

# Appendix 3: GCCC Deliberation Matrix

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Governor's Commission on Climate Change  
 Policy Option Deliberation Matrix  
 October 21, 2007<sup>2</sup>

Plenary Group Policy Option	GHG Benefits	Potential for Cultural Change	Upfront Cost	Long-Term Cost	Challenges to Implementation	Collateral Benefits and/or Damages
<b>Energy Supply &amp; Demand TWG</b>						
<b>ESD-1</b> (Evaluation & Continuation / Expansion of Existing DSM for Electricity & Natural Gas)	<b>H</b>	<b>H</b>	<b>M</b>	<b>Savings</b>	<b>L</b>	
<b>ESD-2</b> (Evaluation & Expansion of DSM to Other Fuels)	<b>M/H</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M/H</b> (Strong agreement on concept, but disagreement on how to fund & implement)	
<b>ESD-3</b> (Building Efficiency Codes, Training, Tracking)	<b>M</b>	<b>H</b>	<b>L</b>	<b>Savings</b>	<b>L</b>	
<b>ESD-4</b> (Evaluate Potential for Contracting Nuclear Power)	No additional GHG reductions, but maintains low GHG generation mix. Subject is controversial. Collateral damages include waste and safety issues.					

<sup>2</sup> **VH** = Very High, **H** = High, **M**= Medium, **L**=Low

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<b>ESD-5</b> (Support for Combined heat & Power)	M	M/H	H	Savings	M/H (Logistical hurdles, possible resistance from local utilities?)	(Broad environmental & economic benefits, with possible community benefits)
<b>ESD-6</b> (Incentives &/or Mandate for Renewable Electricity) Scenario 1 Scenario 2	M/H	M	L/M	L/M	M/H	Non-combustion renewables provide concomitant reduction in other air pollutants. Sustainable use of biomass waste promotes 'Green Bank'
<b>ESD-7</b> GHG Cap & Trade and/or GHG Tax	GHG cap & trade should be done on a regional, national, or even international level. Vermont is a participant in the Regional Greenhouse Gas Initiative (RGGI). Depending on the RGGI market development, Vermont may receive substantial funding that could be directed towards policy options that provide direct consumer benefits.					
<b>ESD-8</b> (Incentives for Clean Distributed Technologies for Electricity or Heat)	L		H			

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<b>ESD-9</b> (Wind-Specific Support Measures) New Wind, Scenario 1 New Wind, Scenario 2 <b>ESD-10</b> (Hydro-Specific Support Measures) Continued Large Hydro, Scenario 1 Continued Large Hydro, Scenario 2 New Hydro, Scenario 1 New Hydro, Scenario 2	See <b>ESD-6</b>					
<b>Agriculture, Forestry, &amp; Waste Management TWG</b>						
<b>AFW-1</b> (Programs to Support Local Farming / Buy Local)	<b>L</b> (Low GHG benefit in a relative sense, but very important 'signature' piece for Vermont)	<b>Very High</b> (Signature piece for Vermont)	<b>L</b> (Also, cost not necessarily shouldered by State Government)	<b>L</b>	<b>L</b> to none	Supports the new "Green Economy." Few challenges beyond enhancing consumer awareness, and keeping in mind consumer 'willingness to pay' level. Arm individual citizen with ability to participate.

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<b>AFW-2</b> (Agricultural Nutrient Management Programs)	<b>L</b> (But many co-benefits)	<b>M</b>	<b>M / H</b> (Some Programs already in place with committed funding)	<b>M</b>	<b>L</b>	Benefits (lower emissions of N <sub>2</sub> O & NO <sub>x</sub> , less nutrient runoff to water bodies, reduced fertilizer use, cost savings to farmers, etc.)
<b>AFW-3</b> (Manure Management Methods to Achieve GHG Benefits)	<b>L</b> (But many co-benefits)	<b>M/H</b>	<b>H</b> (But some existing funding)		Technology challenge to enhance cost-effectiveness for smaller farms	Benefits (enhances dairy industry viability & efficiency; some pollution reduction benefits)
<b>AFW-4</b> (Protect Open Space / Agricultural Land)	<b>M</b>	<b>H</b>	<b>L</b> (Plenary Group analysis cost)	<b>L</b> (Plenary Group analysis)	Need to consider policy complements that promote	Benefits (maintains Vermont's culture & working

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<p><b>AFW-7</b> (Forest Protection – Reduced Clearing &amp; Conversion to Non-Forest Cover)</p>	<p><b>Very High</b></p>		<p>would be considered ‘High’, but it assumes purchase of easements, which is not the only way to achieve protection. Also, there are ongoing state forestry programs with existing funding)</p>	<p>cost would be considered ‘High’, but it assumes purchase of easements, which is not the only way to achieve protection)</p>	<p>farmland and forestland conservation as working landscape, without creating future unintended consequences</p>	<p>landscape or “Green Bank”)</p>
<p><b>AFW-5</b> (Forestry Programs to Enhance GHG Benefits **)</p>	<p>There is a high degree of scientific uncertainty whether a net carbon benefit can be achieved by a strategy overly focused on forest productivity, to the exclusion of adequate consideration of sequestration in extant forests.</p>					
<p><b>AFW-6</b> (Increased Forest Biomass Energy Use)</p>	<p>Risk and uncertainty would be reduced through a comprehensive modeling of alternate forest management scenarios in terms of net effects on carbon budgets. Without having completed such an analysis, this option carries significant risk of not achieving the desired objective.</p>					
<p><b>AFW-8</b> (Expanded Use of Durable Wood Products – especially from Vermont sources)</p>	<p>Specifically, substantial uncertainty exists related to the amount of land available in Vermont to boost productivity based on a) site specific limitations, b) the goals of existing and future land management plans, and c) the varied land management goals of landowners who are not enrolled in the Use Value Appraisal Program. There is more general scientific uncertainty in the current literature regarding the balance between enhanced forest sequestration for the long term and enhanced harvest, younger rotations, and storage in harvested wood products</p>					

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<b>AFW-9</b> (Advanced / Expanded Recycling & Composting)	<b>M/H</b>	<b>H</b>	Variable depending on programs	Variable depending on programs		Benefit – new job creation. Arm individual citizen with ability to participate.
<b>AFW-10</b> (Programs to Reduce Waste Generation)	<b>M/H</b>	<b>H</b>	Variable depending on programs	Variable depending on programs		Benefit – new job creation. Arm individual citizen with ability to participate.
<b>AFW-11</b> (Waste Water Treatment – Energy Efficiency Improvements)	<b>L</b>	<b>H</b>	<b>L</b>	<b>L</b>	Acceptance of sustainable technology and treatment systems is new but being accepted by public over time	Benefit – Ecological design of waste treatment systems supports new job creation. Cleaner water.

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<b>AFW-12</b> (In-State Liquid Biofuels Production) Ethanol Production Biodiesel Production	<b>L</b>	<b>H</b>	<b>L</b>	<b>L</b>	Many existing 'pieces' need to come together to create sustainability. Cellulosic ethanol technology awaits commercialization but has great future benefits.	Many potential benefits, like Ag job creation, retaining "Green Bank," but potential damages to be aware of include: competition with food markets, impacts upon conventional air pollutant emissions. Intensive cultivation of fuel crops may negate benefits.
<b>Transportation &amp; Land Use TWG</b>						
<b>TLU-1</b> (Compact & Transit-Oriented Development Bundle)	<b>H</b> GHG reduction data are 'soft-edged' but concept of TLU-1 very important climate strategy	<b>H</b>	<b>L</b> Provide assistance to regional & local planners	<b>L</b> (provides financial savings)	<b>M</b> Groundwork already in place, but need for political & social change	Benefits for Land Use & Tourism
<b>TLU-2</b> (Alternatives to Single Occupancy Vehicles – SOVs)	<b>M/H</b>	<b>H</b>	<b>L</b>	<b>L</b> (provides financial savings)	<b>L/M</b> need incentives	Arm individual citizen with ability to participate.
<b>TLU-7</b> (Commuter Choice / Parking Cash-out)						

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<b>TLU-3</b> (Vehicle Emissions Reductions Incentives)	<b>M/H</b>	<b>M/H</b>	<b>L</b>	<b>L</b>	-Challenges are financial / taxation & political -For new passenger vehicles, but need to consider pros and cons of including pickups	Possible funding for public transportation
<b>TLU-4</b> (Pay-as-you-drive insurance)	Defer to Current Statutory Framework where it is allowable but not required					
<b>TLU-5</b> (Alternative Fuels and Infrastructure – LCFS)	<b>M/H</b>	<b>H</b>	<b>L</b>	<b>L</b>	<b>L</b> (first hurdle is to create a market, and remove other potential barriers such as manufacturer warranty or UL listing issues)	(Degree of collateral benefits depends on usage ... i.e., use in direct-firing heating units preferable to transportation d/t air quality concerns)
<b>TLU-8</b> (Plug-in Hybrids [part of TLU-5])						
<b>TLU-6</b> (Regional Intermodal Transportation System-Freight & Passenger)	<b>L</b> with potential to be <b>H</b>	<b>H</b>	<b>M</b> although already existing funding	<b>M</b>	<b>L/M</b>	This option needs to be encouraged as it has key implications to the lifespan of the highway infrastructure

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<b>TLU-9</b> (Fuel Tax Funding Mechanism [TWG recommends examining this as part of a funding package after reductions policies are chosen])	This option should be considered as part of a suite of funding mechanisms for the other policy options. Appropriate structuring would create a mechanism to raise funds, not a mechanism to change behavior per se.					
<b>Cross-Cutting Issues TWG</b>						
<b>CC-1</b> (GHG Inventories & Forecasts)	<b>H</b>	<b>H</b>	<b>L</b>	<b>L</b>	<b>L</b>	Crucial mechanisms to enable emissions quantification, tracking of progress toward goals, & policy modification over time
<b>CC-2</b> (GHG Reporting)						
<b>CC-3</b> (GHG Registry)						
<b>CC-4</b> (Public Education & Outreach)	<b>H</b>	<b>Very High</b>	<b>L</b>	<b>L</b>	<b>L</b>	Benefits – potential to improve teaching and learning in science and technology. Arm individual citizen with ability to participate.
<b>CC-5</b> (Adaptation)	Adaptation is a key piece of the climate change issue that has received few resources to date. One important step is to develop a partnership between Vermont’s academic institutions and state government to focus research and policies on ‘adaptive management’ of Vermont’s natural and built infrastructures.					
<b>CC-6</b> (Options for Goals & Targets)						

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<b>CC-7</b> (The State's Own GHG Emissions)	<p>Much work is already underway through the Climate Neutral Working Group and State Agency Energy Planning processes. The GCCC supports these efforts and challenges state government to do even more.</p>					