

A D D E N D U M

SUMMARY COMPARISON OF THE HOUSE-PASSED AMERICA COMPETES ACT (HR 5116) WITH KEY RECOMMENDATIONS FROM “STRENGTHENING CLEAN ENERGY COMPETITIVENESS” POLICY REPORT

RECOMMENDATIONS

HR 5116

| 1 | CLEAN ENERGY SCIENCE AND ENGINEERING EDUCATION

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| <ul style="list-style-type: none"> ▶ Authorize a suite of programs to train a new generation of energy scientists, engineers and innovators, including: ▶ \$40 million annually for development of clean energy curricula, educational programs, and research opportunities at institutions of higher education. ▶ \$200 million annually to provide financial aid to support undergraduate students entering energy STEM fields. ▶ \$180 million annually to award graduate fellowships in energy engineering, science and related fields. ▶ \$50 million annually to provide post-doctoral research awards for early-career researchers in energy science and innovation fields. | <ul style="list-style-type: none"> ▶ Reauthorizes or establishes a number of broader STEM education programs not specifically focused on preparing an energy workforce. ▶ Authorizes a DOE “Energy Applied Science Talent Expansion Program” to award grants to institutions of higher education to establish or expand energy systems science, engineering and technical education programs and award financial support for masters and doctoral students pursuing such fields. Authorizes \$30 million for FY2011, rising to \$40 million in FY2015. ▶ Does not provide authorization for undergraduate financial aid programs for students entering energy STEM fields. ▶ Authorizes DOE to dedicate some portion of research and technology funds to enable graduate education related to such activities via the NSF Integrative Graduate Education and Research Traineeship Program, but does not authorize additional dedicated funding. ▶ Reauthorizes DOE program providing awards to early career energy science, engineering and mathematics researchers, authorizing “such sum as are necessary” for FY2011-2015. |
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| 2 | CLEAN ENERGY RESEARCH AND INNOVATION

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| <ul style="list-style-type: none"> ▶ Ensure the scheduled doubling from 2006 levels for the research budgets of the DOE Office of Science, NSF, and NIST by FY2013. ▶ As part of scale-up in funding for DOE Office of Science, double funding for DOE’s Energy Frontier Research Centers (EFRCs) to \$300 million by FY2014. | <ul style="list-style-type: none"> ▶ Authorizations for these core research agencies appear set to double over ten years rather than the seven year period originally authorized in America COMPETES. ▶ Authorizes the Secretary of Energy to make grants to establish Energy Frontier Research Centers (EFRCs) using funding within Office of Basic Energy Sciences authorization, but does not dedicate specific funding for EFRC program. Authorizes \$1.875 billion for Office of Basic Energy Sciences in FY2011, increasing to \$2.551 billion in FY2015. |
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RECOMMENDATIONS, CONT.

- ▶ Scale-up funding for ARPA-E over the next five years to **\$1.5 billion** annually.
- ▶ Authorize **\$200 million** in annual funding over five years to support eight DOE Energy Innovation Hubs.

HR 5116, CONT.

- ▶ Authorizes \$300 million for ARPA-E in FY2011, scaling up to **\$1 billion** in FY2015.
- ▶ Authorizes \$110 million in funding to support several DOE Energy Innovation Hubs, with funding increasing steadily to \$210 million for FY2014 & 2015. Average annual funding level from FY2011-2015 is **\$172 million**.

| 3 | ADVANCED CLEAN ENERGY PRODUCTION AND MANUFACTURING

- ▶ Establish a new national institute on energy innovation in energy-intensive manufacturing.
- ▶ Create a new domestic clean energy supply chain initiative at the Hollings Manufacturing Extension Partnership (MEP) and expand funding for the MEP to **\$400 million** annually in five years time.
- ▶ Provide **\$15 billion** to capitalize state-based revolving loans for low-cost financing for advanced clean energy manufacturing.
- ▶ **Does not** contain a new national institute for energy innovation in energy-intensive manufacturing.
- ▶ Authorizes a new “Innovative Services Initiative” at MEP to help manufacturers reduce energy usage and environmental waste to improve profitability or to produce new technologies, including components for renewable energy systems. Authorizes \$141.1 million in funding for the MEP program in FY2011, increasing to **\$184.9 million** in FY2015.
- ▶ **Does not** include a program to capitalize state-based revolving loans for low-cost financing for advanced clean energy manufacturing. The bill does authorize a loan guarantee program to assist manufacturers in the use or production of “an innovative technology” or process or any component of such a technology. Innovative clean energy manufacturers could potentially utilize this program, which is authorized at \$100 million annually for FY2011-2015.

| 4 | CLEAN ENERGY INDUSTRY CLUSTERS

- ▶ Create a Federal Clean Energy Innovation Council to coordinate key clean energy innovation and competitiveness programs.
- ▶ Create a pilot program to fund and support **three or more** collaborative, public-private clean energy research consortia to anchor regional and sectoral industry networks. Each consortia should receive **\$10-30 million/year** for three years.
- ▶ Authorize **\$75 million** annually for a new grant program to support regional energy industry cluster initiatives.
- ▶ **Does not** contain authorization for a Federal Clean Energy Innovation Council or equivalent coordinating body.
- ▶ Contains authorization for a pilot program to fund and support **one** clean energy research consortia, supported at up to **\$10 million** annually for a period of three years.
- ▶ **Does not** contain a grant program to specifically support regional clean energy industry cluster initiatives. However, does authorize “such sums as are necessary” for a Regional Innovation Cluster grant program to support industry cluster initiatives.