

The EESI 2016 Budget: Impacts on Energy Efficiency & Renewable Energy

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by

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The Stella Group, Ltd.

The Stella Group, Ltd. is a strategic technology optimization and policy firm for clean distributed energy users and companies which include advanced batteries and controls, energy efficiency, fuel cells, geosxchange, heat engines, microhydropower (including tidal and wave), modular biomass, photovoltaics, small wind, and solar thermal (including CSP, daylighting, water heating, industrial preheat, building air-conditioning, and electric power generation). Scott Sklar serves as Steering Committee Chair of the Sustainable Energy Coalition, composed of the renewable and energy efficiency associations, national environmental groups, and analytical groups, and sits on the national Boards of Directors of the non-profit Business Council for Sustainable Energy and The Solar Foundation, teaches two unique interdisciplinary sustainable energy course at The George Washington University, Scott Sklar was awarded the prestigious The Charles Greely Abbot Award by the American Solar Energy Society (ASES) and on April 26, 2014 was awarded the Green Patriot Award by George Mason University in Virginia, and serves as Chair of the US Department of Commerce Renewable Energy & Energy Efficiency Advisory Committee, term ending 2016.

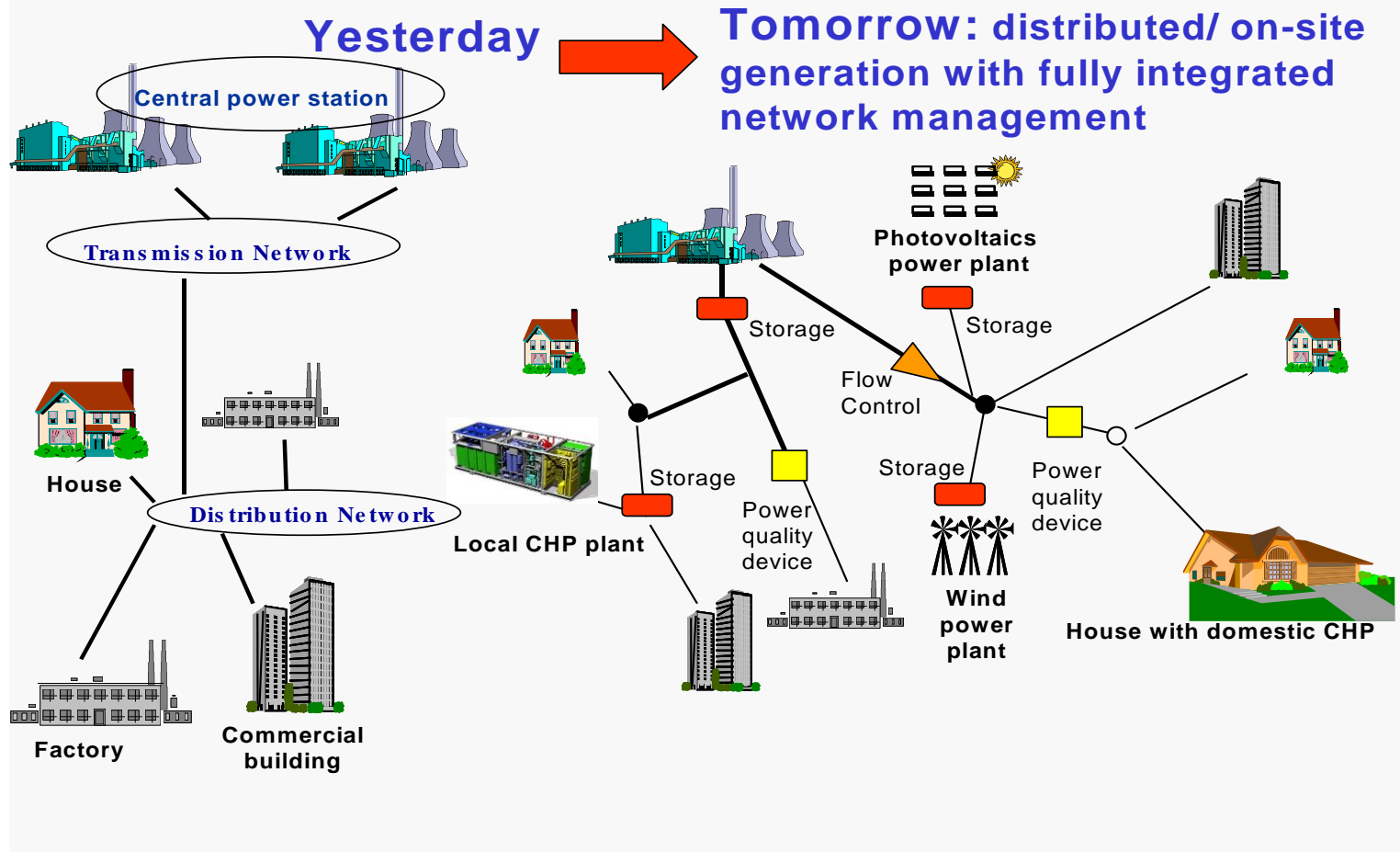
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Electric Generation: New paradigms

Breaking the Rules



The President's FY 2016 budget request for the Department of Energy (DOE) is **\$29.9 billion, an increase of 9 percent over FY 2015 enacted levels,**

A \$12.6 billion level for the National Nuclear Security Administration to maintain a safe, reliable and effective stockpile without testing, modernizing the nuclear security infrastructure, reduce the threats of nuclear proliferation and nuclear terrorism, and provide a 21st century capability for the nuclear Navy;

Investing \$5.8 billion in the Department's critical nuclear legacy cleanup responsibilities to protect human health and the environment

Supporting a nearly \$5 billion all-of-the-above transformational research and development portfolio in critical energy technology areas, including advanced manufacturing, energy efficiency, solar and other renewable energy, grid modernization, nuclear safety, and advanced coal and natural gas technologies with integrated carbon capture and storage;

The 2016 request increases the **Office of Energy Efficiency and Renewable Energy (EERE) budget 42 percent over 2015 enacted levels, to \$2.7 billion.**

BUDGET – DOE FY'16

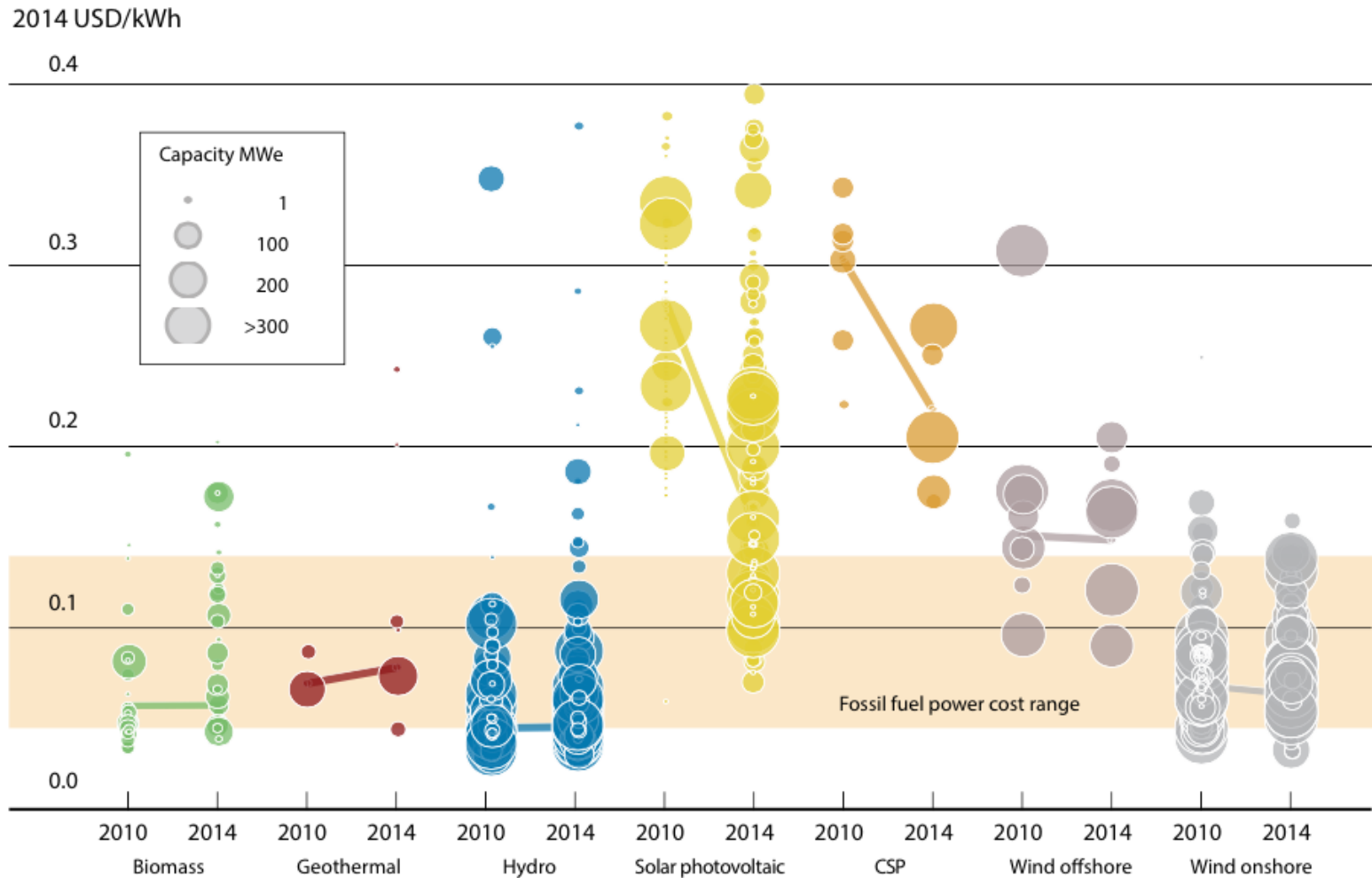
DOE FY 2016 Energy Efficiency and Renewable Energy budget request includes a 44 percent increase in funding for the Solar Energy program to nearly \$336 million, an over 9 percent increase for the Bioenergy Technologies program (\$246 million), a 36 percent increase in funding for the Wind Energy program (\$145 million), a 6 percent increase in funding for the Hydrogen and Fuel Cell Technologies program (\$103 million), a 75 percent increase in funding for the Geothermal Technologies program (\$96 million), and a nearly 10 percent increase in funding for the Water Power program (\$67million).

The EERE's Vehicle Technologies program would benefit from an increase in funding of 59 percent (to \$444 million), to support greater investment in vehicle electrification and grid infrastructure. Similarly, the Building Technologies program would receive a 53 percent increase in funding (to \$264 million), to support the development of advanced materials and technologies, appliance standards, and other initiatives to reduce building energy use. The Advanced Manufacturing program would receive one of the largest percentage increases, an impressive 102 percent (to \$404 million) to further American competitiveness

Global context: Total new investment in clean energy by country or region (\$bn)



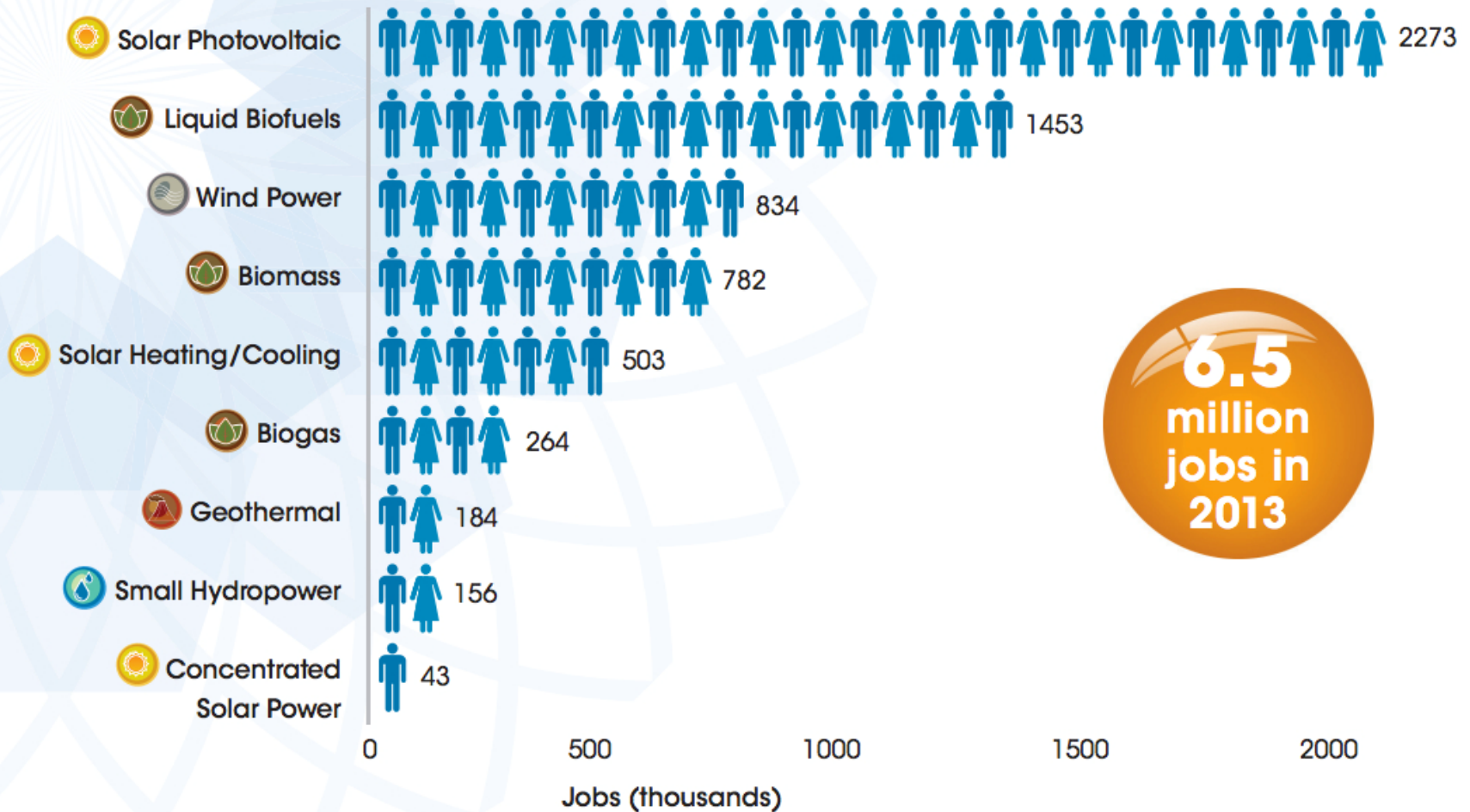
FIGURE ES 1: THE LEVELISED COST OF ELECTRICITY FROM UTILITY-SCALE RENEWABLE TECHNOLOGIES, 2010 AND 2014



Source: IRENA Renewable Cost Database.

Note: Size of the diameter of the circle represents the size of the project. The centre of each circle is the value for the cost of each project on the Y axis. Real weighted average cost of capital is 7.5% in OECD countries and China; 10% in the rest of the world.

FIGURE 1. RENEWABLE ENERGY EMPLOYMENT BY TECHNOLOGY



Global jobs: source: IRENA – International Renewable Energy Agency, June 2014

ENERGY EFFICIENCY AND RENEWABLE ENERGY IS NEITHER A DEMOCRATIC OR REPUBLICAN ISSUE – NO MORE THAN A CHAIR OR A REFRIGERATOR IS – JUST TECHNOLOGY

BIOFUELS –Senator Carl Curtis (R-NE), Senator Jacob Javits (R-NY), Senator David Durenberger (R-MN)

ENERGY EFFICIENCY – Senator Chuck Percy (R-IL), Mark Hatfield (R-OR)

NATIONAL SECURITY – Senator Richard Lugar (R-IN), Jim Woolsey (former CIA Dir)

RENEWABLE ENERGY – Senator John Chafee (R-RI), Senator Pete Domenici (R-NM)

TAX CREDITS – William Roth (R-DE), Senator Bob Packwood (R-OR)

Energy Policy and Conservation Act of 1975

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Creation of the Department of Energy in 1977.

November 9, 1978: [National Energy Conservation Policy Act, Pub.L. 95–619, 92 Stat. 3206](#)

PERSONAL INSIGHTS –

Starting with George HW Bush (R), energy policy has been driven by a more strategic portfolio focus – this focus on domestic options – energy reductions to make energy resources go further and then a wide range of resources to address electricity and vehicle fuels.

This essential strategy has been followed by President's Clinton (D), Bush (R), and Obama (D) – pretty much to a “T”.

Regarding risks, whether it is terrorism, intense weather patterns, cyber security breaches, human error, geological events (earthquakes, tsunamis), climate change, flooding, forest fires, etc. – energy systems must be more resilient in a country of nearly 400 million and a world of over 7 billion people

That means looking at fuels with closer proximity to users, self healing grids, smarter controls and diagnostics, and market & policy rewards for predictability.

THERE ARE NO DUMB QUESTIONS –

- research studies**
- my GWU 30 top reports list**
- security and reliability analysis**

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