The Clean Energy Innovation Consortia Initiative

Clean Energy Innovation Consortia are a proposed framework for accelerating clean energy research, commercialization and regional clusters—critical goals if we are to bring to market the necessary innovations to address the world's need for clean energy. The ***Clean Energy Innovation Consortia*** proposal has been included within the ***Waxman-Markey*** bill passed by the U.S. House of Representatives and is in consideration in the Senate and by key administration offices and agencies.

The proposal calls for federal funding that would be competitively awarded to regional public-private partnerships. These regional consortia would include the nation's under-utilized, world-class research universities, major labs, industry, the venture finance and entrepreneurial sectors and regional energy and economic development partners collaborating on research, translational research and the building of robust clean energy clusters to accelerate clean energy jobs and the adoption of valuable energy and climate solutions.

Regional Clean Energy Innovation Consortia proposal addresses U.S. needs:

U.S. Clean Energy Innovation Imperatives:

- Address historic under-funding of energy research
- Apply market and entrepreneurial insight to technology R&D
- Address "valley of death" funding gap for seed/early-stage ventures
- Accelerate invention-to-market cycles
- Grow clean energy innovation jobs

Energy Innovation Consortia solutions:

- Fund research projects in world-class, under-utilized universities and labs
- Involve entrepreneurs, investors and industry to advise projects
- Provide funding through translational research phase
- Invest in innovation clusters with active involvement of regional stakeholders

Status of emerging Clean Energy Innovation Consortia:

- Clean Energy Innovation Consortia proposal included in Waxman-Markey ACES legislation, passed by House June 2009
- Senate considering support in standalone legislation or in Climate and Energy bills
- DOE and other agencies adding support for Regional Energy Innovation Clusters to some innovation hubs and other programs
- Pilot consortia forming – New England, Great Lakes, Midwest, Rockies, West Coast, etc.
- Support building in state and regional energy & economic development agencies, research community, industry, entrepreneurial/venture communities

New England Clean Energy Council:

The Council has been at the forefront of the Clean Energy Innovation Consortia proposal, supporting national legislation and coordinating discussions with decision-makers in DC along with regional consortium planning efforts in New England and across the country. The project is expected to accelerate through 2010 as the country seeks new approaches for breakthrough energy research and commercialization to scale the clean energy economy and regional energy innovation clusters.

*More about the **Clean Energy Innovation Consortia** project - http://www.energyinnovationconsortia.org/*

Clean Energy Innovation Consortia

Why are they needed?

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Why are ***Clean Energy Innovation Consortia*** needed?

- Energy research has been underfunded for 25 years
  - Federal energy research declined from 10% of federal R&D in 1980 to 2% today. Federal investment in energy research needs to grow to accelerate the invention of new technologies needed to address global energy and climate problems
  - World-class U.S. research universities have an unparalleled history of success in developing new breakthroughs and transitioning those inventions to markets. An expansion in federal energy research needs to leverage these under-utilized research universities.
- Research funding needs to translate inventions to viable stages for private investment to finance development and commercialization
  - Private sector and university research budgets are all under great strain, with private funding largely restricted to technologies with proven market applicability
  - Research funding needs to be provided from basic and applied research through "translational research" – proof of concept development that includes technical, application and business issues
  - Research projects need to engage venture, entrepreneurial and corporate advisors for market insight and to focus R&D on critical application needs
- Innovation clusters have been an engine for economic growth and quality jobs in IT and life sciences. We need vibrant energy innovation clusters.
  - Clusters contain a critical mass of stakeholders across research, development, finance, entrepreneurial, policy and regional energy and economic development communities
  - Clusters provide the interaction and social network for collaboration to accelerate market input to R&D, technology licensing, venture formation, customer and utility engagement, and economic growth
- Clean Energy Innovation Consortia combines all of these objectives with funding and support for energy research, early-stage commercialization, and cluster development by funding regional public-private consortia
  - The Innovation Consortia initiative will fund a network of regional energy innovation consortia that will fund and support research and translational research projects and build regional energy clusters
- The Clean Energy Innovation Consortia proposal leverages and expands upon current DOE initiatives
  - Regional Innovation Consortia can help accelerate and commercialize current DOE investments in National Labs, single-topic Innovation Hubs, Energy Frontier Research Centers, ARPA-E, and projects from NIST, SBIR, DARPA and others
  - If funded as described in Waxman-Markey, the Innovation Consortia proposal draws upon less than 1% of new revenue from the proposed cap & trade of greenhouse gas emissions

Status of Clean Energy Consortia Federal Legislation

Legislative language supporting ***Clean Energy Innovation Consortia*** and Clusters was sponsored in April 2009 by Congressman Ed Markey and is included in ***Section 171 of H.R. 2454***, the ***Waxman-Markey ACES*** energy and climate legislation approved by the U.S. House of Representatives in June, 2009. The Waxman-Markey bill allocates allowances between 2012 and 2050 to fund 8 new Clean Energy Innovation Consortia around the country to support R&D and accelerate the commercialization of clean energy technologies. The goals of these Consortia are to:

- Leverage the expertise and resources of the university and private research communities, industry, venture capital, National Laboratories, and other participants in energy innovation to support cross disciplinary research and development in areas not being served by the private sector in order to develop and transfer innovative clean energy technologies into the marketplace
- Expand the knowledge base and human capital necessary to transition to a low-carbon economy
- Promote regional economic development by cultivating clusters of clean energy technology firms, private research organizations, suppliers, and other complementary groups and businesses

Separate energy and climate legislation is under consideration in the Senate, with a "placeholder" in the ***Kerry-Boxer*** Climate bill to provide carbon allowance allocations to fund Clean Energy Innovation Consortia. The New England Clean Energy Council brought together a group of 10 regional innovation consortia developing consortia across 27 states for joint DC meetings in January. More recently, Senator ***Ron Wyden*** from Oregon is sponsoring ***Regional Energy Innovation Consortia*** legislation in the Senate to provide funding through the Department of Energy for a number of Clean Energy Innovation Consortia around the country. This bill is likely to come before the Senate Energy and Natural Resources committee in the coming weeks.

The ***Department of Energy*** and other agencies and offices of the Obama administration are also considering support for regional Energy Innovation Consortia and the research, commercialization and cluster development goals of this initiative. In February 2010 DOE announced a funding opportunity for a ***Building Energy Efficiency Innovation Hub*** that includes additional funding from multiple agencies to support ***Regional Energy Innovation Cluster*** activities to speed commercialization of research and growth of an active cluster. Multiple government agencies, including the Department of Commerce, EDA, SBA, and others have put requests for funds into their ***2011 budget*** requests to support ***Regional Innovation Clusters***.

Regional Innovation Clusters have also been a growing topic of consideration by congressional committees considering reauthorization of the ***America COMPETES Act***, and has been the focus of workshops, symposia and publications from the ***National Academy of Sciences***, the ***Brookings Institution*** and other policy leaders. The ***New England Clean Energy Council*** has been sharing perspectives on innovation cluster models with these organizations and is encouraged by the growing support for regional innovation clusters and their critical importance in the emerging clean energy sector.

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