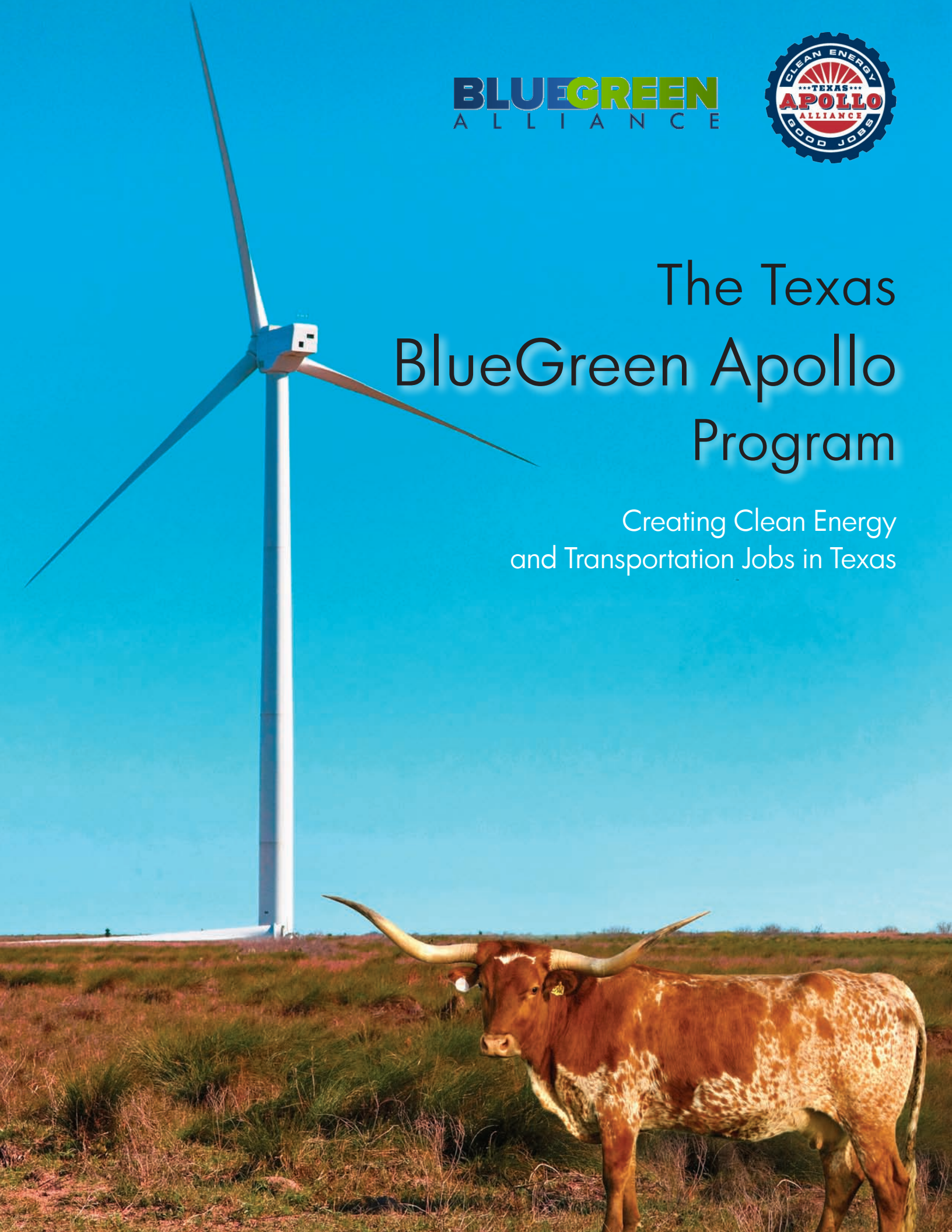

BLUEGREEN ALLIANCE

CLEAN ENERGY TEXAS APOLLO ALLIANCE GOOD JOBS

The Texas BlueGreen Apollo Program

Creating Clean Energy and Transportation Jobs in Texas

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- Remove barriers to the expanded use of on-site solar and other distributed renewables by:
    - Easing registration requirements with the PUC for owners of on-site systems;
    - Allowing third-party ownership and leasing arrangements in competitive markets;
    - Providing fair market pricing on surplus electricity sold back into the grid aka "net-metering";
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Create Jobs by Promoting Energy Saving Technologies and Energy Efficiency Upgrades

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Create Jobs by Promoting the Use of and the Infrastructure for Trains, Electric and other Advanced Fuel Vehicles

- Continue to support state and municipal conversion to electric, plug-in hybrid and other advanced fuel vehicles;
- Expand incentive programs to make going electric more affordable for all Texans;
- Increase the investment of existing and future transportation funding in high-speed rail and other public transportation projects to improve options and access in Texas.

Create Jobs by Making it in Texas by Texans

- Set aside a larger share of the Enterprise and Emerging Technology funds appropriated by the Legislature to attract clean energy companies to Texas, and enforce the contracts on jobs created in return for these incentives;
- Create a "Green-to-Gold" loan fund at the state level to provide manufacturers with much needed capital;
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Create Economic Prosperity for All and Tap the Skills and Productivity of the Texas Workforce

- Train Texas workers to meet the demands of the clean energy economy;
- Expand existing worker training and development programs;
- Ensure that the transition to a clean energy economy creates pathways out of poverty;
- Prioritize high-wage, family-supporting jobs.

Introduction

With the possible exception of California, Texas has more potential for the development of jobs and industries related to renewable energy, energy storage, demand response, energy efficiency, and clean transportation solutions than any other state in the union. As thousands of Texans continue to cope with rising fuel costs, cuts to benefits and services, and low-wage employment, we must move to capitalize on what could be the best opportunity for Texas to create jobs and usher in a new era of prosperity and economic growth: the chance to rapidly expand our clean energy economy.

Known for our proud people, a culture of "bigger is better", and an independent state of mind, it's no surprise that Texas leads the nation in both energy production and energy demand. Home to a large number of energy-intensive industries in the oil and gas, high-tech, cement, and steel production sectors, Texas is at a critical juncture in planning its energy future with an expected population increase from 24 million to 31 million persons between 2008 and 2020.[1]

The Texas BlueGreen Apollo Program provides a comprehensive clean energy jobs creation strategy for Texas. By engaging and garnering the support of workers and organized labor, businesses and investors, community organizations, and environmental advocates we have developed a 21st century hiring plan that will help retain our state's position as an energy leader and put thousands of Texans back to work.

With a long history of air quality issues, Texas has more to gain by developing clean energy and new green jobs than perhaps any other state. Our large industrial and population bases, combined with an electric sector that relies on fossil fuels—natural gas and coal—for some 80 percent of its production makes Texas, when compared to other states, the top producer of greenhouse gas emissions in the United States.[2]

To begin to abate this problem, policy initiatives such as the Texas Renewable Portfolio Standard and a federal tax incentive for wind power were coupled with investments and planning over the last eleven years to help the state develop capacity for the production of over 10,000 megawatts of wind-based power—approximately one-third of all wind production in the entire US—and for the construction of a major utility-scale solar plant.[3] In addition, energy use in Texas has been significantly reduced through utility energy efficiency programs and the construction of more "Energy Star" homes than any other state.

Several Texas cities, including Dallas, Austin and San Antonio, are national leaders in green building standards and several large green technology manufacturers are located in Texas, including Freescale Semiconductor, Applied Materials, and TECO-Westinghouse.

Texas is third only to California and New York with 144,081 clean economy jobs in sectors ranging from renewable energy to energy efficiency to pollution control and transportation.[4] As total employment in these and other sectors grows much faster than the overall economy, Texas has continued to attract over $700 million in investments from energy companies and venture capitalists looking to capture a share of the emerging clean economy market.[5]

Despite the progress, the potential for clean energy and energy efficiency in Texas remains largely untapped. With a shift toward cost savings investment strategies, Texas could reduce electricity use 22% by 2023 by investing in energy efficiency, combined heat and power technologies, and on-site renewable energy generation, while generating tens of thousands of new jobs.[6]

Numerous studies have demonstrated the potential for clean energy policies to drive job growth in Texas. A study by the BlueGreen Alliance found that a nationwide Renewable Electricity Standard (RES) would create 60,000 new jobs in Texas by 2020, including 20,000 in the solar sector.[7] The Center for American Progress estimated that approximately 150,000 jobs would have been created in Texas over the next ten years had a national Renewable Portfolio Standard (RPS) been combined with the federal economic stimulus bill.[8]

In recent years, there has been considerable interest among clean economy stakeholders to seize the energy savings potential in Texas. A recent report by the American Council for an Energy Efficient Economy found that increasing Texas' energy efficiency goals from 30% of growth in demand to 100% of growth in demand would create 43,500 jobs in the state by 2030.[9]

With our large, diverse and skilled workforce, productive economy, and history as a leader in the energy and transportation sectors, Texas can and should be a leader in the expansion and generation of new clean industries and green jobs. But this will not occur without advancing policies and goals on renewable energy, the electrification of our transportation grid, increasing energy efficiency, new incentives for manufacturing, and the expansion of skills development programs. Our mission is clear: in order to create jobs we must mobilize the kind of investment and ingenuity that made Texas a leader in wind energy by opening up the markets for more investment in the clean energy and clean transportation sectors, with government playing a facilitative role.

The Texas BlueGreen Apollo Program is a blueprint for building a long-term commitment to a new clean energy economy that will lead to broadly shared economic prosperity, energy diversification, and less dependence on imported energy, and will simultaneously provide critical environmental benefits in the form of reduced air emissions, lower water use and less toxic wastes.

The burgeoning green revolution presents all Texans with our modern day "Spindletop" moment, and we must move swiftly to capitalize on these new opportunities in order to continue to be the world's energy leader.

Rebuilding the Middle Class One Solar Panel at a Time

"Union jobs are the reason my family has quality health insurance, a good roof over our heads, and a future we can look forward to."

At at time when Texas families continue to struggle with the rising cost of health insurance and stagnant wages, the emergence of the clean energy economy offers real hope for workers looking to acquire the skills needed to be part of a 21st Century workforce.

Local electrician Ben Brenneman is a member of the International Brotherhood of Electrical Workers Local Union 520 and apprentice in the Joint Apprenticeship Training Committee (JATC). Hoping to work in the solar sector in the near future, Ben spends full days on the job while taking two nights out of each week in the classroom to study for his North American Board of Certified Energy Practitioners license (NABCEP).

While constructing a toy kitchenette for his young daughter Daphne, Ben explained what the middle class means to him and his wife Emily, who's a local librarian and member of the American Federation of Teachers.

"Union jobs are the reason my family has quality health insurance, a good roof over our heads, and a future we can look forward to," said Brenneman. "There is so much work to be done in rooftop and utility-scale solar, in retrofitting schools with advanced lighting, and in installing plug-in electric vehicle charging stations. But we have to ensure that these new green jobs are union jobs that support families."

Cognizant of the potential for solar development in Texas, IBEW Local 520 and their partners in the JATC are preparing workers for the emergence of a strong solar market. According to JATC Assistant Director Gabe Flores, IBEW journeymen and women vying for solar certification enroll in a five year apprenticeship program which mandates a minimum of 900 hours in the classroom and 8000 hours on the job.

"The men and women in our programs come out of school earning middle class wages with family-supporting benefits," said Flores. "Apprentices pay no tuition, pay only for books, gain thousands of hours of on-the-job field experience, and aren't burdened with the debt students are left with after borrowing to attend other training schools."

Currently, Local 520 and the JATC are helping 120 apprentices learn or expand their technical training. The program is coordinated in partnership with the National Electrical Contractors Association (NECA), the Texas Workforce Commission, and regional training partners such as Imagine Solar.

Create Jobs by Transforming Renewable Energy Use in Texas

Whether it's wind farms out in rural West Texas or small-scale distributed solar in our big cities, Texans are ready to stake our claim in the clean energy economy and take advantage of the thousands of clean energy jobs that will be created as a result. As of early 2011, Texas' growing wind energy sector – ranked sixth in the world if the state were its own country – is responsible for the creation of nearly 10,000 direct and related jobs across the state.[10] By transforming the way we develop, invest in, and store renewable energy, we can ensure that Texas remains a leader in renewable energy, and that Texans continue to benefit from thousands of clean energy jobs coming to our state.

Build on the success of wind and open up Texas' energy markets by adopting the 500 MW non-wind Renewable Portfolio Standard

Texas first dipped its toes into the renewable energy waters with a bill to deregulate electric utilities in 1999, which included a requirement that retail electric providers invest in, acquire or purchase a small amount of renewable energy. In 2005, the Texas Legislature expanded the RPS goal to 5,880 MWs by 2015, which led to the creation of five Competitive Renewable Energy Zones (CREZ). As hundreds of miles of transmission lines continue to be constructed, setting the stage for 18,000 MWs of wind by 2020, it is vital that we diversify our renewable energy portfolio and invest in solar, geothermal, biomass, and other sources of clean energy. A 2008 report by the State Energy Conservation Office (SECO) found that Texas had more potential for solar, wind, geothermal and biomass energy than any other state.[11]

To begin realizing the economic benefits of these energy resources, the Public Utilities Commission of Texas (PUC) must adopt a proposed mandatory rule that would require development of 500 MWs of non-wind renewable energy, as well as work to ensure its full implementation by 2015. Doing so will be a strong first step, sending a powerful market signal to investors and clean tech business owners that Texas is indeed open for business and ready to capture a wide range of clean energy jobs and investments.

Generate 3,000 or more MWs of renewable energy from sources other than wind and prioritize in-state production by 2025

While thousands of jobs have already been created by investments in wind energy, a significant percentage of the wind turbines used were made overseas, and development of other renewable resources like solar, geothermal, and biomass has lagged behind wind. The previously cited SECO study found that Texas could meet all of its energy needs by creating large-scale solar plants in one county alone with vast solar potential – El Paso County.[12] As municipal utilities in Austin and San Antonio take the lead by committing to 200 MWs and 450 MWs of solar respectively by 2020, Texas should consider a statewide 3,000 MW solar-specific investment program. Research shows that even just a 2,000 MW goal could generate almost 21,500 new jobs throughout the state by 2020.[13]

While Texas currently has the potential to utilize thousands of old oil and gas wells to develop between hundreds to thousands of MWs of geothermal power,

energy from other sources such as forest residues and urban wood waste, better known as biomass, can also help Texas diversify its energy portfolio.[14] Capitalizing on the 20 million annual tons of biomass available in Texas, Southern Power Company is working to open a 100 MW biomass plant in Nacogdoches County later this year, creating some 300 jobs in rural East Texas.[15] By embracing properly located biomass facilities that include efficient post-combustion pollution controls, Texas can tap into an estimated 4,600 MWs of potential biomass capacity in the state and capitalize on more than 22,000 potential new jobs.[16]

To further realize the full job creation benefits of clean energy generation, Texas must adopt an energy storage component in order to enhance the reliability of the electric grid, maximize the potential of renewable energy generation, and lower energy costs for consumers. With the passage of SB 943 during the 82nd Legislative Session, the potential for increased investments and job growth in energy storage is closer to becoming a reality. Xtreme Power, based in Kyle, Texas, is leading the way by developing a 36 MW energy storage system for the Notrees Wind Project in west Texas – the largest of its kind in the world.

"Texas can tap into an estimated 4,600 MWs of potential biomass capacity in the state and capitalize on more than 22,000 potential new jobs."

Remove barriers to the expanded use of on-site solar and other distributed renewables

Besides utility-scale renewable energy, Texas has fallen behind many other states such as Colorado, New Mexico, California, New Jersey and even Connecticut in the development of our on-site renewable energy resources. In other words, rather than investing in centralized power plants, many residents, commercial operations and even some utilities want to invest in smaller, distributed and community-owned resources to power their homes and businesses and save energy. For example, Texas could capitalize on the more than 6 billion sq. feet of suitable, existing rooftop area across the state, and tap into over 60,000 MWs of capacity for rooftop solar energy production.[17]

Despite a growing demand for distributed energy, Texas has yet to adopt policies that would not only help open up the market for these resources, but eventually produce more jobs on a jobs per kilowatt hour basis than investments in larger, traditional power plants. Either at the statewide or utility level, Texas should ease registration requirements with the PUC for owners of on-site systems, allow third-party ownership and leasing arrangements in competitive markets, and expand solar rebate and incentive programs.

With widespread bipartisan support, the 82nd Texas Legislature passed SB 981, which when implemented,

will eliminate registration requirements for on-site renewable energy and allow third-party ownership in the competitive market in Texas. Still, a comprehensive net-metering policy is needed to establish fair market pricing on electricity sold back into the grid and to allow more customers to benefit from the use of on-site and distributed renewable energy. Already in place in 44 states, Texas' retail electric providers, municipally owned utilities and rural electric cooperatives should adopt a strong net-metering policy.[18] Doing so will provide a market based incentive for Texans who wish to install on-site and distributed generation, fair compensation for those who have already invested in on-site systems, and more market certainty to allow financing and growth in the renewable energy industry.

Solar Makes Cents

Transitioning to Clean Energy in San Antonio

In June 2011, City Public Services announced the San Antonio utility would retire its oldest coal-fired power generators by 2018 and develop a plan to prevent any layoffs for current workers. In line with San Antonio's Mission Verde Sustainability Plan of 2009, which aims to phase out fossil fuels, improve energy efficiency, and construct a robust clean energy economy, CPS made the move as both a cost-effective measure to avoid $550 million in scrubber installation and retrofit costs, and to help meet the city's goal of a 20% renewable energy portfolio by 2020.

Enter Solar San Antonio, a local solar energy advocacy organization that began its *Bring Solar Home* campaign in the fall of 2010 after the Department of Energy (DOE) designated San Antonio as a Solar America City. Tasked with a mission to introduce homeowners to solar installation contractors and local financing institutions, the program's Executive Director Lanny Sinkin wanted to make solar more accessible to everyday people by providing information and advice about home solar units.

"The two major barriers were the high up-front cost of solar and a lack of information," explains Sinkin. "*Bring Solar Home* is designed to overcome both of these barriers."

About 75 homes have had solar panels installed so far, bringing a total of 0.5 megawatts of residential solar energy to San Antonio. Local solar contractors have earned a total of $2 to $3 million in revenue from *Bring Solar Home* projects.

With the cost of residential rooftop solar averaging about $25,000 to $27,000, "solar PV can pay for itself in 8 to 10 years and last for about 25 to 30 years," explains Sinkin. Solar photovoltaic panels are just one method of capturing solar energy. "Solar hot water costs much less than an electric water heater, and it pays for itself in less than three years."

In addition to a federal tax credit, homeowners who install solar panels will receive a rebate from CPS to help reduce up-front costs. Sinkin worked with the San Antonio Credit Union, as well as two local banks and national lending institutions, which now offer financing for home solar installations.

"They are willing to have the customer borrow the total amount, give them the rebate, tax credit, and then lower the loan," he says. "Part of what attracted them is that we pointed out that there are 600,000 rooftops in Bexar County. If only half got involved in solar, there's a $3 billion industry waiting to happen."

Create Jobs by Promoting Energy Saving Technologies and Energy Upgrades

Texas uses more electricity and natural gas than any other state, in large part because of our large population and huge industrial base. No energy source is more affordable, available, or cleaner than energy efficiency and conservation. A 2007 energy efficiency requirement for utilities to meet 10% of growth led to $100 million in savings and more than 200 MWs of energy use reduction.[19] By incentivizing and investing in comprehensive state and local retrofit plans that target commercial, residential, and industrial buildings, we can create thousands of good-paying jobs with access to career ladders for Texas workers. As noted in the groundbreaking 2007 energy efficiency bill H.B. 3693, Texas could meet 18% of its electrical demand through energy efficiency and demand response programs, thereby leading to the creation of more than 30,000 new jobs.[20]

Create a Texas Energy Efficiency and Natural Gas Conservation Coordinating Council to help coordinate programs, financing, and education across state agencies and utilities

Texas has already created thousands of jobs through the weatherization of low-income homes, utility energy efficiency programs and state programs run through SECO. In San Antonio, CPS Energy's Save for Tomorrow Energy Plan (STEP) is set to create and sustain as many as 2,000 new jobs by reducing the area's electrical demand by 771 MWs by 2020.[21] Despite this type of success in municipal areas, room for improvement exists in opportunities to coordinate and expand efficiency programs throughout the state. Other than individual utility programs, Texas has yet to establish a statewide natural gas conservation program.

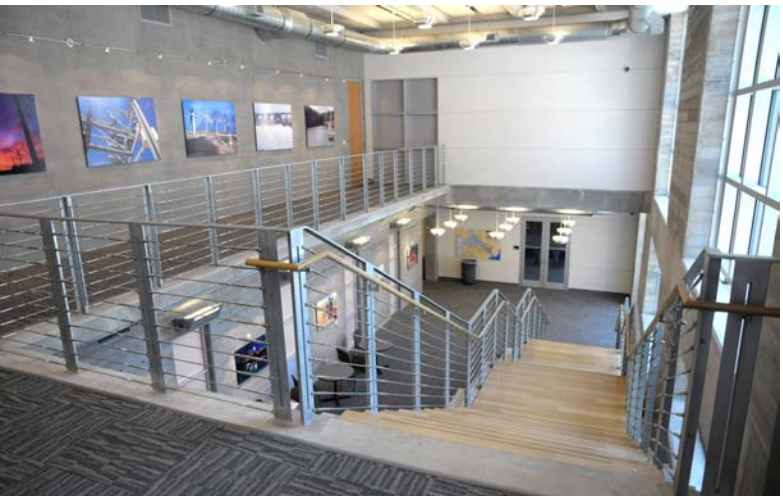
As considered by the Senate Committee on Business and Commerce during the 81st Legislative Session, Texas should explore the creation of a coordinating council on energy efficiency so that programs funded by the state, by utilities and by the federal government can be coordinated and made more accessible to all Texans. While efforts by the Texas Legislature unfortunately failed to create such a council in 2011, options are still on the table to create a council through more informal methods.

Continue to increase the goals for the Energy Efficiency Incentive Program

Texas currently requires its nine investor-owned transmission and distribution utilities to meet goals for energy savings and energy demand reduction programs, known collectively as the Energy Efficiency Incentive Programs. The PUC recently raised the goals to 30% of growth in demand by 2013, which should help spur additional job creation and energy savings. This change was also reconfirmed by the Texas Legislature with the passing of SB 1125, which requires the PUC and Electric Reliability Council of Texas (ERCOT) to develop rules for demand response programs for residential and commercial entities.

However, the PUC should consider raising the goals for transmission and distribution utilities as recommended by a 2009 PUC report to 1% of total demand by 2016 and 2% by 2020, putting Texas in line with what many states are already achieving.[22] By increasing investment in energy efficiency, Texas could save at least $23 billion in cumulative energy costs over a 15 year period, reduce air pollution from power generating facilities by 20%, and make way for over 38,000 new high-paying jobs.[23]

Awarded with a Gold LEED Certification in 2008, the Lower Colorado River Authority's Redbud Center was built using advanced green standards resulting in a 31.7% energy reduction, or almost 400,000 kWh/year savings – the equivalent of eliminating 515,778 pounds of CO2 or taking 57 cars off the road.[24]



Move quickly to adopt the 2012 International Energy and Conservation Code, and incorporate advanced building standards for new buildings

One of the fastest and most inexpensive ways to open up the market for private investment and create thousands of jobs is to raise the requirements for building energy codes to make sure new state, commercial, and residential homes and buildings are more energy efficient. In 2010, SECO raised the state's minimum energy code to the 2009 International Energy Conservation Code (IECC) standard for most buildings, and local jurisdictions have been raising codes in response. For every $1 million of investments in energy efficient upgrades, 10 on-site jobs will be created in installation, with an additional 4 jobs in materials manufacturing.[25] With a new 2012 IECC already approved by the International Code Council, Texas should aim to adopt the 2012 IECC as the minimum standard by 2014.

In 2011, the Legislature took a good step forward by passing HB 51 which requires SECO to develop green building standards for state and university buildings. County, city, and other local governments can further elevate efficiency levels by taking administrative action to follow advanced green building standards for any public buildings like courthouses, schools, and community colleges on a building-by-building basis.

Expand opportunities to increase energy efficiency through innovative financing mechanisms

In this tough fiscal environment, state and local governments must work together to explore low-to-no-cost loans and other financing mechanisms that allow Texans to invest in energy efficiency retrofits to their homes and businesses, thereby saving money overall and helping to spur the clean energy economy job market.[26] Texas currently has a program called Loan STAR which provides low-interest loans for public building retrofit projects. The program was recently authorized by the Texas Legislature to be used for houses of worship and nonprofits.

In order to fully capitalize on the costs savings potential of weatherization and retrofits, retail electric providers, utilities and electric cooperatives should explore on-bill financing programs with local banks and credit unions to help eliminate the up-front cost

"For every $1 million of investments in energy efficient upgrades, 10 on-site jobs will be created in installation, with an additional 4 jobs in materials manufacturing."

of retrofits. Doing so would expand the market for efficiency upgrades and allow providers to take advantage of the potential growth in demand for retrofits and weatherization projects.

Some states, including Texas, have passed legislation to allow cities to create Property Assessed Clean Energy Districts where energy efficiency loans can be paid back through property tax assessments. However, PACE is currently on hold while concerns over both federally-backed mortgages and other mortgage lenders are resolved by the federal government.

A licensed electrician needs access to the resident's circuit panels (breaker boxes) inside and outside the home.

Cutting Edge Smart Grid in the Lone Star State

Pecan Street Inc., a clean energy research organization, is heading up a state of the art smart meter installation in up to 1,000 homes and 75 businesses in the Mueller Community of Austin, Texas. Funded in part by a $10.5 million Department of Energy grant funded by the American Recovery and Reinvestment Act, Pecan Street Inc. is a collaboration between the city of Austin, the University of Texas, the Austin Technology Incubator, Austin Energy, the Austin Chamber of Commerce, the Environmental Defense Fund, and Mueller residents.

To help reduce peak demand and avoid the use of fossil fuel-burning backup generators, customers can opt to consume electricity when prices are low by using smart metering technology that communicates between the utility, the customer, and appliances at home. This may mean delaying a load of laundry or waiting to run the dishwasher until the smart meter inside the home shows that the demand for electricity is low.

In 2008, Pecan Street Inc. aimed to move the smart grid and renewable energy industries of Central Texas forward in order to reduce energy usage, pump money into the local economy, and create 21st Century jobs for local electricians and other tradesmen and women.

While UT works to retain the research and development work in its labs, EDF is hoping to see environmental benefits from reduced fossil fuel use. Just as important, the Chamber of Commerce hopes that smart grid jobs and reduced energy bills will translate into more economic activity in the Austin area.

Create Jobs by Promoting the Use of and Infrastructure for Trains, Electric and other Advanced Fuel Vehicles

With more than 40 million passenger, freight, medium, and heavy duty vehicles on the road, Texas continues to be one of the world's largest consumers of oil. Victims to over 3.9 billion gallons of fuel wasted by sitting in traffic, or over $800 for the average commuter in 2007, Texans know all too well how bad traffic congestion has become.[27] As a direct result of vehicle use and the related emissions, Texans remain exposed to unsafe levels of air and ground-level pollution from gas and diesel vehicles. A 2011 report by the Union of Concerned Scientists shows that even just a slight increase in ozone pollution, when paired with a rapidly growing population of children and seniors, would present Texans with $79 million to $1.1 billion in associated health care and treatment costs.[28]

Texas can save money, create jobs, drastically reduce pollution, and make great strides toward being less dependent on oil by running our vehicles on advanced fuels like electricity and non-food biofuels, and by encouraging the reinvestment of existing transportation funds in rail and other forms of public transportation.

Continue to support state and municipal conversion to electric, plug-in hybrid and other advanced fuel vehicles

Texas' economy is already beginning to benefit from infrastructure that favors the use of 21st Century advanced fuel cars and trucks. Municipal governments in cities like Austin and Houston have begun purchasing electric vehicles and installing plug-in charging infrastructure through private sector partnerships with companies like NRG Inc. As infrastructure like Houston's $10 million eVgo charging network is put into place, Texas can begin to tap into the roughly 350,000 new jobs projected to be created by 2030 as a result of a mass-market adoption of electric and plug in vehicles.[29] Compared to operating a normal car on regular gasoline, using electricity for fuel would lead to a 93% reduction in smog-forming volatile organic compounds (VOCs) and 31% less nitrogen oxide (NOx) emissions.[30]

Furthermore, with a large auto, auto parts and advanced battery manufacturing base, as well as a strong supply distribution base and world class research labs in the state, Texas can become a leader in the electrification of transportation and make great strides toward reducing our dependence on oil, protecting Texans from exposure to oil and gasoline global price swings, and dramatically reducing the levels of traffic-related air pollution in our cities.

Expand incentive programs to make going electric more affordable for all Texans

As auto manufacturers begin to roll out more and more electric and advanced fuel vehicles, Texas should continue to incentivize the switch to cleaner automotive technologies. By expanding the grants programs in the Texas Emissions Reduction Plan (TERP), which provides financial incentives to eligible individuals, businesses or local governments to reduce emissions from polluting vehicles and equipment, more Texans will be able to purchase efficient and clean fuel vehicles.

Furthermore, while Texas previously promoted incentives for more efficient gasoline and hybrid vehicles, HB 3272 - passed by the Texas Legislature in 2011 – modified the Low-Income Repair and Replacement Program (LIRAP) to include a specific $3,500 incentive for natural gas powered cars and trucks. However, while eligibility for these new vehicles was expanded, the program's budget was cut by 90%, from $50 million per year to a little more than $6 million.

For plug-in hybrid, electric, and other advanced fuel vehicles, other options are still on the table. For example, by developing a special time-of-use metering program for plug-in hybrid and electric vehicle owners, Texans can plug in, take advantage of the west Texas wind that blows at night, and avoid using electricity during peak demand periods. Combined, this and other approaches will allow consumers to save money by taking advantage of lower off-peak energy rates to power their vehicles, and will also help Texas cities reduce the levels of smog-forming pollutants in our metro areas.

Increase the investment of existing and future transportation funding in high-speed rail and other public transportation projects to improve options and access in Texas

Texas' transportation sector is nearly 100% reliant on fossil fuels and is responsible for the majority of ozone-creating emissions in the Dallas-Fort Worth, El Paso, Austin and San Antonio areas, as well as a significant amount in Houston and Beaumont-Port Arthur. We can go a long way toward reducing air pollution, traffic congestion, and commute times by changing the way Texas invests over $8 billion per year we already spend on road construction, maintenance, and other transportation projects and instead invest in high-quality, affordable public transportation.[31, 32]

With a dwindling budget and an urgent need to address congestion and connectivity problems, the Texas Department of Transportation should invest a greater share of existing and future funding in the expansion of municipal and regional transit projects and equitable high-speed rail systems, like those in Dallas and Houston, and ensure consistent funding for their operation and maintenance. While ridership has increased to 20 million people as of 2008, investments in the Dallas Area Rapid Transit system (DART) have helped save commuters roughly 8.8 million gallons of gasoline and helped increase connectivity in the Dallas area metroplex.[33]

Not only will these kinds of investments improve transportation options and connect our urban and rural areas, they will help Texans who decide to use public transportation save as much as $9,453 a year by avoiding the costs associated with owning a car, i.e. payments, insurance, fuel, and parking.[34] According to the recently released TXDOT Rail Plan, passengers who use rail are 21% more fuel efficient than those using automobiles, and 17% more efficient than those who travel by short-haul aviation – a method used

by many Texans who travel for business within the Houston, Dallas-Fort Worth, Austin, and San Antonio corridors.[35]

While continuing to invest in infrastructure maintenance and repair, Texas continues to lag behind the rest of the nation ranking 41st in state percentage of funding for public transportation.[36] After taking an important first step by allocating funds to research new rail construction and freight line improvements and reassignments, we must make sure TXDOT uses other Federal stimulus funds efficiently and that these investments lead to the creation of high-wage, family-supporting jobs for Texans.

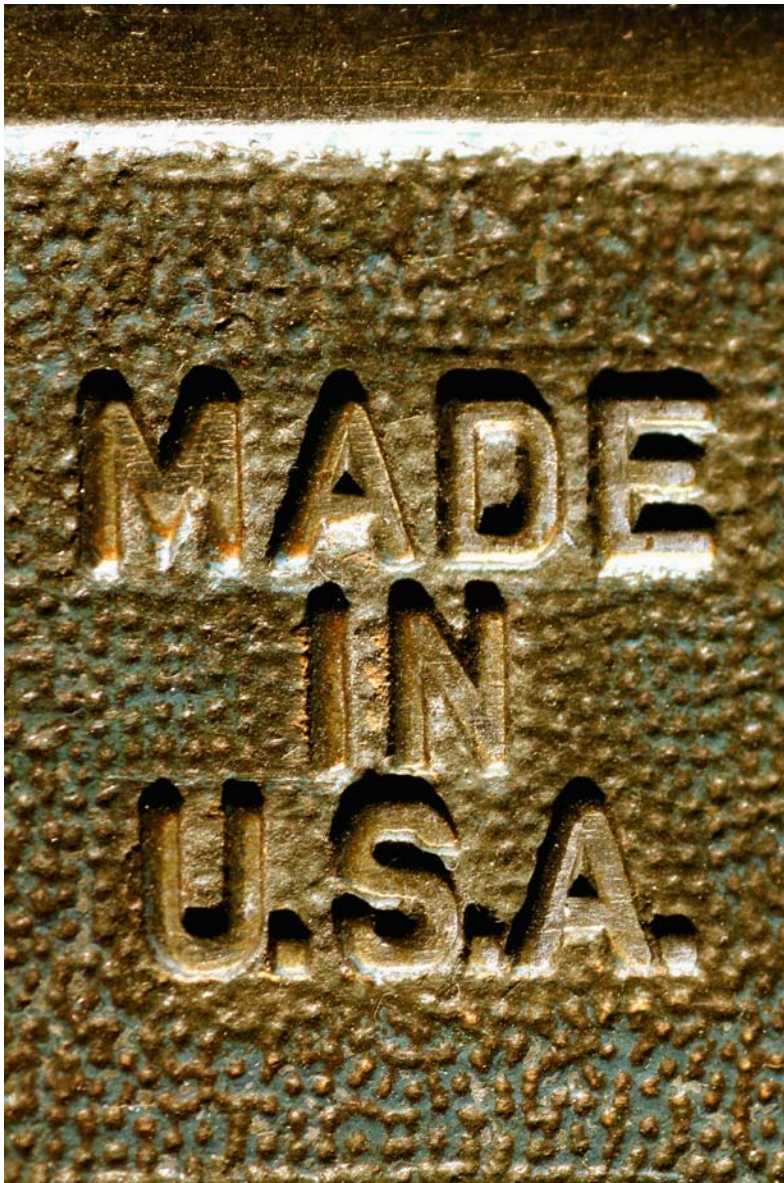
Create Jobs by Making it in Texas by Texans

There is no doubt that Texans have the technical, economic, and resource potential to build a cleaner, more efficient economy, but a critical challenge lies in ensuring that we do not pursue this transition by relying on imported hardware and outsourced jobs. In the United States, manufacturing is responsible for 70% of all private-sector research and development spending and 90% of all American patents.[37] With a large percentage of Texans trained or working in the manufacturing, construction, installation, operation, and maintenance sectors, it is vital that we utilize our existing skilled workforce to build the clean energy products of Texas' future.

Increased federal investments in public transportation and rail alone would lead to almost 42,000 new manufacturing jobs for Texans over the next six years.[38] As we work to adopt policies to drive manufacturing, research, and development in Texas, we must remember our potential to be a global leader not only in the generation of renewable energy, but also in the manufacturing of clean energy and transportation systems, and their component parts. Doing so will only help better position our state to meet the high demand for clean energy products nationwide.

Set aside a larger share of the Enterprise and Emerging Technology funds to attract clean energy companies to Texas, and enforce the contracts on jobs created in return for these incentives

Designed to assist in expediting the research, development, and commercialization of new technologies, the Texas Emerging Technology Fund has the potential to attract more clean energy companies and lead to long-term job creation throughout the state. Overseen by the Office of the Governor, administrative staff should leverage existing guidelines in the TETF to ensure a greater portion of that money is used specifically to attract clean energy manufacturing companies that guarantee good-paying jobs.



Thus far, hundreds of millions of dollars have been awarded to companies moving to Texas, yet only a few grants have been successfully used to attract clean energy manufacturers. SolarBridge Technologies received a $1.5 million TEFT grant in 2010 to assist in the development of its module-integrated microinverter and management system, which was pivotal in helping the company continue to grow and raise a total of $43 million in venture capital funding. SolarBridge has now moved into volume manufacturing and expanded its Austin-based operations to more than 60 employees.[39]

Under recent criticism for not spurring as much job growth as originally intended, the Texas Enterprise Fund – a tool used to close deals with companies interested in relocating to the state or expanding its local operations – should be refocused and allocate a greater share of grants to clean energy and transportation manufacturing sectors. Despite the setbacks, progress is being made. In late 2010, Jyoti Americas was awarded $865,000 from the TEF to help build a new manufacturing facility in Conroe, Texas. The plant will produce high voltage power transmission lines designed specifically to bring renewable energy to customers. The investment is estimated to eventually create 157 jobs and generate $34 million in capital investment.

Texas is known for being a pro-business state. But more needs to be done to capitalize on the growing demands for renewable energy, efficiency, and advanced transportation. The priority should be expanding and coordinating the TETF and TEF with local-level incentive programs, and enforcing requirements that good-paying jobs are in fact being created.

Create a "Green-to-Gold" loan fund at the state level to provide manufacturers with much needed capital

When confronted by both the constraints of the current lending market and the high up-front costs of clean energy expansion and efficiency upgrades, manufacturers and business owners are burdened with a tremendous difficulty in accessing cheap capital to help finance such projects. By utilizing innovative financing mechanisms such as a state-backed Green-to-Gold revolving loan fund, we can help Texas manufacturers grow their business and create thousands of quality jobs for Texans.

With smart, sound investment strategies, we can use public funds to leverage much larger investments of private capital and ensure that new clean technologies are both designed and manufactured in Texas. A Green-to-Gold program would provide revolving loan funds that could help manufacturers improve efficiency, move into clean energy production, or expand existing clean energy operations. Not only would this increase the economic benefits and savings for existing companies, it would allow public entities to leverage more resources to attract new manufacturers to build the new technologies being developed at our universities and research labs across the state.

As employment levels in trade, service, and manufacturing industries continue to fluctuate in Texas, it is critical that Green-to-Gold funds given to companies come with both detailed job-creation standards and minimum savings requirements for energy efficiency. Doing so will thereby ensure that work paid for by the loans is performed by contractors or subcontractors who pay the prevailing wage and provide adequate benefits.

Promote "Buy Texas" and "Buy America" policies

In order to fully realize the benefits of investing in clean energy and transportation, Texas must work to capture new job growth by implementing "buy America" and "buy Texas" incentive programs that, when combined with existing incentive programs, will allow Texans to compete with overseas manufacturers and win jobs that provide quality wages with family-supporting benefits. These policies will help guarantee that clean energy manufacturing and other jobs funded in part by state expenditures provide the maximum benefit to the Texas economy.

In addition to these job security mechanisms, Texas should ensure that our public investments leverage national manufacturing jobs growth as well by enacting policies that encourage the use of American iron, steel and manufactured goods in all public buildings and public works projects – similar to those that apply to federal dollars.

"Union apprenticeship programs have been training workers in the skilled trades for decades and are developing new curriculum reforms to prepare workers to implement Texas' environmental standards in the construction and energy sectors."

Central Texas Youths Find Future in Green Home Building

Often times in Texas cities small and large, young men and women struggle to stay in high school as they confront challenges in life such as homelessness, economic disadvantage, and unplanned pregnancies. For Chris Corella, 20, and Ivon Vega, 18, the decision to complete their education and obtain valuable job skills through the Casa Verde Builders green building program was driven largely by one important factor: their 22 month year old daughter Mia.

"This was an opportunity we couldn't pass up," said Corella. "It's important for our family's future."

A program of American Youthworks, Casa Verde Builders (CVB) is a green jobs training service program for young adults ages 17-24 that teaches cutting-edge, green construction techniques. In partnership with the US Department of Labor and YouthBuild USA, CVB is a nationally-recognized leader in making green home construction affordable. Under the supervision of certified instructors, students build energy efficient, affordable homes in for first time homebuyers, and learn the construction process from foundation to finish.

The program, which works to produce higher academic performance and consistent attendance for its participants, is creating a foundation for youth like Chris and Ivon to pursue quality higher education and a better chance at landing a good job in the clean energy economy.

"I was getting money however I could get it," said Corella, pointing out the affordable, energy efficient homes he had worked on in a Southeast Austin neighborhood. "I've known people who quit doing illegal things because of this program. It allows us to get our education, work, and get paid all at the same time."

Since 1994, CVB has trained over 1,000 Central Texas Corps members whose work has helped generate over $1,250,000 in property taxes generated by the more than 80 green homes they've constructed.

"We never really knew what 'green' meant before," said Vega. "Now it's sort of a life concept that is helping us build our family."

Create Economic Prosperity for All and Tap the Skills and Productivity of the Texas Workforce

With more than 55,600 Texans working for over 4,800 companies in the clean energy sector, Texas has established itself as a developing mecca for the clean energy economy.[41] While a highly-skilled and educated workforce has helped spur this growth over the past decade, many Texans have yet to gain access to this wave as much of the state's higher education funds have been directed toward traditional four-year degree programs. According to the Texas Comptroller of Public Accounts and the Texas Workforce Commission, more than 80% of all Texas jobs did not require a bachelor's degree. Furthermore, almost 44% of jobs paying an above-average income were dependent on a workforce armed with associates degrees or technical certificates.[42]

In order to address the problem of access to career pathways, labor unions, community colleges and workforce development councils have begun to refocus their worker training programs to prepare current and future workers for jobs in the growing clean energy and transportation sectors. Union apprenticeship programs, for example, have been training workers in the skilled trades for decades and are developing new curriculum reforms to prepare workers to implement Texas' environmental standards in the construction and energy sectors. With the aid of Federal Stimulus funds, new curricula have also been developed at leading community colleges and the Texas Workforce Commission, and several Texas workforce boards have also recently stepped up with new grants and programs to train workers.

We must continue these efforts and ensure that as we foster Texas' clean energy economy, we guarantee that these new jobs will be quality jobs with access to career ladders, make career pathways accessible to all Texans, and create pathways out of poverty and into economic prosperity.

Train Texas workers to meet the demands of the clean energy economy

We must invest in Texas' workers to ensure they have the skills they need for clean energy jobs at both new and existing firms. There are thousands of construction trades, manufacturing, and service sector workers whose skills can quickly be tapped for many jobs in the clean energy economy. Thousands more workers – employed and unemployed – can have a future in clean industries if given the appropriate training and quality access to stable employment. Currently, about 3,000 Texans work in the clean energy training and support sector.[43]

In order to grow, we must support all of the critical components of the workforce development system that prepare workers to thrive in clean economy jobs, including job readiness and preparatory apprenticeship programs connected to union apprenticeships, journey-level training, community colleges, and community-based training partnerships. At all steps along the training continuum, there must be an emphasis on providing portable, industry-recognized certificates of quality and achievement. Career pathways that lead to high-quality, clean energy jobs must begin with a K-12 education system that teaches students strong literacy and math skills, offers career technical education in green industries, and continues all the way through Texas's world-class university system.

Expand existing worker training and development programs

Texas funds worker training programs primarily through two programs administered by the Texas Workforce Commission. Working primarily with employers, unions, and workforce development boards, the Skills Development Fund provides grants to aid workers in acquiring new skills or upgrading existing ones in order to meet the industry demand for workers. The Workforce Investment Act, a program that assists low income adults, dislocated workers and youth in learning new skills, recently provided funds to help create the Texas Wind Industry Institute in Lubbock to train wind technicians, engineers, and even PhDs. A third program called Jobs and Education for Texans (JET) is a $25 million program administered by the Comptroller of Public Accounts, and includes grants to nonprofits, community colleges, and technical institutes, as well as scholarships for low-income students.[44]

In order to ensure that Texas is ready to meet the employment demands of the growing clean energy and transportation sectors, funding for these programs must be redirected toward green jobs training and retraining initiatives.

Ensure that the transition to a clean energy economy creates pathways out of poverty

Texas' economic and workforce development investments must create meaningful training and employment opportunities for individuals and groups that have historically been excluded from the state's economic growth. Training programs at the state level must create real pathways out of poverty with multiple access points and connections to real jobs, and target low-income and disadvantaged communities, especially those that have been hardest hit by the recession. Additionally, public clean energy investments should include local and targeted hiring requirements that guarantee equitable access to new clean energy job opportunities.

Prioritize high-wage, family-supporting jobs

Texas families need good-paying, safe, career-track jobs that provide benefits, retirement security, paid sick leave, and access to on-the-job training that leads to opportunities for advancement. High-paying jobs boost the economy in ways that low-wage jobs do not, avoiding state expenditures on public safety-net programs and bringing in additional tax revenue.[45] Any state funding to support the manufacturing or deployment of clean energy systems should include project or responsible contractor requirements that guarantee workers are paid good wages and provided full benefits, and that local residents and those with barriers to employment have access to job and training opportunities.

Conclusion

We Can't Afford *Not* to Implement the Texas BlueGreen Apollo Program

Building and strengthening Texas' clean energy economy is our ticket – and that of future generations – to a more prosperous tomorrow. Clean energy jobs are already growing faster than those in other sectors of the economy, and the next decade will see rapidly increasing global investment in the clean energy sector.[46] Texas must take steps to capitalize on this expanding opportunity for economic growth and job creation while doing our part to mitigate the impacts of air pollution, gases that will impact our climate, high water use, and natural resource destruction. We cannot afford to miss out on these critical investments in our future. Now is the time to aggressively implement the clean energy job creation strategies that will spur the continued growth of Texas' clean energy economy.

The Texas BlueGreen Apollo Program does not require major new investments; it requires smarter investments and smarter policies to open up the markets. While many of the changes called for in this program will cost the state little to nothing, it is clear that they will boost the state's economy by creating good jobs and broadly shared prosperity.

As our state leaders look for solutions to resolve our debt crisis and financial difficulties, we must ensure that our public dollars are refocused toward simultaneously maximizing widespread economic growth and improving the quality of our air and water. Funding streams from existing legislation, utility programs, new loan programs offered by credit unions, and new federal programs have and will continue to dramatically increase investments in clean energy, and at the same time will help position Texas to meet the global demand for 21st Century clean energy products; all without impacting the state's budget.

The Texas BlueGreen Apollo Program offers a comprehensive strategy for building the state's economy and creating jobs. We must transform the way we generate and use energy to drive demand and capture growing clean energy investments, ensure that we become a leader in the development of new clean technologies, and guarantee that we capture the full range of economic benefits promised by this growth – both in producing clean energy systems and components and by creating pathways into clean energy careers.

Taken together, these policies will ensure that as Texas emerges from our financial crisis, we build a stronger foundation for future economic growth and sustainability that positions us at the forefront of the global clean energy race. At this critical juncture, we cannot afford to quit on Texas' best opportunity to create jobs and ensure a more prosperous decade. Working together, let's accelerate toward a future of clean energy and good jobs for Texas.

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