

National Hydropower Association

2007 Annual Meeting

Incorporating Hydropower into Emerging Climate Change Programs

March 17, 2007
Capital Hilton Hotel

The Business Council for
Sustainable Energy



Outline

- About the BCSE
- Positions on Federal Climate Change Policy



Who We Are

- Broad-based industry coalition of energy efficiency, natural gas and renewable energy interests
- The Council's coalition includes power developers, equipment manufacturers, independent generators, green power marketers, and gas and electric utilities as well as several of the primary trade associations in these sectors



Sample of Council Members

- **Developers, Generators, Equipment & Service Providers**
 - Enel North America, Brookfield Power, Calpine, GE Wind, Sun Edison LLC, PPM Energy, Solar Turbines
- **Gas & Electric Utilities**
 - PG&E, Sempra Energy, NiSource, SMUD and PSEG
- **Energy Efficient Products**
 - Insulation – NAIMA and PIMA
 - HVAC – American Standard/Trane, York International
- **Industry Organizations**
 - Alliance to Save Energy, American Wind Energy Association, American Gas Association, Solar Energy Industries Association, Interstate Natural Gas Association of America, National Hydropower Association



BCSE Mission

- BCSE advocates energy and environmental policies that promote markets for clean, efficient and sustainable energy products and services
- The Council has significant expertise in the design of climate change policy and emissions trading systems
 - State, federal and international levels



Principles on Climate Change Policy

- Federal approach is needed
- Climate change policy is energy policy
 - Energy and environmental policy should be integrated
- Clean energy deployment – energy efficiency, renewable energy and clean generation – are key to keeping compliance costs down
- Clean energy generation – including hydro – and energy efficiency should be addressed directly in the program



Elements of a Federal Climate Change Program

- The Council supports a federal climate change policy that includes the following elements:
 - National
 - Mandatory, economy-wide and market-based approach
 - Expands the development and use of clean energy sources
 - ***Promotes a financial value from allocating allowances to clean energy and energy efficiency technologies***
 - *Output-based allocation method*
 - *Clean energy set-aside allowance pool or other revenue-generating mechanism*



Elements of a Federal Climate Program (cont'd)

- Expands the development and use of energy efficiency and natural gas technologies, including the direct use of natural gas, on-site generation from combined heat and power, and energy efficiency for demand reduction
- Establishes near-term and long-term targets that are consistent with investment cycles



Elements of a Federal Climate Change Program (cont'd)

- Promotes compatibility with voluntary markets so non-capped businesses and households can continue to support markets that result in actions beyond mandatory obligations and
- Establishes linkages with international programs



What This Means for Hydropower

The environmental benefits of hydropower should be recognized and rewarded under emerging climate change programs

- Quantify the emissions benefits to provide alternative revenue streams for power development, in addition to:
 - Tax Credits
 - Clean Air Trust Funds
 - RECs – voluntary and compliance markets



What is the Revenue Potential

- *Cap Levels, Allocations and What is Being Displaced Determine Allowance Prices*
- Current prices, with modest assumptions:
 - SO₂ – \$500 per allowance, \$.45/MWh
 - NO_x – \$1,200 - \$2,000 per allowance, \$.90/MWh; \$1.50/MWh
 - CO₂ – \$7 per allowance, \$3.50/MWh
- Must compare that with other markets, i.e., RECs prices



Past Treatment of Renewables in Clean Air Markets

- Allowance allocations based on fuel-input (thermal)
 - Limited or no allocations for renewable energy
- Limited renewable energy set-asides were not effective in driving market
 - Too few
 - Not used because they were targeted at electric utilities



Looking Forward: Climate Change Markets

- Fight for Allowances Value to Renewable Energy – including hydropower
 - Federal level – Climate Change Cap-and-Trade Programs
 - Regional/EPA – Interstate Air Quality Regulation
 - Regional – Northeast RGGI, West Coast (CA, WA, OR, NM)
 - State – Opportunities for Offsets under SIPs



How to Incorporate Hydropower

- Allowance Allocation Policy
 - Free allocation
 - Output-based allocation
 - Auction/hybrid system
 - Recipient of auction revenue
 - Production incentives
 - Set-Aside Program
 - Direct, free allocation to renewable energy generators

Need to hear from the industry what option works best



Permanence of Allocation Decisions

- Impacts competitive position of energy sources
 - Political underpinning of clean air and climate change markets
 - Very difficult to change allocation methods, or levels

If renewables are left out, it will be very difficult to ever get back in



Coalition Exists for Pro-Renewables Allocation Strategy

- Directing Allowance Value to Clean Energy and Energy Efficiency
 - Focusing on output (lbs/MWh) rather than heat input allocation approach
 - Rewards clean and efficient power generation
 - Renewables
 - Natural Gas
 - Energy Efficiency
 - Use of set-aside and/or auction revenues



Policy Challenges

- Belief that RPS policy is addressing renewable energy development
 - RGGI and perhaps CA, West Coast Alliance
- How do the environmental benefits of hydropower fit into climate change markets?
 - Allowances, set-aside programs, auction revenue
- Relationship between climate change allowances and RECs
 - Environmental impact of allowing renewable energy generated allowances to be sold (or retired) under cap-and-trade programs

BOTTOM LINE: Hydropower industry needs to be at the table to answers to these questions



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