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Catalog of State Actions
Energy Supply (ES) Working Group

A catalog of state-level, GHG-reducing actions and policy options based on actions undertaken or considered by state, local and private actors.

Key to Future Rankings of Options in the Tables that Follow:

Potential GHG Emission Reductions 1/	Potential Cost or Cost Savings 1/ 2/
High (H): At least 1.0 million metric tons (MMt) carbon dioxide equivalent (CO_2e) per year by 2020 (~1% of current MN emissions)	**High (H)**: $50 per metric ton CO_2e (tCO_2e) or above
Medium (M): From 0.1 to 1.0 $MMtCO_2e$ per year by 2020	**Medium (M):** $5-50/$tCO_2e$
Low (L): Less than 0.1 $MMtCO_2e$ per year by 2020, or 1 MMtCO2e by 2050	**Low (L):** Less than $5/$tCO_2e$
Uncertain (U): Not able to estimate at this time	**Negative (Neg):** Net cost savings
	Uncertain (U): Not able to estimate at this time

1/ Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.
2/ Costs are denoted by a positive number. Cost savings (i.e., "negative costs") are denoted by a negative number.

Definition of "Priorities for Analysis":

- **High:** High priority options will be analyzed first.
- **Medium:** Medium priority options will be analyzed next, time and resources permitting.
- **Low**: Low priority options will be analyzed last, time and resources permitting.

Notation of Options:

- **Options marked in bold an asterisk (*)** indicate some of the related state actions that are approved or underway, as described further in the companion options description document. TWG members are encouraged to provide information on other relevant actions.

Energy Supply (ES)

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Considerations: Jobs, Fuel Imports, Externalities, Feasibility	Priority for Analysis	Notes
ES-1	**EMISSIONS POLICIES AND OVERARCHING ITEMS**					
1.1	GHG cap and trade	H	L/H			
1.2	Carbon (GHG) tax	H	L/H			
1.3	Generation Performance Standards or Mitigation Requirements	H	L/H			
1.4	Voluntary GHG targets	L/H	L/H			
1.5	Technology R&D	U	U			
1.6	Metro Emissions Reduction Project *(S)	-	-			From MN Recent Action List
ES-2	**RENEWABLE ENERGY AND ENERGY EFFICIENCY**					Primarily supply side efficiency
2.1	Renewable and/or Environmental Portfolio Standard *(S)	-	-			From MN Recent Action List Renewable Energy Objective 25 X 25
2.2	Grid-based Renewable Energy Incentives and/or Barrier Removal	H	L/H			
2.3	Distributed Renewable Energy Incentives and/or Barrier Removal *(S)	-	-			From MN Recent Action List Renewable Energy Production Incentive
2.4	Green Power Purchases and Marketing *(S)	-	-			From MN Recent Action List Green Power Pricing Options
2.5	Combined Heat and Power (CHP) Incentives and/or Barrier Removal	M-H	L			
2.6	Pricing strategies to promote renewable energy and/or CHP (e.g.	U	U			

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	net metering)					
2.7	Renewable energy development issues (zoning, sitting, etc.) *(S)	U	U			From MN Recent Action List Renewable Energy Production Incentive Community-Based Renewable Energy Development
2.8	Demand-side energy efficiency (RCI focus)	M-H	L			
2.9	Technology-focused initiatives (biomass, energy storage, etc.)	H	L/H			
2.10	Wind Energy Development *(S)	-	-			From MN Recent Action List
2.11	Solar or Wind Easements *(S)	-	-			From MN Recent Action List
2.12	Biomass for Electricity (i.e. District Energy St Paul, Laurentian) and heat for industrial processes *(S)	-	-			From MN Recent Action List
2.13	Solar energy development	H	H			
ES-3	**FOSSIL FUEL AND NUCLEAR ELECTRICITY**					
3.1	Advanced fossil fuel technology incentives, support, or requirements (IGCC, CCS, etc.)	H	M/H			
3.2	Nuclear Power Support and Incentives	H	H			
3.3	Efficiency Improvements and Repowering Existing Plants	U	U			
3.4	Biomass co-firing at fossil fuel power stations	M/H	L/M			
3.5	Technology-focused initiatives (fuel cells,	L/H	M/H			

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	energy storage, etc.)					
3.6	Sulfur hexafluoride leak prevention in electric transmission & distribution	U	M/H			
ES-4	**Fuel Production, Processing, and Delivery**					
4.1	Oil and Gas Production: GHG Emission Reduction Incentives, Support, or Requirements	H	H			
4.2	Natural Gas Transmission and Distribution	U	U			
4.3	Oil Refining: GHG Emission Reduction Incentives, Support, or Requirements	NA	NA			
4.4	Coal Production: GHG Emission Reduction Incentives, Support, or Requirements	NA	NA			
4.5	Coal-to-liquids Production: GHG Emission Reduction Incentives, Support, or Requirements	NA	NA			
4.6	Low-GHG Hydrogen production incentives and support	U	U			
4.7	Improve the GHG Profile of Biofuels					
ES-5	**Carbon Capture and Storage or Reuse (CCSR)**					
5.1	CCSR enabling policies (administration, regulation, liability,	H	M/H			

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	incentives) and incentives					
5.2	R&D for CCSR	U	U			
ES-6	**Other Energy Supply Options**					
6.1	Transmission System Upgrading	U	U			
6.2	General Distributed Generation Support (Interconnection Rules, Net Metering, etc.)	U	U			
6.3	Reduce Transmission and Distribution Line Loss	U	U			
6.4	Environmental (emissions) Disclosure	U	U			
6.5	Energy regulatory policies to encourage energy efficiency, e.g., decoupling	H	U			
6.6	Environmental Dispatch and Resource Planning Policy to ensure environmental costs are considered	H	U			
6.7	A per ton carbon adder in electricity resource planning	H	L/H			