



U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable

Federal Energy Management Program

DOE Rulemakings Impacting Renewable Energy

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Federal Energy Management Program



EPACT and EISA Sections

- Section 109 - EPACT 2005
- Section 433 – EISA 2007
- Section 523 – EISA 2007



Section 109 – EPACT 2005

- Buildings must be designed to be 30% better than private sector standards,
 - ASHRAE 90.1-2004 for commercial (10 CFR 433)
 - 2004 IECC for residential (10 CFR 435)
- If life-cycle cost-effective under 10 CFR 436
- Use performance rating path in private sector standards



Status and Implications for RE

- Rules are issued and in force
- 30% better building can be achieved without resorting to RE, but RE may be attractive for some buildings anyway



Section 433 – EISA 2007

- Fossil-fuel energy consumption reductions relative to 2003 CBECS or RECS
 - 55% 2010
 - 65% 2015
 - 80% 2020
 - 90% 2025
 - 100% 2030



Status

- Notice of proposed rulemaking under development (for addition to 10 CFR 433 and 10 CFR 435)
- Will be published in the Federal Register (as all DOE rulemakings are) and public comment is invited
- Expected publication in 1st quarter FY09



Current Assumptions

- Requirement is applicable to three classes of Federal construction
 - Congressional notification by GSA required, public buildings, and building worth more than \$2.5 million
 - Implications are that smaller buildings and military family housing (for example) will not be required to meet this
- Fossil-fuel energy includes both direct fossil fuel energy and fossil-fuel embedded in off-site electricity and thermal energy
- Exceptions granted by DOE on basis of individual building review
- Requirement is for individual building designs, not collections of buildings



Issues Under Consideration

- There is no 2003 RECS – 2001 or 2005 will be used
- Neither RECS nor CBECS covers high-rise multi-family residential buildings that have extensive common area energy usage – still deciding how to handle this
- Some building types common in Federal sector are poorly represented in CBECS and RECS
 - Barracks, high-load industrial buildings, laboratories
- Definition of “major renovation” (cost-based?)
- Treatment of large process loads (may be dealt with under individual building review)
- How DOE will provide individual building review



Implications for RE

- While initial goal might be met without RE for some buildings, RE will become increasingly likely to be specified in future new building designs
- Performance-based approach gives appropriate credit for RE



Section 523 – EISA 2007

- Solar water heating for 30% of load if life-cycle cost-effective



Status

- DOE will include this in upcoming rulemakings related to 10 CFR 433 and 10 CFR 435



Current Assumptions

- Life-cycle cost-effectiveness – 10 CFR 436
- Major renovation would be “renovation of the building” or “renovation of the hot water heating system”
- Would apply to all hot water loads, including high load buildings like prison laundries



Implications for RE

- RE in the form of solar hot water is going to be required unless it is not life-cycle cost-effective