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ENERGY SUPPLY TECHNICAL WORK GROUP

LIST OF PRIORITIES FOR ANALYSIS AS OF DECEMBER 21, 2005 (DRAFT "SHORT LIST" REFLECTING STRAW POLL OF TWG MEMBERS) JANUARY 6, 2006

#	Policy Name	# From Policy Matrix Long List	Votes Received in 12/21/05 Straw Poll
	<i>Renewable Electricity</i>		
ES-1	Renewable Portfolio Standard (RPS)	1.1	4
ES-2	Tax credits and incentives for renewables	1.2	3
ES-3	Distributed renewables	~1.4	3
ES-4	Renewable energy transmission and storage	~1.9	2
ES-5	Biomass	1.5	1
ES-6	Centralized renewables	~(1.1, 1.2, & 1.6)	1
ES-7	R&D including energy storage	~(1.3 & 1.9)	1
ES-8	Wind power siting	~(1.9 & 5.3)	1
	<i>Centralized Non-Renewable Electricity</i>		
ES-9	IGCC with carbon capture and sequestration (CCS)	(2.1 & 2.2)	7
ES-10	Nuclear relicensing and uprating	3.2	1
	<i>Grid and Demand-Side Policies</i>		
ES-11	Combined Heat & Power (CHP) Incentives and Barrier Reduction	4.1	2
ES-12	Net metering	5.2	1
ES-13	Broad demand management of electricity and natural gas (focused on consumption, not peaks)	~(5.7, 5.9, & 5.10)	1
ES-14	Transmission capacity and corridors	~5.3	1

#	Policy Name	# From Policy Matrix Long List	Votes Received in 12/21/05 Straw Poll
<i>Oil and Gas Policies*</i>			
ES-15	Coalbed methane capture and use and storage/recycling of stripped CO2 (7.14 & 9.1)	~(7.14 & 9.1)	1
ES-16	Methane reduction	~(7.4, 7.5, & 7.9 through 7.14)	1
ES-17	CO2 capture in O&G operations	~Analogous to 2.2 & 9.1	1
ES-18	Green completions (techniques to reduce/eliminate venting when a well is first put into service)	(n/a)	1
ES-19	Oil & Gas measures	~§7 as a whole	1
<i>Emissions Policies</i>			
ES-20	GHG offsets for new facilities	11.2	1
ES-21	GHG Cap & Trade	11.4	6

** Note: The Oil & Gas section should be considered especially tentative, as it has not yet had the benefit of the scheduled January 6, 2006 TWG teleconference on oil and gas issues.*

Draft Policy Option: Renewable Portfolio Standard

1. Policy Description:

a. Lay description of proposed policy action:

A renewable portfolio standard (RPS) is a requirement that utilities must supply a certain percentage of electricity from renewable energy sources. For example, an RPS of 5% would mean that for every 100 kWh that an LSE supplies to end users, 5 kWh must be generated from renewable resources. An RPS differs from an Environmental Portfolio Standard (EPS) in that an RPS is a requirement specifically for renewables, while an EPS is broader and includes energy efficiency. Utilities can meet their requirements by purchasing or generating renewable-based electricity or by purchasing renewable energy credits (RECs). RECs are tradable credits that are part of an RPS policy. RECs are created for every kWh of eligible and verified renewable electricity produced. Anyone can build an eligible renewable facility and earn RECs for the electricity that is generated. Anyone with RECs can sell them to a utility that needs to meet its RPS requirement. In this way, utilities themselves do not need to build and operate renewable generating facilities. By giving utilities the flexibility to purchase RECs, the market in these credits will provide an incentive to companies that are best able to generate renewable energy.

b. Policy Design Parameters:

- i. Implementation level(s) beyond BAU: For example,
 - 5% in 2006, 10% in 2011, increasing 1% each year to 24% in 2025
- ii. Timing of implementation: See above.
- iii. Implementing parties: Utilities
- iv. Other

c. Implementation Mechanism(s): Indicate which mechanisms are to be used, and describe the specific approach that is proposed

- i. Information and education
- ii. Technical assistance
- iii. Funding mechanisms and or incentives
- iv. Voluntary and or negotiated agreements
- v. Codes and standards
- vi. Market based mechanisms
- vii. Pilots and demos

- viii. Research and development
- ix. Reporting
- x. Registry
- xi. Other?

2. BAU Policies/Programs, if applicable:

- a. 5% renewables by 2006, 10% by 2011
 - One kilowatt-hour of electricity generated by wind or hydroelectric technologies is worth one kilowatt-hour toward compliance with the RPS;
 - One kilowatt-hour of biomass, geothermal, landfill gas, or fuel cell power is worth two kilowatt-hours toward the RPS; and
 - One kilowatt-hour of solar power is worth three kilowatt-hours toward the RPS.

3. Types(s) of GHG Benefit(s):

- a. CO₂: By creating a substantial market in renewable generation, an EPS can reduce fossil fuel use in power generation and thus reduce CO₂ emissions
- b. CH₄
- c. N₂O
- d. HFC's, SFC's
- e. Black Carbon: To the extent that generation from coal and oil is displaced by renewables, black carbon emissions will decrease.

4. Types of Ancillary Benefits and or Costs, if applicable:

- a. Reductions in overall energy consumption and the shift from fossil fuel generation as a result of an EPS will lead to reductions in criteria air pollutants and, consequently, health costs associated with those pollutants.
- b. While much of the EPS requirement will come from low-cost renewables such as wind and biomass, meeting the requirement will lead to a moderate increase in direct costs to utilities implementing the EPS policy and a small increase in overall electricity system cost for Arizona. At the same time, though, investment in new technologies resulting from the EPS will spur economic development.
- c. Etc.

5. Estimated GHG Savings and Costs Per MMTCO₂e:
 - a. Summary Table of:
 - i. GHG potential in 2012, 2020, 2050
 - ii. Net Cost per MMTCO₂e in 2012, 2020, 2050
 - b. Insert Excel Worksheet showing summary GHG reduction potential and net cost

6. Data Sources, Methods and Assumptions:
 - a. Data Sources
 - b. Quantification Methods
 - c. Key Assumptions

7. Key Uncertainties if applicable:
 - a. Benefits
 - b. Costs

8. Description of Ancillary Benefits and Costs, if applicable:
 - a. Description of issue #1
 - b. Description issue #2
 - c. Etc.

9. Description of Feasibility Issues, if applicable:
 - a. Description of issue #1
 - b. Description of issue #2
 - c. Etc.

10. Status of Group Approval:
 - a. Pending
 - b. Completed

11. Level of Group Support:

- a. Unanimous Consent
- b. Supermajority
- c. Majority
- d. Minority

12. Barriers to consensus, if applicable (less than unanimous consent):

- a. Description of barrier #1
- b. Description of barrier #2
- c. Etc.