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CAPABILITIES AND SUCCESS: THE ESSENTIAL ROLE OF LOCAL GOVERNMENTS IN ADDRESSING CLIMATE CHANGE AND REDUCING ENERGY USE

Local governments are at the forefront of the movement to address climate change in the United States. For years, local governments have served as laboratories for innovation, measuring their carbon footprint and developing new approaches to reduce energy use and cut greenhouse gas emissions. The pro-active efforts of thousands of cities, counties, towns, regional metropolitan organizations and public utilities across America to implement projects that reduce greenhouse gas emissions demonstrate the critical impact local governments can have in solving the climate challenge.

LEADING THE GREEN ECONOMIC RECOVERY

Local government can play a key role in stimulating the economy through the creation of green jobs, if there is adequate federal support.

- Economists from the University of Massachusetts Amherst say that a $100 billion green recovery program that invests in building retrofits, mass transit and freight rail, improving the electric grid, wind and solar power, and biofuels would create two million jobs over a two year period. (*Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy*, Robert Pollin, Heidi Garrett-Peltier, James Heintz, Helen Scharber, September 2008)
- The U.S. Conference of Mayors recently released the first part of a nationwide survey of local governments, citing approximately 1,600 ready-to-go clean energy and transit projects that could stimulate nearly 120,000 jobs – in just 427 cities that participated in the survey. (http://www.usmayors.org/mainstreetstimulus/)
- The American Solar Energy Society estimates that in 2006 alone, renewable energy and energy efficiency were responsible for $970 billion in industry revenues and 8.5 million jobs. As America's commitment to sustainability continues to grow, green jobs will grow accordingly at every skill and wage level.

The following are examples of the thousands of local government ready-to-go clean energy projects that could be implemented with federal economic recovery assistance. All of these projects would help achieve three critical national objectives -- create new jobs, reduce our dependence on foreign oil, and decrease greenhouse gas emissions.

- With economic recovery assistance, **Montgomery County, MD** would establish a Home Retrofit Revolving Fund to provide energy audits and low interest loans for residential energy retrofits. This program would reduce consumer energy costs, increase home values, and produce significant new green jobs in the construction and building trades. In Montgomery County, a $35 million annual investment would result in $47 million in energy savings benefits to consumers. In addition, a 30 percent participation rate has the potential to reduce nearly 200,000 tons of CO_2 emissions annually.

- With economic recovery assistance, the **City of El Paso, TX** would provide energy retrofits at 53 facilities and at more than 600 intersections. The retrofit project will save more than 10,000

kilowatts per year, save an estimated $1.743 million annually in energy costs, and reduce annual emissions by 11,300 tons. It will cost an estimated $15 million. The energy retrofits include heating and cooling system replacements, installation of energy efficient lighting systems, and other projects.

- With federal green recovery assistance, the **City of Gainesville, FL** would launch a new Low income Energy Efficiency Program (LEEP) that will assist 336 low income customers in upgrading their homes with energy efficiency measures to reduce energy use, improve comfort, and save money. The proposed project will save 537,936 kWh per year and will eliminate 457 metric tons of CO_2 annually. Job creation will include three full time employees and increased demand for contractors, i.e., HVAC, insulators, electricians, plumbers and general contractors. The project will cost $1 million annually.

- With federal assistance **Westchester County, NY** would install photovoltaic systems in four county office facilities and use the renewable energy generated to run each complex. The proposed project would cost $3.5 million, save 989,000 kwhr per year and $150k annually in energy costs, cut greenhouse gas emissions by 415 tons per year, and create 20 new construction jobs.

- With federal assistance, **Loudoun County, VA** would build the Brambleton Geothermal Fire Station. The new facility will incorporate the latest renewable energy design features such as a 30,000 gallon cistern on site to store rainwater, geothermal wells, ground source heat pumps, and many others at a cost of $7.2 million. It will save 1,179,806 gallons of water per year from rainwater collection, 86,400 gallons of water per year from water efficient fixtures, and will reduce energy consumption by 30 percent annually. The project will employ 20 full time employees when completed and require multiple construction personnel during construction.

- With federal recovery assistance, the **City of Spokane, WA** would implement SmartRoutes, an $11 million transportation plan to make road and trail improvements to facilitate bike and pedestrian travel. When completed, the project will reduce vehicle miles traveled by 91 million miles annually, reduce CO_2 emissions by 58,000 tons a year, and create hundreds of new jobs.

REDUCING ENERGY CONSUMPTION IN BUILDINGS

- According to the U.S. Energy Information Administration, buildings account for almost half (48 percent) of all GHG emissions annually and consume seventy-six percent of all electricity generated by US power plants.
- Experts estimate that three-fourths of America's built environment, both residential and commercial structures, will be replaced or renovated by 2038. Decisions today will impact America's building stock, energy consumption, and GHG emissions for decades.
- EPA estimates that well-designed building codes implemented and enforced in conjunction with appliance standards can lock in cost-effective energy savings of 30 to 40 percent at the time of building construction compared to standard practices.

Local governments are best suited to improve and enforce building codes and create other programs to reduce energy use in commercial buildings and homes. Following are examples of local innovative energy-smart building approaches that could be supported and replicated with national leadership and resources.

- **Nassau County, NY** launched its "Green Levittown" initiative, a public-private partnership to help the 17,000 households of America's first suburb conduct home energy audits, replace old boilers, and make other home energy savings improvements. The project goal is to reduce

carbon emissions by 10 percent; Thousands of households are participating and the changes being made are resulting in a significant reduction in GHG emissions.

- **Santa Barbara, CA** passed an ordinance in 2007 to become the nation's first city to adopt the 2030 Challenge for all buildings within the city limits. The ordinance seeks to reduce the fossil fuel standard for all new buildings in order to accomplish carbon neutrality by 2030 by enacting building regulations exceeding state standards for energy use among other measures.
- **Montgomery County, MD** recently passed legislation that promotes energy efficiency in new buildings. The bill requires most new commercial, multi-family residential and single family residential buildings to meet certain Energy Star standards, and requires a building owner to pay an Environmental Sustainability Fee if the building does not comply with the energy efficiency and environmental design standards. The legislation also requires the Director of the County Department of Public Works and Transportation to develop an energy baseline, energy unit savings plan, and energy cost savings plan for each County building.

REDUCING CARBON EMISSIONS FROM TRANSPORTATION

- The U.S. transportation sector accounts for a third of all CO_2 emissions and within this share, 60 percent of these emissions come from personal vehicle use.
- While cleaner vehicles and fuels standards are important, increases in vehicle fuel efficiency have not been and are not predicted to be sufficient to keep pace with increases in driving associated with more sprawling development patterns and lack of adequate public transit.
- Numerous studies show that given the option to live in a less automobile dependent location, people will indeed drive less. According to the recent book *Growing Cooler*: *The Evidence on Urban Development and Climate Change,* residents of more compact neighborhoods drive 20-40 percent less on average.

Local governments are best suited to implement programs to increase transit use and reduce vehicle miles traveled (VMT). For example:

- **Sacramento County, CA** and the **Sacramento Area Council of Governments, CA** have established a blueprint for the metropolitan region that links transportation investments to a vision of sustainable future growth and development served by public transit, walkability measures and other approaches to reduce VMT in the region by 27 percent by 2050.
- **Envision Utah** is a collaboration of several public-private stakeholders in the **Salt Lake City/ Greater Wasatch Area** focused on protecting the environment and maintaining economic vitality and quality of life as they accommodate anticipated growth in the region. The collaboration focuses on several key strategies to reduce emissions, addressing VMT though creating more walkable communities; preserving critical lands and park space; developing a region-wide transit system; and fostering transit-oriented development.
- **Stamford, CT** is undertaking a 20-year initiative to improve regional transportation and promote smart growth and economic development through multi-modal transportation investments and transit-oriented development. The initiative encompasses everything from expanding the hub of their transportation infrastructure (the Stamford Transportation Center), building a new multimodal center, and connecting these transportation centers to the new Stamford Urban Transitway, to construction of an urban light rail loop to connect key urban locations through public transit.
- In 2007, **King County, WA** committed to purchase 500 new hybrid buses manufactured by New Flyer and General Motors over a five year period. The buses will be added to a fleet that already has over 200 hybrid buses in service. Hybrid buses use considerably less fuel and reduce some

exhaust emissions by up to 90 percent. There are currently over 2,000 hybrid buses in use nationwide.

- Since 2001, **Keene, NH** has powered their municipal fleet of 68 vehicles and other city owned equipment with B-20 biodiesel. City operators have stated that the headaches they would get from operating equipment with 100 percent diesel have gone away while operating equipment with B-20.

INCREASING THE USE OF RENEWABLE ENERGY

- Large, utility-scale renewable projects like wind farms and solar plants are critical to America's energy future, but community-scale renewables are vital as well.
- Solar photovoltaic panels on elementary schools, biomass generation at local landfills and sewer plants, wind turbines powering targeted neighborhoods, town halls heated and cooled with non-polluting geothermal energy and other projects help localities become self-reliant and better able to manage the risks of increasing energy costs, blackouts, and other challenges.

The following local government renewable energy projects demonstrate the kinds of innovation that could be spurred across the nation with federal assistance and incentives.

- **Wyandotte Municipal Utilities, MI** is installing the first-in-the-nation utility-scale wind power project on an urban brownfield. Wyandotte is also considering renewable energy projects including woody biomass generation, river hydrokinetic power systems, combined photovoltaic-concentrated solar technologies, hybrid public utility fleets, and green roofs infrastructure to reduce emissions in a community that has historically relied on petrochemical manufacturing and coal-fired power to fuel the local economy.
- The Department of Energy and the U.S. Environmental Protection Agency are now working with the **City of Stamford, CT** on an innovative wastewater-to-energy project that will convert dried sewage sludge into clean, renewable energy. This first-ever application of biomass gasification technology is free of air and carbon emissions and will use a renewable resource available in nearly every locality. If deployed nationally, this waste-to-energy technology could produce 100 times the electric energy needed to serve U.S. domestic demand, and could reduce 1.1 billion metric tons of greenhouse gases by 2030.
- In 1999, **Story County, IA** constructed Iowa's first county-owned building to use a geothermal heating and cooling system. The geothermal system reduces energy consumption by 40 percent, costs less to maintain, and cuts air-borne pollutants. The County is currently converting other buildings to geothermal energy.
- **Sacramento County, CA** plans to install 16 megawatts (MW) of solar community-wide each year for the next nine years so that two percent of the community's energy would come from solar by 2017. This residential incentive program would supplement existing federal tax credits and utility incentives in order to help transform the solar market and assist Sacramento County in achieving its goal. The project would save 80 million KWh and $8 million per year. GHG emissions would be cut by 25,000 metric tons per year. Meeting the state goal of adding 16 MW per year of solar in Sacramento County would create 600 direct permanent jobs and three to four times as many indirect jobs per the U.S. Department of Energy.