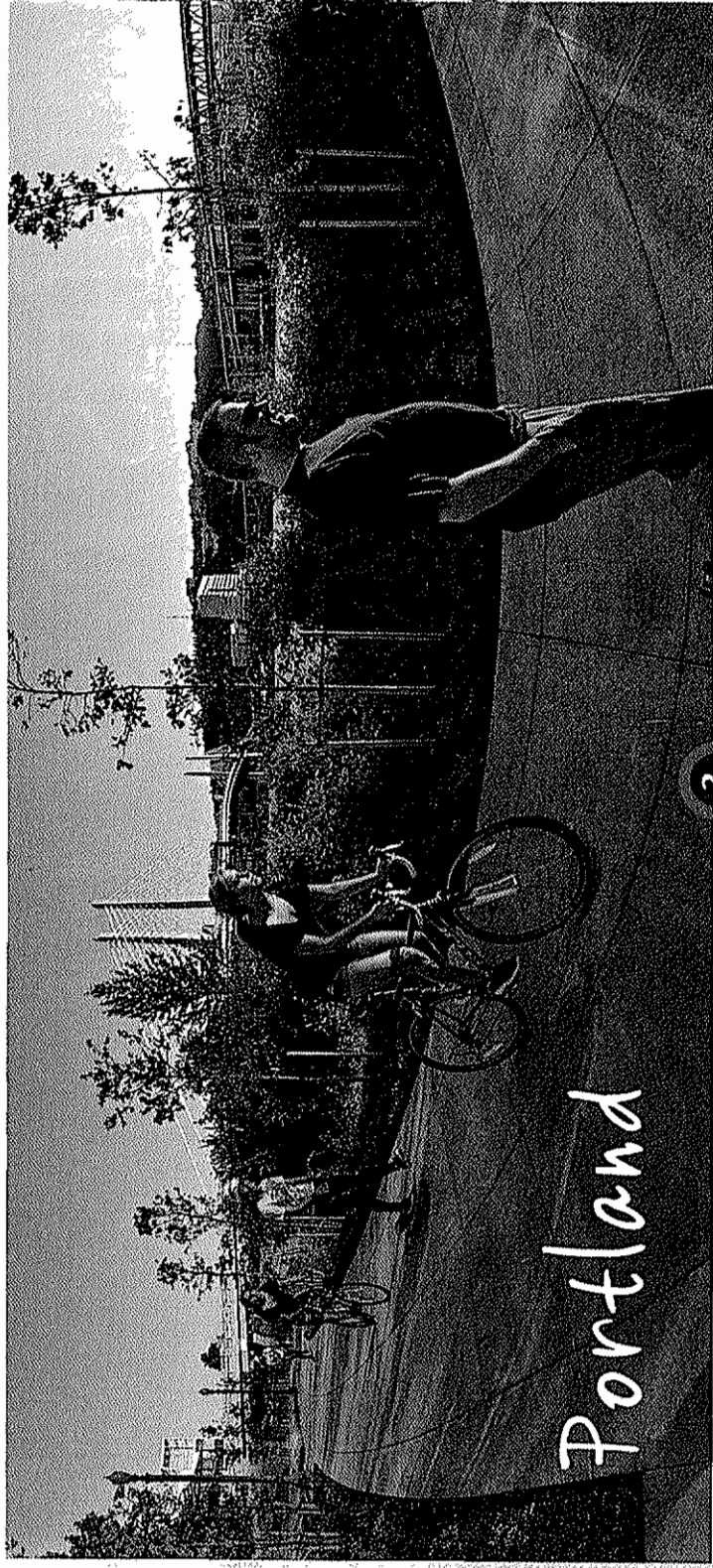
There's no time to waste when it comes to acting on climate change. The world's most forward-thinking cities are curbing carbon and building for a sustainable future—now.

Natasha Donovan



Brooklyn Grange's Navy Yard rooftop farm does more than grow vegetables. It manages more than a million gallons of stormwater each year, ultimately reducing the amount of waste waters that overflows into New York City's open waterways.

PHOTO BY VALERY RIZZO



Portland

3

Portland

Portland is creating “20-minute neighborhoods” to address climate change on a city-wide scale. By increasing urban density and improving pedestrian infrastructure, the city is building resilient low-carbon communities where basic needs are within a 20-minute walk or bike ride. The city aims to have 90 percent of its residents living in 20-minute neighborhoods by 2030.

1

New York City

PlaNYC 2030, New York’s renowned climate change response plan, aims to simultaneously accommodate a quickly growing population and reduce emissions by focusing on infrastructure. By updating building codes, retrofitting older buildings, and encouraging sustainable design and architecture, NYC is well on the way to meeting its goal of 30 percent reduction in carbon emissions by 2030.

The newest bridge across the Willamette River in Portland, Ore., (top left) named Tilikum Crossing, Bridge of the People, is designed to carry light-rail trains, buses, cyclists, pedestrians, and streetcars—but no cars.

PHOTO BY VICTOR VON SALZA

4

Seoul

Seoul’s array of solar technology programs is breaking the city’s dependence on nonrenewable energy resources. Rooftop photovoltaic installations—more than 10,000 of them—will raise energy capacity by 290 megawatts per roof. With one energy self-sufficient village in each district, the “Sunshine City” is pushing forward into a cleaner-energy future for post-Fukushima Asia.

5

Chicago

In 1995, a five-day heat wave in Chicago caused about 750 deaths. Global warming threatens to raise the annual number of extremely hot days (over 100 degrees) in Chicago from just two to 31, making future heat waves like the one in 1995 nearly certain. In recent years, the city has focused on reducing its temperature by increasing the spread of urban forest and installing four million square feet of green roofs, both of which soak up carbon and reduce urban heat-island effects.

In the Dudley neighborhood of Boston, a community land trust guarantees affordable housing surrounded by parks and gardens, a town common, community center, charter school, community greenhouse, and several urban farms.

YES! PHOTO BY PAUL DUINN



ABOUT COMMUNITY LAND TRUSTS

The first community land trust in the United States came out of the civil rights movement. Started in 1969 in rural Georgia to secure land for black farmers, New Communities, Inc. owned more than 5,600 acres of land that was cooperatively farmed for 15 years.

The CLT model was inspired by other examples of collective ownership of land, including the kibbutzim in Israel, Gramdan Villages of India, and Ebenezer Howard’s “Garden Cities” concept.

CLTs separate ownership of land from human improvements to the land (such as housing). This separation allows the community to retain the value of land appreciation.

CLTs lease land to leaseholders, often for long terms—typically 99 years—to build housing, operate farms or other businesses, and develop other uses that benefit the community. The terms of the lease can include limits on resale in order to preserve affordability.

and indigenous ideas about land as commons—that it cannot be owned solely for individual benefit.

The model is continuing to evolve and adapt to new situations and uses. More CLTs are being used for holistic community development, and not just housing. There are CLTs that are now serving entire regions (such as statewide CLTs in Delaware and Rhode Island) and some that have been created by cities themselves, as in Chicago and Irvine, Calif. As CLTs diversify, each community will need to figure out how best to use this tool. As Dudley Street’s Harry Smith says, “the land trust doesn’t exist just to acquire and manage land. It’s really about engaging community to decide together what they want on their land.”

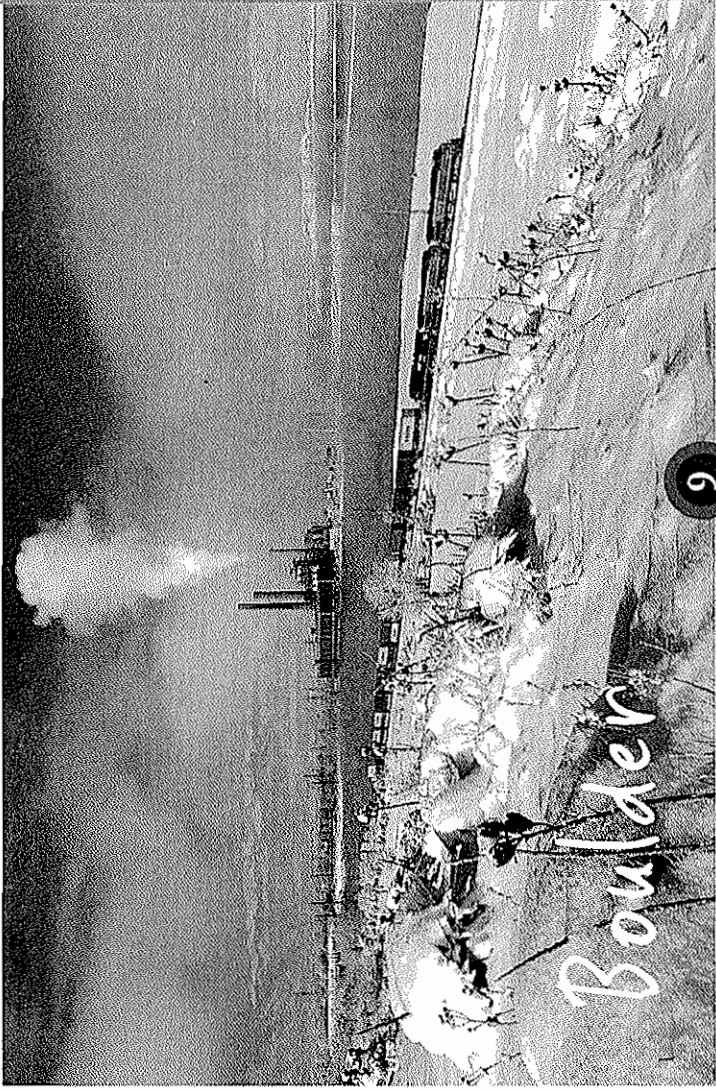
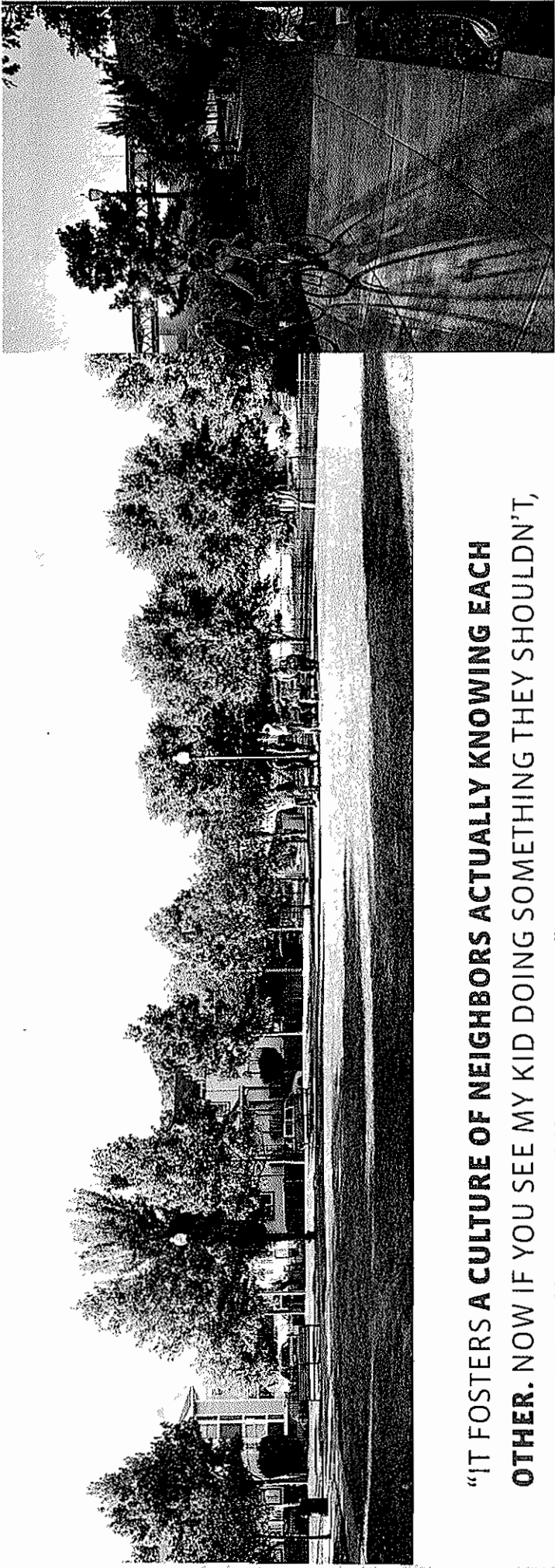


Penn Loh is Lecturer and Director of Community Practice at Tufts Urban & Environmental Policy and Planning, where he coordinates the Practical Visionaries Workshop. He thanks Caitlin Hachmyer, whose 2013 master’s thesis on the role of land rights and the food movement was a primary resource for the cases in Boston, Detroit, and Philadelphia.

In January 2014, the Campaign and the Philly Land Bank Alliance won passage of a city ordinance establishing a land bank. The bank will be the single owner of the city’s vacant properties, with a transparent and equitable process for managing and selling city-owned vacant land. It will clear land titles of any back taxes and liens. Most importantly, four of the 11 land bank board members will represent communities, and the land bank must “weigh community benefit, and not just price, when deciding between potential buyers.” If successful, the land bank could be a significant new source of land for CLTs.

A powerful tool

Whether the goal is affordability when real estate prices are high or community control over development when land is cheap, the community land trust has shown itself to be a potent tool. Across the country, communities are using this form of ownership to make collective decisions about a common good—the land. In a way the CLT is a return to more traditional



“IT FOSTERS A CULTURE OF NEIGHBORS ACTUALLY KNOWING EACH OTHER. NOW IF YOU SEE MY KID DOING SOMETHING THEY SHOULDN’T, THEN YOU CAN WATCH OUT FOR THEM.”

in Detroit, which would have been the world’s largest urban farm. As Hantz explained in *The Wall Street Journal*, Detroit “cannot create value until we create scarcity. Large-scale farming could begin to take land out of circulation in a positive way.” Hantz’s proposal was received with alarm by many of Detroit’s grassroots farming advocates. The city eventually sold 150 acres to Hantz in 2012 for about \$300 per lot. Malik Yakini, Executive Director of the Detroit Black Community Food Security Network, likened the proposal to a “land grab” that would continue “a century-long phenomenon of wealthy white men owning huge amounts of land and the majority of people being landless.”

Eric Holt-Giménez, Executive Director of Food First/Institute for Food and Development Policy, views the Hantz project as “creating wealth by appreciating real estate rather than creating value through productive activities.” Indeed, Hantz’s initial proposal to grow vegetables and fruit was changed to a tree farm when it became clear that farming produce was not feasible as a commercial operation.

For Yakini and other opponents, the issue is not the use of the land. Their coalition, the Community Trust, urged the city to reject the Hantz proposal and instead “explore Community Land Trusts as a way to protect public lands.”

This case illustrates the deeper challenge that community land trusts address. The issue is not just whether land is scarce and expensive or plentiful and cheap. It’s whether land is treated as a commodity or part of the commons. According to Holt-Giménez, “Land—rural or urban—is more than just land; it is the space where social, economic, and community decisions are made, and it is the place of neighborhood, culture, and livelihoods.”

Philadelphia’s land bank and CLTs

In Philadelphia the story of a group trying to hold onto land they had been farming for more than 50 years also highlights the clash between commoditization of land and community interests. It points to a potential solution—a land bank—for scaling up

the implementation of CLTs. Philadelphia has a thriving urban agriculture movement and recently passed an urban agricultural ordinance.

The Central Club for Boys and Girls started gardening on vacant parcels of land in their neighborhood in the mid-20th century, eventually taking over an entire city block. That Central Club held no legal rights to the land became evident in 2005, when two of the parcels they were farming were sold by the city to recover back taxes. In 2011, another two parcels were put up for sale. Central Club eventually won ownership of the land, but it required intensive legal support from the Garden Justice Legal Initiative of the Public Interest Law Center of Philadelphia.

In 2011, a coalition of community, labor, and faith groups formed the Campaign to Take Back Vacant Land to enable more community control over the city’s 40,000 vacant parcels and prevent the challenges that Central Club faced. They proposed establishing a city land bank that could assemble and manage vacant properties and prepare them for transfer to local CLTs.

6

Melbourne

Melbourne is transforming its urban landscape. Stormwater harvesting, permeable pavements, and cool roofs are helping to protect the city from the effects of climate change, and an increased urban tree canopy will provide crucial ecosystem services like carbon sequestration. The adaptation program is projected to reduce the city’s temperature by 7 degrees Fahrenheit.

7

Amsterdam

Drawing on its long history of financial acumen, Amsterdam has created a sustainability fund of \$303 million that allows businesses, residents, and communities to invest in green projects. The fund is available to everyone in the city, from individuals and start-ups to large commercial ventures. Participants are required to recover the initial investment, making the fund a smart, long-term option.

8

Barcelona

Barcelona is improving the way the city makes decisions by gathering more accurate real-time information on the relationship between the environment and urban infrastructure. A comprehensive “Urban Platform” uses environmental sensors that detect everything from air pollution and humidity to use of parking spaces. The project provides insight into effective management of city resources, enabling the city to address climate change.

10

Oslo

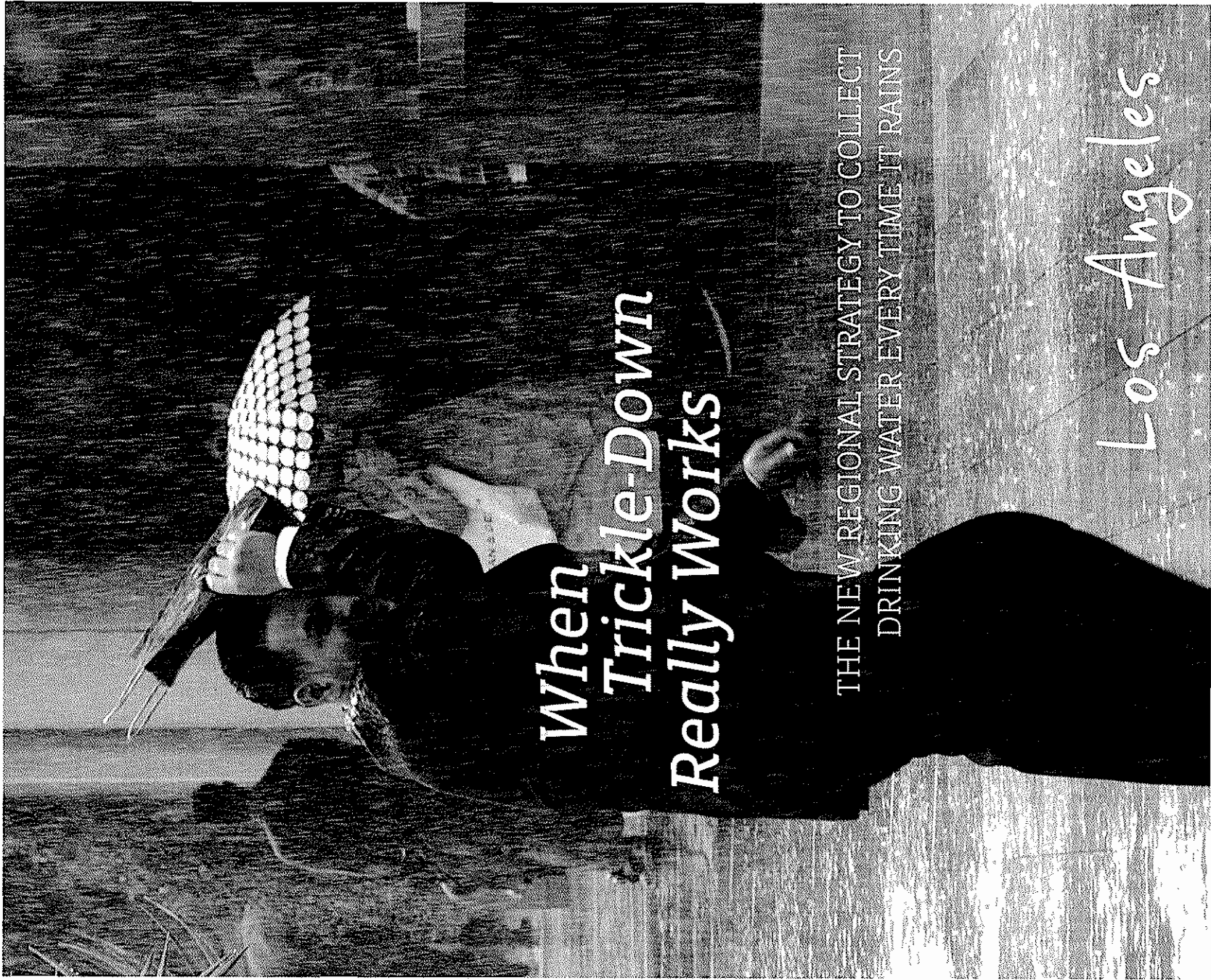
Oslo is leading the charge toward making electric vehicles a realistic option for the average citizen. The city has built 500 free recharging stations, with 400 more in the works. Oslo has also declared that all city-owned vehicles will be emission-free by 2015.

Boulder

Instead of waiting for the federal government to implement a nationwide carbon tax, citizens of Boulder took matters into their own hands. In 2007, the city enacted the country’s first municipal carbon tax, which funds Boulder’s climate action plan. The tax generates \$1.8 million a year. In 2010, the tax prevented nearly 85,000 metric tons of CO₂ emissions.

Above, the Valmont power plant viewed from Boulder, Colo. The last coal unit at the plant is scheduled to be retired in 2017

PHOTO BY JOHN CRISANTI



When Trickle-Down Really Works

THE NEW REGIONAL STRATEGY TO COLLECT
DRINKING WATER EVERY TIME IT RAINS

Los Angeles

PHOTO BY RAY SCHOFIELD



The Food Project, which creates personal and social change through sustainable agriculture, has leased land from the DSNJ community land trust for urban farming since 1995. Pictured are Keshiah Bascon, Jonathan Aldieri, and Danielle Andrews.

YES! PHOTOS BY PAUL DUNN

URBAN AGRICULTURE HAS TAKEN OFF IN MANY CITIES, AS A WAY TO IMPROVE HEALTH AND ACCESS TO LOCAL PRODUCE **AS WELL AS PUT VACANT LAND BACK INTO PRODUCTIVE USE.**

for two years.”

The spread of the land trust model

Many communities beyond Dudley have adopted their own community land trusts in recent decades. The majority of CLTs have been established since the 1990s, with most focused on affordable housing and 60 percent serving urban areas. A 2011 survey of 96 CLTs found that they host almost 10,000 units of housing. The Champlain Housing Trust based in Burlington, Vt. is the nation’s largest CLT, with more than 2,000 units of rental apartments, single-family homes, and condominiums.

Like Dudley Street, other CLTs are also implementing urban agriculture

along with housing:

- Durham, N.C. Durham Community Land Trustees was formed in 1987 to clean up abandoned homes that were attracting crime and to increase homeownership. Today, they have 200 units of housing and a community garden.

- Madison, Wis. Founded in 1991, the Madison Area Community Land Trust has 68 homes. In 2001, they purchased the 31-acre Troy Gardens, on which they developed 30 units of mixed income housing, 10 acres of agriculture (including a CSA and community gardens), and 5 acres of restored prairie.

- Albuquerque, N.M. The Sawmill Community Land Trust developed 27

acres into “Arbolera de Vida,” a whole neighborhood with 93 affordable-ownership homes, three apartment buildings, a playground, a plaza, and community gardens.

CLTs for Detroit?

As compelling as the previous cases are, CLTs are still at small scale. Many of the previous examples are in areas where the real estate market has heated up, raising concerns about gentrification. But how might CLTs work in cities with vast amounts of vacant land and a depressed real estate market, such as Detroit?

In 2009, John Hantz, a wealthy money manager, proposed investing \$30 million to farm up to 10,000 acres



Harry Smith, left, DSN's Director of Sustainable and Economic Development, says, "We want to promote the community land trust model but don't want to get into the nitty-gritty of farming," which is why they have partnered with the Urban Farming Institute of Boston. At right is DSN's board member and resident Tony Hernandez.

able to complete my master's degree in architecture and even set up a college savings account for my daughter. I felt secure, even with foreclosures happening left and right." Indeed, a 2011 study of foreclosures on CLT housing found that only 0.46 percent of CLT owners were in foreclosure proceedings compared to 4.63 percent in the conventional market. These low rates are attributable not just to affordability but to the CLT's role in working with both the homeowner and banks to address issues as they arise.

Although the market value of homes in Boston has skyrocketed in recent years, Hernandez says he "can't flip the home," as the resale price is restricted to a one-half percent increase per year, capped at 5 percent after 10 years. He explains, "The purpose is to cap it so that affordability can be extended to another family." This continuing affordability is made possible because the land trust owns the land and leases it to the homeowner, who owns only the housing structure.

But for Hernandez, "it's not just about investing in the property but the neighborhood." Dudley Street Neighborhood Initiative and its land trust are the "bridge between the homeowner and the neighborhood. We just had a great block party a month ago, with people coming out of their homes and hanging out. It fosters a culture of neighbors actually knowing each other. Now if you see my kid doing something they shouldn't, then you can watch out for them."

Through its governance structure, the land trust balances the varying interests of homeowners and the broader community in the land. Hernandez serves on the Dudley land trust board along with several leaseholders, other community members, and representatives of various elected officials. Ultimately, Hernandez sees the impact of the land trust as "not just on the leaseholders, but also the folks who have market value homes and the ma-and-pa stores."

Land trusts for urban farming

Though housing was its first priority, Dudley Street has also pioneered the use of the land trust for community and economic development, most notably urban farming. Urban agriculture has taken off in many cities as a way to improve health and access to local produce as well as to put vacant

land back into productive use. Dudley Street built a community greenhouse in 2004 on the site of an abandoned auto garage. They also lease land to the nonprofit Food Project, which runs farms as youth development enterprises.

Despite these successes and Boston's recent legalization of commercial farming, the challenge of acquiring land still remains. According to Glyn Lloyd, co-founder of City Growers, a for-profit farming venture in Boston, "There are so many competing uses for vacant land that its market value makes it unaffordable for farmers." City Growers currently farms four sites in Roxbury and Dorchester, two adjoining lower income neighborhoods of color that include the Dudley neighborhood.

Meanwhile, the ranks of future farmers grow. The nonprofit Urban Farming Institute of Boston (UFIB) graduated seven farmers from its training program last year, four of whom are now apprenticing with City Growers. Eight more are completing the program this year. "Amassing land for our farmers is a first priority," says Executive Director Patricia Spence. That is why they have teamed up with several partners to develop three new farms that will be owned by the Dudley land trust.

In July, ground was broken on the first of these in Roxbury, the Garrison-Trotter farm, named after abolitionist William Lloyd Garrison and civil rights activist William Monroe Trotter. Through this partnership, the city of Boston will sell off some of its 2,600 vacant lots for urban farming. Trust for Public Land, a national nonprofit, will raise the capital necessary to convert the lots into farmable land. Then the Dudley land trust will take legal ownership and lease the land to the Urban Farming Institute. Harry Smith, director of the Dudley land trust, says, "We want to promote the community land trust model but don't want to get into the nitty-gritty of farming." In turn, the farmers will get long-term access to the land. Urban Farming Institute's Spence says, "We look to get land for 10 years because it's such an investment in soil that you don't want to just do it

Madeline Ostrander

Walk the glaring streets of Los Angeles' San Fernando Valley on a sun-soaked afternoon in a drought year, the dry, brush-covered mountains rising behind you, and it can be easy to feel that you're in arid country. "Beneath this building, beneath every street, there's a desert," said the fictional mayor in the Oscar-winning 1974 movie *Chinatown*. "Without water the dust will rise up and cover us as though we'd never existed!"

It's an apocryphal idea. L.A. is not the Mojave but, climatically, more like Athens. Artesian springs, fed by rain in the mountains and hills, used to bubble up around Los Angeles, and farmers and Spanish missionaries grew fruit and olives in the Valley starting in the 18th and 19th centuries. But the city has a history of treating its own raindrops and rivers as if they were more problematic than valuable. The L.A. River was prone to catastrophic floods in heavy rains, and, in the 20th century, engineers buried, straightened, and paved sections of the riverbed, flushing the water through concrete drainage channels to the Pacific Ocean. Then, to quench the thirst of its growing population, Los Angeles undertook a series of engineering feats that pumped water from the eastern Sierra Nevada Mountains, Northern California, and the Colorado River via hundreds of miles of pipes and reservoirs. Now the city typically imports more than 85 percent of its water from afar. And it's as if the waters of Los Angeles disappeared from the consciousness of locals: Many Angelenos will tell you, mistakenly, that they live in a desert.

Now that story is changing again. In the past decade and a half, a few local environmentalists have been collaborating with city and county officials to rewrite the plan for water here, driven by more and more urgent necessity. As winter temperatures rise in an era of climate change, the city's distant more rainwater tends to puddle up and water sources, fed by mountain snowmelt, are becoming less reliable. And drought years and battles over water allocation are adding to the difficulties. The State Water Project, which transfers water from the north to southern California, announced this year it would supply only five percent of the amount of water requested by agencies around the state (including the Metropolitan Water District of Southern California, which supplies parts of Los Angeles), because of the drought. Court rulings to protect endangered species have limited the amount of water L.A. and other cities can take from the Sacramento-San Joaquin Delta.

There's no easy way for L.A. to get more water from distant sources, but new research from U.C.L.A. suggests that rainfall in the Los Angeles region is likely to stay the same on average in decades ahead. The city will need to become more water self-reliant to survive the rest of this century, and capturing local rain looks much more desirable than in the past. "There's been a refocus on the value of local stormwater as a resource, not as a nuisance," says Kerjon Lee, public affairs manager for the Los Angeles County Department of Public Works.

DURING THE 1990s, IN THE FLAT LANDSCAPE OF SUN VALLEY, a San Fernando Valley neighborhood at the foot of the Verdugo Mountains, Los Angeles engineers and bureaucrats began reimagining what one could do with raindrops.

Sun Valley never stopped acting as a tributary of the Los Angeles River, even as many of its lots filled, over the past several decades, with sand and gravel pits, auto body shops, junkyards, metals recycling plants, and miscellaneous blue-collar industries. Now two-thirds of the land here is covered with what engineers call an "impervious surface," like concrete or asphalt, which water cannot penetrate. The more such surfaces there are in a neighborhood, the more rainwater tends to puddle up and flood. Heavy rain can make many of Sun Valley's streets impassable. In one of the worst storms, about a decade ago, a sinkhole swallowed up part of a major street that used to be a riverbed, and a city engineer tumbled in and died.

Sun Valley is one of a few areas of L.A. not served by the massive drainage system that sends storm water either to San Pedro or Santa Monica Bay. In the 1990s, the county planned to build a series of storm drains throughout the neighborhood—until a local environmentalist and gadfly named Andy Lipkis stepped in and asked them to reconsider.

Lipkis founded an organization called TreePeople in the mid-1970s, when he was just a teenager. The organization eventually made its headquarters on the site of an old fire station in Coldwater Canyon Park, on the high ridge along Mulholland Drive, named after the famous engineer who designed the first system to import water to the city on a large scale. There, among the breezy, fragrant slopes of oak and bay trees, you can see what Lipkis has been trying to tell locals his whole life: Much of Los Angeles is part forest and part river. In 1998, Lipkis rigged a south L.A. house with water cisterns and rain gardens, gathered a group of local officials, and staged a deluge, aiming fire hoses at the roof. The group watched with amazement as the lot soaked up thousands of gallons of water.

He convinced them to consider what, at the time, was a more experimental and costly approach to managing water in Sun Valley, which overlies the San Fernando Valley Groundwater Basin, an aquifer that supplies about 13 percent of L.A.'s water. Lipkis argued that the county and city could begin to revive some of the features of a natural watershed. The urban drainage-ways of Los Angeles can never quite look like wild creeks, but restoring some of their capacity to store, slow, and filter water fixes many problems at once. When storm water gushes across pavement, it picks up debris and contamination; when it soaks into soil and enters an

THE URBAN DRAINAGE-WAYS OF LOS ANGELES CAN NEVER QUITE LOOK LIKE WILD CREEKS, BUT **RESTORING SOME OF THEIR CAPACITY TO STORE, SLOW, AND FILTER WATER** FIXES MANY PROBLEMS AT ONCE.



YES! PHOTOS BY MADELINE OSTRANDER

Left, the sad state of the Los Angeles River. Right, a gravel pit and concrete plant that are going to become a watershed park in the near future.

aquifer, it is cleaner. Conventional storm drains would have only cost about \$40 million, while TreePeople says its recommendations were nearly five times as expensive. But the organization's own analysis suggested that the latter would return at least \$300 million in benefits to the city.

Water managers brought the options to stakeholders and residents in the mostly Latino, working-class neighborhood. They chose Lipkis' approach. "The community didn't want more concrete," says Lee.

ALICIA GONZALES MOVED TO SUN VALLEY IN 1985, as a nine-year-old, after her parents "fell in love with the house" on Elmer Avenue. Then she and her family watched as the rains poured through her yard, turning it from grass to mud. She remembers how the rain would form a torrent in the alley near her family's house. "Trash and shopping carts would get stuck there," she says.

She moved out as a young adult, then returned several years ago to help her father, who was struggling with severe diabetes and kidney disease and needed regular dialysis.

When the streets flooded, many kids in the neighborhood stayed home. Gonzales often wouldn't drive her daughters to school on rainy days. "My car would get stuck," she said.

Though Lipkis had sowed the ideas for a new way to manage water here, years passed before anyone found the funding and wherewithal to solve Elmer Avenue's flooding problems.

In 2004, L.A. County finalized a new stormwater plan for Sun Valley. Two years later, the county finished its first project. Under a baseball and soccer field in Sun Valley Park, a tree-lined oasis in the middle of an industrial district, engineers installed a retention tank that collects runoff from the surrounding streets. In 2007, the county Flood Control District spent nearly \$4 million to build drains, catch basins, and a tiny corner park at an intersection that used to turn into a deep lagoon in heavy rain—and was a favorite location for news crews to shoot dramatic footage of local storms.

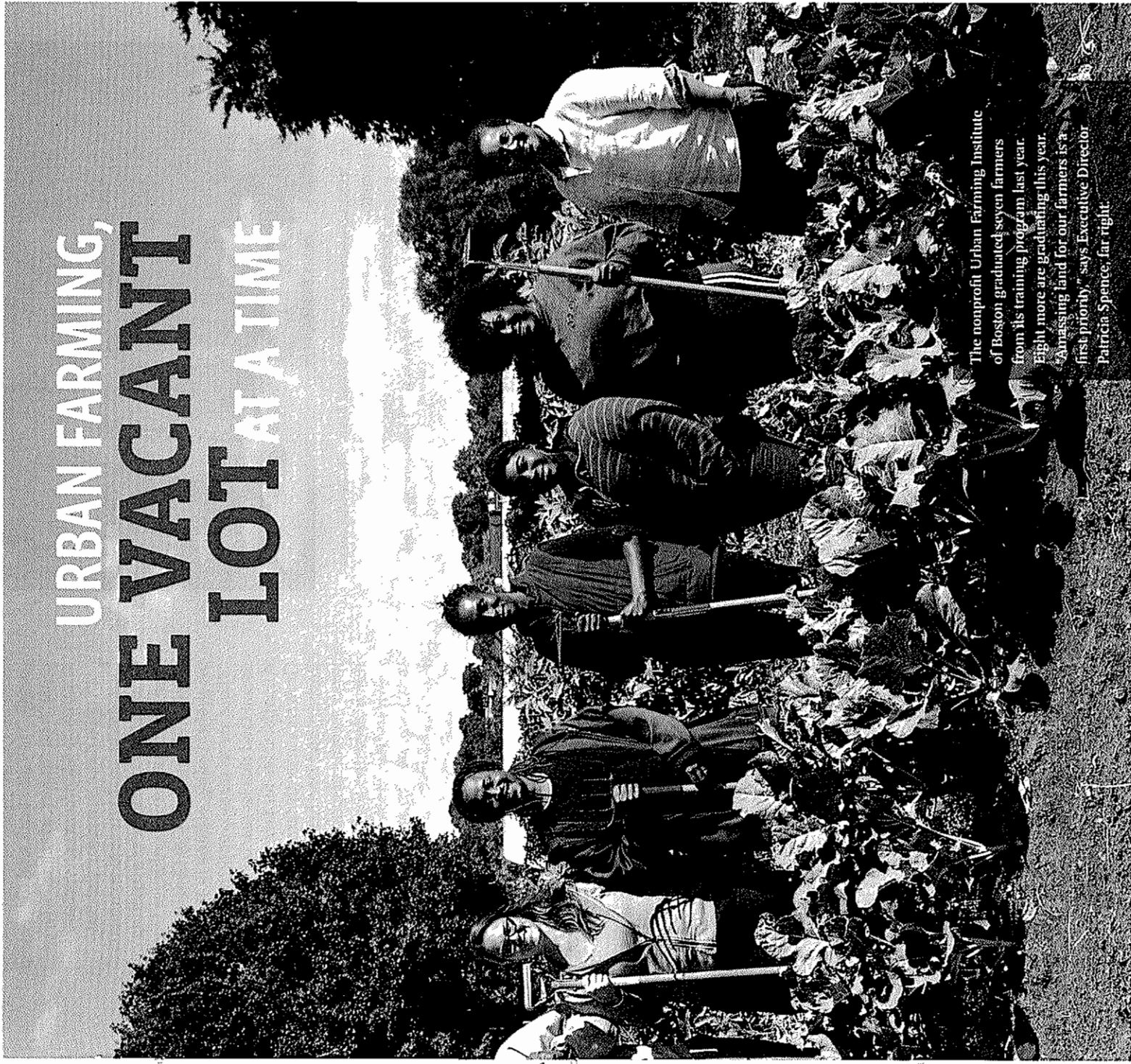
About eight years ago, employees of TreePeople appeared on Gonzales' block. They said that her street was part

of a watershed, and stormwater from the mountains was pouring into her backyard. (When Gonzales first met Andy Lipkis, she says he rhapsodized about her parents' olive tree, nearly the only landscaping that had survived the flood damage.) An organization called the Council for Watershed Health had partnered with TreePeople to renovate her street.

The Council for Watershed Health led the effort to pull apart the street and put in rain barrels, rain gardens, underground water tanks, and water-permeable walkways and driveways. Gonzales got one of a few special grants to replant her muddy yard, and volunteers showed up at her house to help with the landscaping. The alley became a pedestrian walkway that the project organizers dubbed The Paseo, a meandering sidewalk lined with native plants between concrete-block walls, painted with the words, "Water is the driving force of life." In rainstorms now, the water runs through the landscaping, and kids walk the path to school. Neighbors water their drought-tolerant plants with rain barrels, but most of the rain soaks in under the street.

Community land trusts work to ensure affordable housing, and they also are helping new city farmers get land.

URBAN FARMING, ONE VACANT LOT AT A TIME



The nonprofit Urban Farming Institute of Boston graduated seven farmers from its training program last year. Eight more are graduating this year. Amassing land for our farmers is a first priority," says Executive Director Patricia Spence, far right.

YES! PHOTO BY PAUL DUNN

Penn Loh

Tony Hernandez remembers playing as a child on the vacant lots in the Dudley Street neighborhood of Boston. In the 1980s, white flight and disinvestment had so devastated this neighborhood that more than 20 percent of the land—1,300 lots—lay vacant. Today, Hernandez owns a home on this land, one of 225 units of permanently affordable housing. His home is surrounded by parks and gardens, a town common, community center, charter school, community greenhouse, and several urban farms. This transformation was led by residents of the Dudley Street Neighborhood Initiative, who in the late 1980s established a community land trust to take democratic ownership of the land and guide development.

A community land trust (CLT) is a nonprofit organization governed by community members that stewards land for long-term public benefit [see sidebar]. CLTs protect land from the pressures of the real estate market, as the land is never resold. It remains part of the commons. Under private ownership, land tends to go to the highest bidder and toward uses intended to generate the greatest market return. Cities have an incentive to build up the market value of land, as they rely so heavily on property taxes to fund schools and other services. That explains why too often high-end condos are preferred by developers and cities over affordable homes or urban farms.

Dudley Street Neighborhood Initiative: a proven model

Though vacant land was plentiful and inexpensive in Dudley in the 1980s, residents were concerned not just about revitalization but also the city's redevelopment plans to gentrify the area into hotels and offices serving downtown Boston. Not only did they succeed in pressuring the city to adopt the community's plan, they also won the right to use the city's power of eminent domain in a 60-acre core area to take blighted land from private owners and redevelop it. The Dudley land trust, then, would own the land and realize a vision of development without displacement.

Hernandez has lived on the Dudley land trust for the past 12 years with his school-age daughter. He points out that with an affordable mortgage, "I was

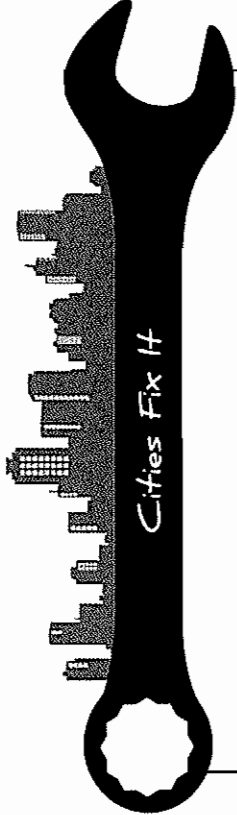


AS SMALL AS THESE THREE PROJECTS WERE—a single city block, a corner park, and a soccer field—they have gotten the attention of the entire region: two Southern California regional water districts, several Los Angeles city and county agencies, the federal Bureau of Reclamation, and a number of state agencies got involved and provided funding for Elmer Avenue. These projects have become test cases for a much larger strategy to boost the water supply every time it rains across the entire region.

In Sun Valley, the county plans ultimately to capture nearly all of the rainwater that pours through the neighborhood. Next to Sun Valley Park, the city and county are planning to convert what is now a gravel pit and concrete plant into a 46-acre park that will collect in an average year about enough water to supply 4,000 Angelenos.

Their findings come at a crucial time. Crumbling infrastructure and a new court ruling are forcing the hands of local officials: A federal court has ordered the county to clean up the Los Angeles and San Gabriel Rivers, currently fouled by the dirt, grime, and toxins that wash from streets into storm drains. Meanwhile, billions of dollars worth of city water infrastructure is falling apart and has to be replaced before it breaks down.

The city needs to both clean up its stormwater problem and find more water to drink. TreePeople says it could do both at once and is working with the City of Los Angeles to rewrite its entire stormwater management plan by next year. The county has undertaken a study, in partnership with the Bureau of Reclamation, to predict how climate change will affect local hydrology and what it can do to better capture stormwater. Water districts throughout the region are following suit: The Water Replenishment District of Southern California, which manages groundwater for parts of the



PHILADELPHIA

GRAY TO GREEN

At Herron Park in South Philadelphia, monkey bars and sliding poles sit on top of a recycled rubber play surface that absorbs water like a sponge. Meandering pathways direct water into gardens filled with native Pennsylvania trees and shrubs. Even the basketball court is designed with an asphalt mixture that percolates water into the soil below. Nearby, Wharton Street Lofts offers apartments with city views from the building's green-roof deck, while a greywater system captures and reuses rainwater on-site. Just a few years ago, both locations were almost entirely covered in concrete and asphalt.

Projects like these two in South Philadelphia are part of a network of green infrastructure that's springing up across the city. It's the core of the Philadelphia Water Department's Green City, Clean Waters program. Philadelphia is the first city in the country to put green infrastructure at the center of plans to address federal Clean Water Act requirements and manage stormwater runoff. The 2011 plan commits \$2.4 billion to turn the city from grey to green within 25 years. It's a blueprint for a new urban landscape that sends water into the soil instead of down the pipe. —Shannan Stoll

region, has set a goal to wean itself off imported water altogether by treating and recycling wastewater and collecting more stormwater. The Council for Watershed Health released a study in 2012 estimating that the district could capture 5.5 billion gallons of water per year through more projects like Elmer Avenue.

The city of Santa Monica has set a goal to use only local water by 2020. The Los Angeles Department of Water and Power estimates that by 2035, it will import just over half of its water (down from 85 percent), meet 9 percent of its water needs by conserving more, and supply 28 percent by using local groundwater, capturing stormwater, and recycling water from sewage. Water recycling and

stormwater projects aren't cheap, but they're typically less costly than building high-energy desalination plants that distill water from the ocean. A new desalination plant is going up in Carlsbad, south of Los Angeles. But if groups like TreePeople and the Council succeed, southern California may not need to build many more facilities like this.

"We're looking at how we could shift the amount of water we currently squander," says Edith de Guzman, a researcher at TreePeople. ●



Madeline Ostrander is a contributing editor to YES! and a 2014 National Health Journalism Fellow. She lives in Seattle and writes about the environment and climate change.

WHEN DETROIT'S CITIZENS FOUGHT FOR THEIR RIGHT TO WATER



Charity Hicks

shut-off notice.”
The Homrich employee moved on to a neighbor’s home. They get paid by the shut-off and he wasn’t wasting time talking about it. Hicks followed him.

It’s not clear how it happened but Hicks cut her foot. She called 911 on her cell phone. The police came but instead of taking a report, they took her to a state detention facility where she spent the night.

And she was detained but never charged.

Hicks was well-known in Detroit activist circles. She was one of the principals in setting up the Detroit Food Policy Council. She worked at the US Social Forum 2010, and was active with the Great Lakes Bioneers, the Sierra Club and the Detroit Food Justice Task Force. She was a longtime member of the Detroit People’s Water Board (DPWB), which takes a broad approach to water, including a commitment to protecting the watershed—it’s not just about helping poor people keep the water running. Given Hicks’ long association with the DPWB, there’s a certain irony to her getting crosswise with the city about water. But that’s what it took to get DPWB and its allies to direct more energy to the issue of water shut-offs.

“Initially it was more of a policy struggle,” Petty says. “This made it more of a human struggle where everybody realized just how aggressive it really was. It became a bigger fight for us. We had to take it on more of a human level.”

There were demonstrations, where protesters emphasized that access to affordable water is a human right. A Canadian water brigade twice crossed the border to deliver hundreds of gallons of water to makeshift water stations that popped up in neighborhoods.

Valerie Blakely’s home became a water station after she stopped a Homrich worker when he showed up at her home.

“He proceeded to move down systematically and shut off most of my neighbors,” says Blakely. “That morning I put a message on Facebook and water started flowing in. The People’s Water Board, the Detroit Water Brigade, the Occupy folks, the Michigan Coalition for Human Rights, everybody showed up with lots of water and food to distribute in my neighborhood, no questions asked. You took what water you needed, and personal hygiene kits. We had kids go to the homes of elderly people to find out if they needed water or food, and to make sure they weren’t sitting in despair by themselves. It was a neighborhood community activist operation.”

In June, after activists submitted a report to the United Nations detailing the shut-offs, the organization’s Human Rights Office of the High Commissioner said it was a violation of human rights to shut off residents’ water without verifying their ability to pay. Then the Detroit City Council added insult to injury by raising water rates that were already higher than the national average.

The Detroit water-rights movement really got into gear when Charity Hicks was taken to jail while trying to stop shut-offs on her block. “It started a windstorm of people rising up and speaking out, knowing what was happening regarding the water,” says Detroit poet and activist Tawana Petty. “She was always instrumental in the water struggle but her personal experience brought it home to everyone.”

Petty is referring to the day in April 2014 when Charity Hicks got up about 6 a.m. and found she had no running water. She looked outside and saw the truck from Homrich Wrecking Inc., a water shut-off contractor. The Detroit Water and Sewerage Department (DWSD) had been aggressively shutting off water for residential accounts that were reportedly more than 60 days or \$150 overdue.

Hicks rushed outside, barefoot and in her pajamas to confront the contractor.

“My water is not due to be shut off,” she told them. “I have a few days to pay my bill and I haven’t received a



Activists, including actor Mark Ruffalo, union members, and Detroit residents streamed through downtown Detroit on July 18, 2014, protesting the controversial water shutoffs and calling for local democracy and economic justice.

PHOTO FROM UNITARIAN UNIVERSALIST SERVICE COMMITTEE

In July, after a protest blocked the gates at Homrich for several hours, leading to the arrest of eight activists, the DWSD announced plans to use \$1 million from its Detroit Residential Water Assistance Program to help low-income customers avoid shut-offs.

As of the end of October, some 27,000 people’s water had been shut off, although officials claim that 85 percent of those were turned back on after arrangements for payment.

There were two moratoriums on shut-offs during the summer and the water department began holding water affordability fairs where customers who could demonstrate financial hardship could receive help from the assistance fund, and others could set up payment plans.

This is a far cry from the way shut-offs began, when the water department, known for its bad record keeping, shut off water without sending notices and shut off some whose bills were paid up. Notoriously, the department went after residents when it was later revealed that corporate and institutional clients such as a golf course management company and Wayne State University owed hundreds of thousands of dollars, and the state of Michigan, the Detroit Lions, Olympia Entertainment, and the Detroit Athletic Club owed tens of thousands.

Detroit has a host of problems: poverty and unemployment, failing infrastructure, and plummeting population. But, surrounded by the Great Lakes, it seems that water

should not be one of them.

Grassroots progressive action has backed down aggressive action by the city and its contractors. Hicks was one who connected the dots to show that this is just one front of an overall fight for food sovereignty and environmental justice, from the wetlands of New Orleans to climate refugees in the Arctic Circle to those fighting for land rights in Brazil. There are still plenty of warriors in the battle.

Shortly after she spent the night in jail over her water shut-off, Hicks went to New York to speak at the Left Forum 2014. She was injured in a hit-and-run accident and died without regaining consciousness.

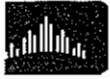
“The trail that Charity laid out is a trail that you have to continue on. It’s only through organization that the powers that we are fighting begin to listen,” said Marian Kramer of the Michigan Welfare Rights Organization at Hicks’ memorial.

“Charity stood up for us,” said the Rev. Barry Randolph, pastor of the Church of the Messiah, at the service. “We’re going to move this forward.”

Or as Hicks would say, “Wage love.”



Larry Gabriel is a Detroit-based writer and musician who was formerly an editor and writer at the Detroit Free Press. Gabriel writes the Higher Ground and Stir It Up columns for metrotimes.com, and was named best columnist at the 2012 AAN Awards.



GREATER PHILADELPHIA CHAMBER OF COMMERCE

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**Statement of
Greater Philadelphia Chamber of Commerce
President & CEO Rob Wonderling
on City Council Resolution 150072
March 13, 2015**

City Council should be commended for holding public hearings to fully explore opportunities to establish the Philadelphia region as an energy hub.

As Council hears testimony today from witnesses interested in creating public—private partnerships to further the goal of creating an energy hub in Philadelphia, the Greater Philadelphia Chamber of Commerce would like to explain its own ongoing work to make that important strategic goal a reality.

Under the leadership of Philip L. Rinaldi, Principal Partner and CEO of Philadelphia Energy Solutions, and the leadership of other energy-related entities, the Chamber has developed the **Greater Philadelphia Energy Action Team (GPEAT)**, which is working to increase the supply of natural gas and natural gas liquids to the City of Philadelphia and to southeastern Pennsylvania. Increasing the supply of natural gas to the region will enable downstream growth in industries like the chemical and petrochemical industries as well as other heavy energy-consumers, like power plants and advance manufacturers. The southeast region of Pennsylvania needs to enhance its access to Marcellus shale gas by increasing pipeline capacity from the shale resources in western and northeastern Pennsylvania.

Adding additional pipeline capacity will allow more natural gas and gas liquids to flow into Greater Philadelphia – which will provide a strong, competitive advantage to chemical and petrochemical companies already here – and to those considering locating new facilities here. *An expanded pipeline capacity = more jobs in Philadelphia.*

City Council can and should use its authority to convene citizens and stakeholders to consider the expansion of our pipeline capacity to Philadelphia, and work with the business community and these stakeholders to approve any legislative steps as needed to make this a reality.



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The Chamber supports considering innovative financing models to facilitate the investment in expanded pipeline capacity and to support the development of other energy-related investments. Specifically, the Chamber encourages City Council to consider partnerships between the public sector and the private sector, commonly referred to as P3s, to share the risk and rewards of building, operating and financing traditionally public-owned assets. The Chamber believes that there are a number of benefits that inure to the city when partnering with the private sector on large scale energy investments. P3s traditionally are utilized to: (1) mitigate or transfer risk to the private sector; (2) leverage under-performing infrastructure, like utilities, parking assets or mobility assets and improve the benefits to the citizenry; and (3) enable private sector operating discipline and innovation to running critical infrastructure assets. We encourage City Council to considering the P3 model as we collectively work together to pursue the development of an energy hub in this region.

Moreover, when the Chamber last testified on these issues in November, it listed a series of action steps which Council should continue taking to help make an energy hub come into being in Philadelphia. The first action step is working with the business community to increase pipeline capacity, as outlined above. Here are those other recommended action steps, in summary form

Action Step 1: Expand the city's existing Job Creation Tax Credit program to incent manufacturing and energy companies to locate and create jobs in Philadelphia.

We recommend expanding the existing tax credit (off the Business Income and Receipts tax) further for manufacturing and energy sector businesses.

Action Step 2: Preserve By-Right Zoning in Industrial Corridors

While there is a large amount of residential and commercial development happening across the city, we need to preserve large scale industrial zoning. It is particularly important to do so along the Lower Schuylkill Riverfront and portions of the Delaware Waterfront, since those locations are close to needed infrastructure like rail lines, ports and highways. These tracts of land are a vital component of attracting new companies; we cannot become an energy hub without them. .



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Action Step 3: Expand vocational technical training curriculums at city colleges and high schools that align to the needs of manufacturers

City Council and the Mayor have an opportunity to set in local ordinance and state law specific steps for the Philadelphia School District to implement more vocational and technical training programs. The School District has just begun to seek partnerships with industry leaders to introduce students to careers in energy or manufacturing.

City Council can also influence the Community College of Philadelphia. At present, CCP has no program or curriculum around manufacturing technology. President Generals has begun to focus on developing curriculum around manufacturing technology and manufacturing and process engineering. Council should strongly advocate for this action step.

There are other steps that Council can take, and the Chamber and GPEAT welcomes the opportunity to work together with Council to achieve them:

- Create an overlay zoning district for manufacturers of liquid gas by-products;
- Create a STEM investment tax credit for companies that retrain city residents for such jobs;
- Further reductions in the city's business income and receipts tax.

After a half century of job loss and population decline, Philadelphia is growing again. Our population has inched back above 1.5 Million residents, but we need job creation and pro-growth economic policies to continue to grow the economy in this region. Manufacturing jobs generally – and manufacturing employment that is energy-related specifically – pay higher wages that better support our families, neighborhoods and growth citywide.

On behalf of the Chamber and GPEAT, we look forward to working with every member of City Council to facilitate the creation of the next energy hub city here in Philadelphia – and to catalyze the new jobs, economic opportunities and growth that come with it.