Natural Gas and Transportation Fuels

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Natural Gas and Transportation Fuels Subcommittee
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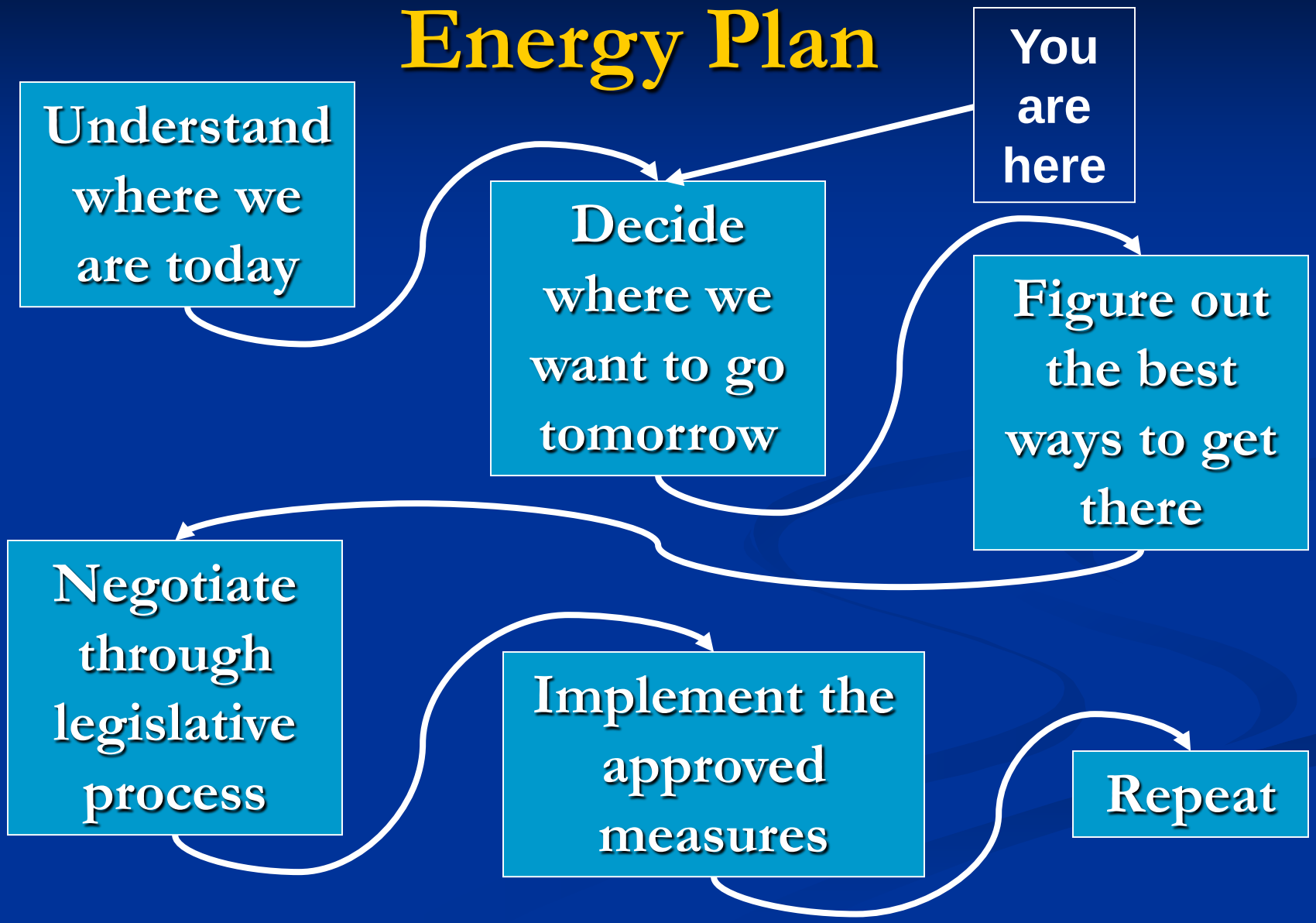
Agenda

- Key takeaways points for natural gas, petroleum and biofuels
- Present straw proposal
- Committee and public input (AM)
- Group, critique, refine policy areas (PM)
- Write detailed outline (Conclusion)

Roadmap for Developing the Energy Plan



Energy Policy Levers: What Can the State Do?

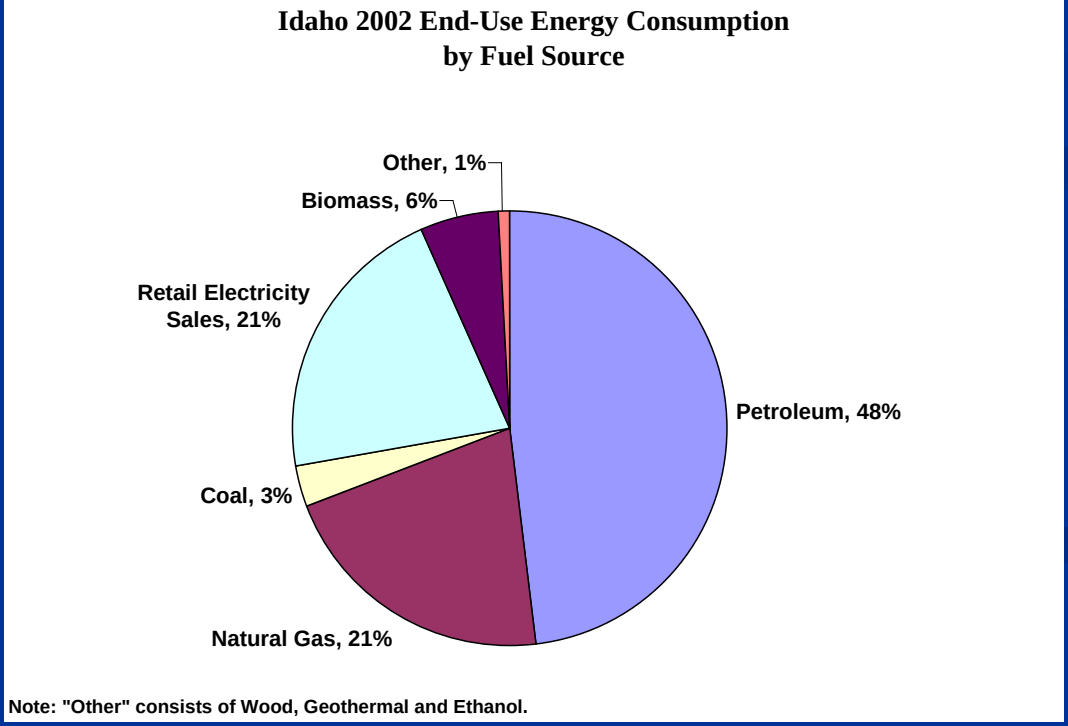
- The state as a *taxing* authority
- The state as a *spending* authority
- The state as a *regulator* (utility regulation, codes and standards, environment and safety, water rights)
- The state as an energy *consumer*
- The state as an energy *producer*
- The state as a *participant* in regional and federal processes
- The state as a *moral* authority

Reasons for State Action

- Externalities
- Public goods
- Collective action problem
- Economies of scale
- Access to capital/high capital costs
- Builder/Owner
- Public interest
- Market imperfections

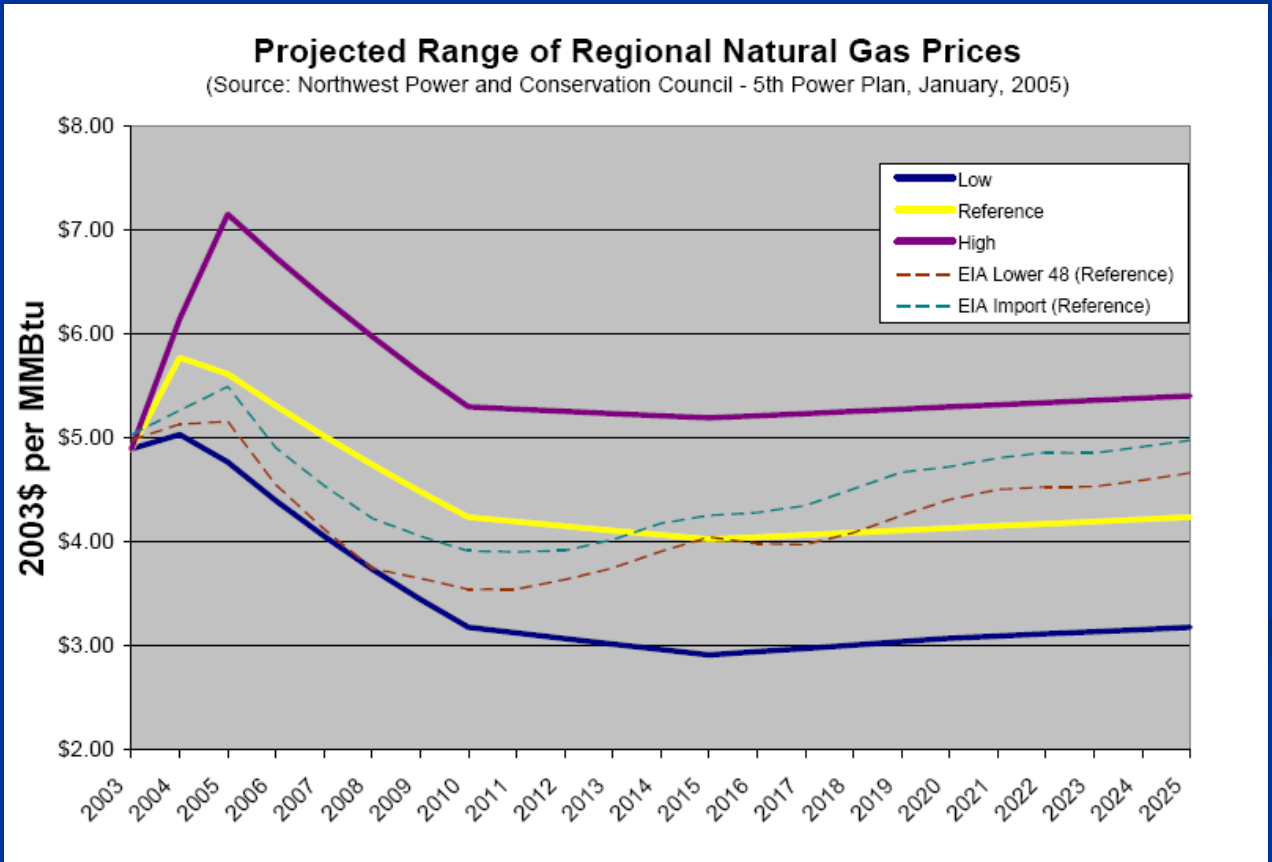
Idaho Energy Use

- Majority of end use energy Natural Gas and Petroleum
- Idaho ranks 16th in energy intensity and energy costs as percent of median income

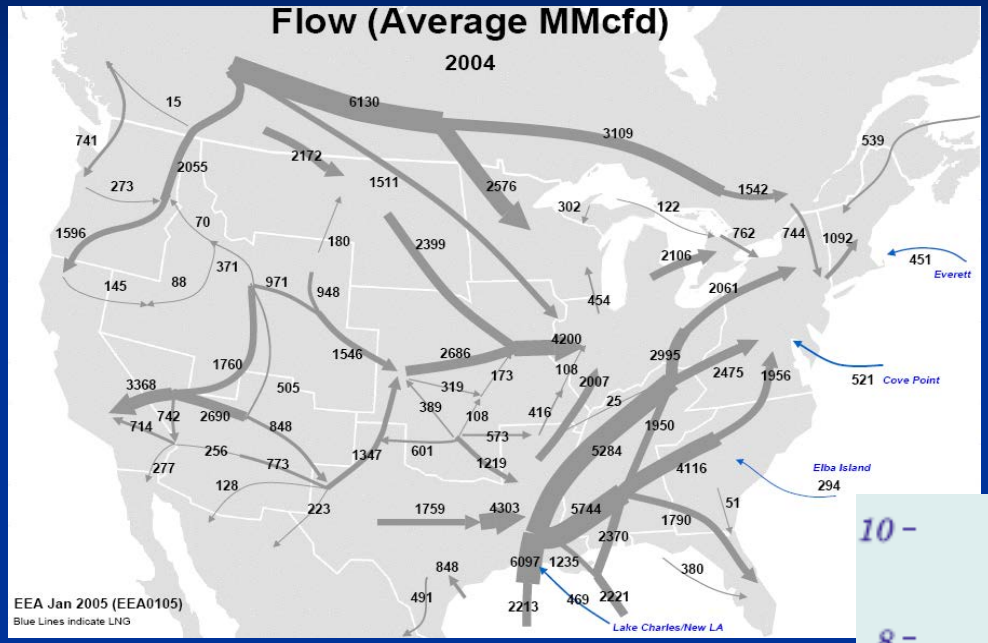


Higher Natural Gas Prices

- Prices expected to be higher and more volatile
- Increasing demand: Elec. generation, coal sands, biofuels

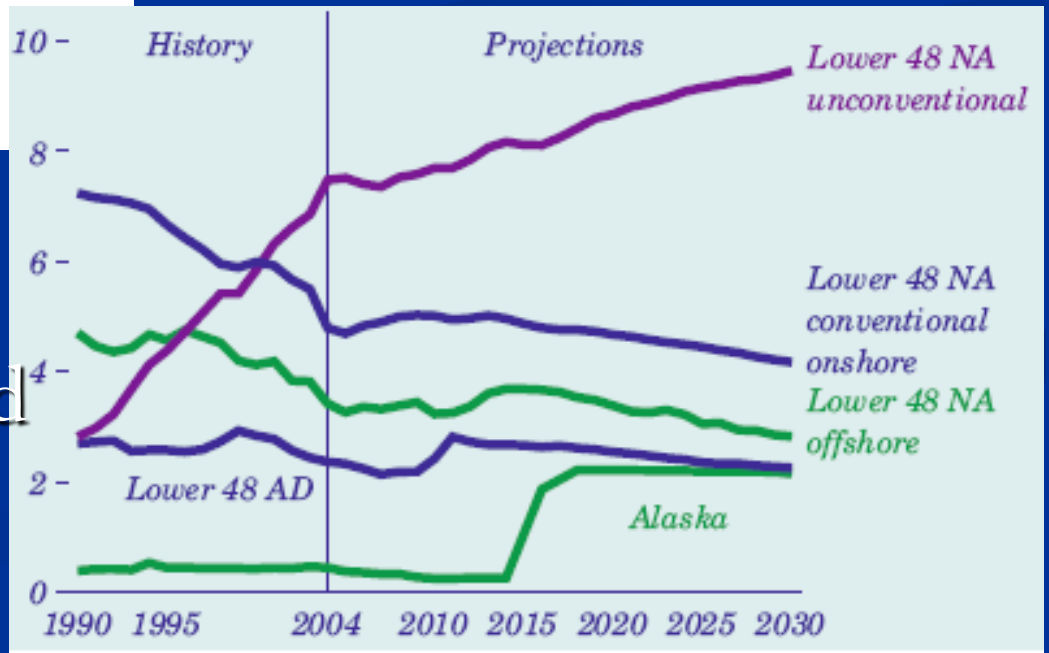


Natural Gas Supply



- Historically captive supply gaining access to more lucrative eastern markets

- PNW and US relying heavily on "new" supply to meet demand



Natural Gas Utilities

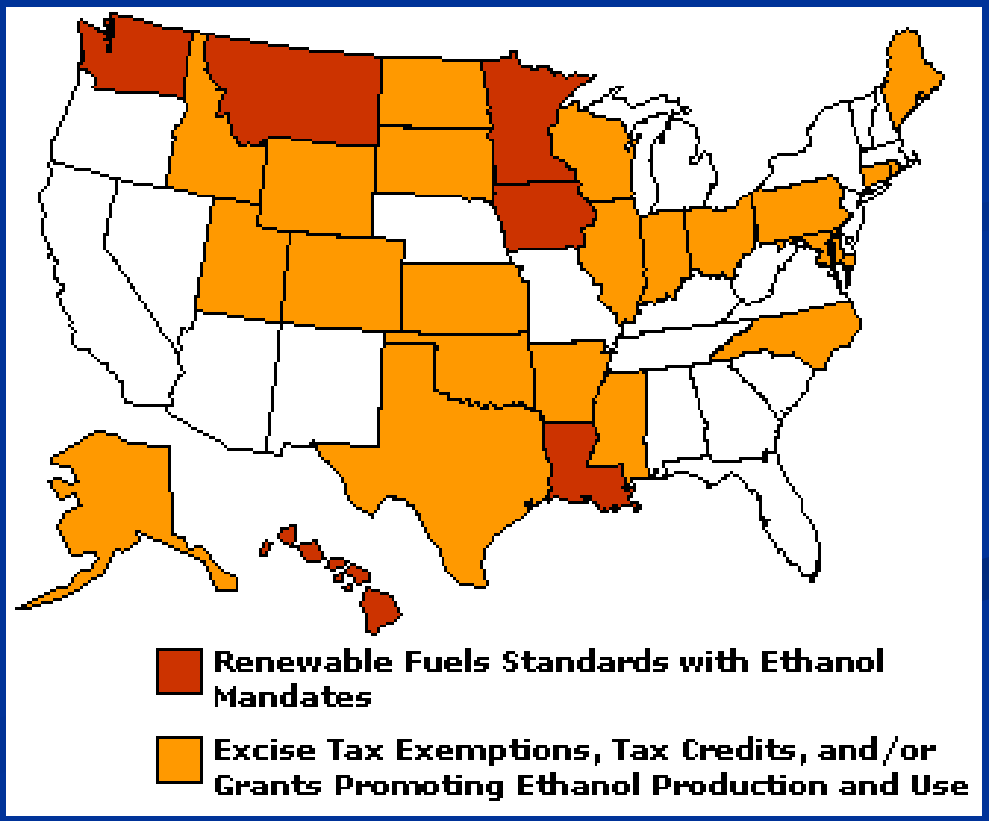
- Utilities are able to maintain reliable supply and infrastructure.
- May need to make investments further upstream and for longer terms
- Financial disincentive for conservation
- Limited incentive to manage supply price and price volatility

Petroleum

- No instate production or refining
- Competitive industry with increasing concentration
- State has few leverage points over competitive structure with limited history of success
- Leverage points – efficiency and alternative fuels

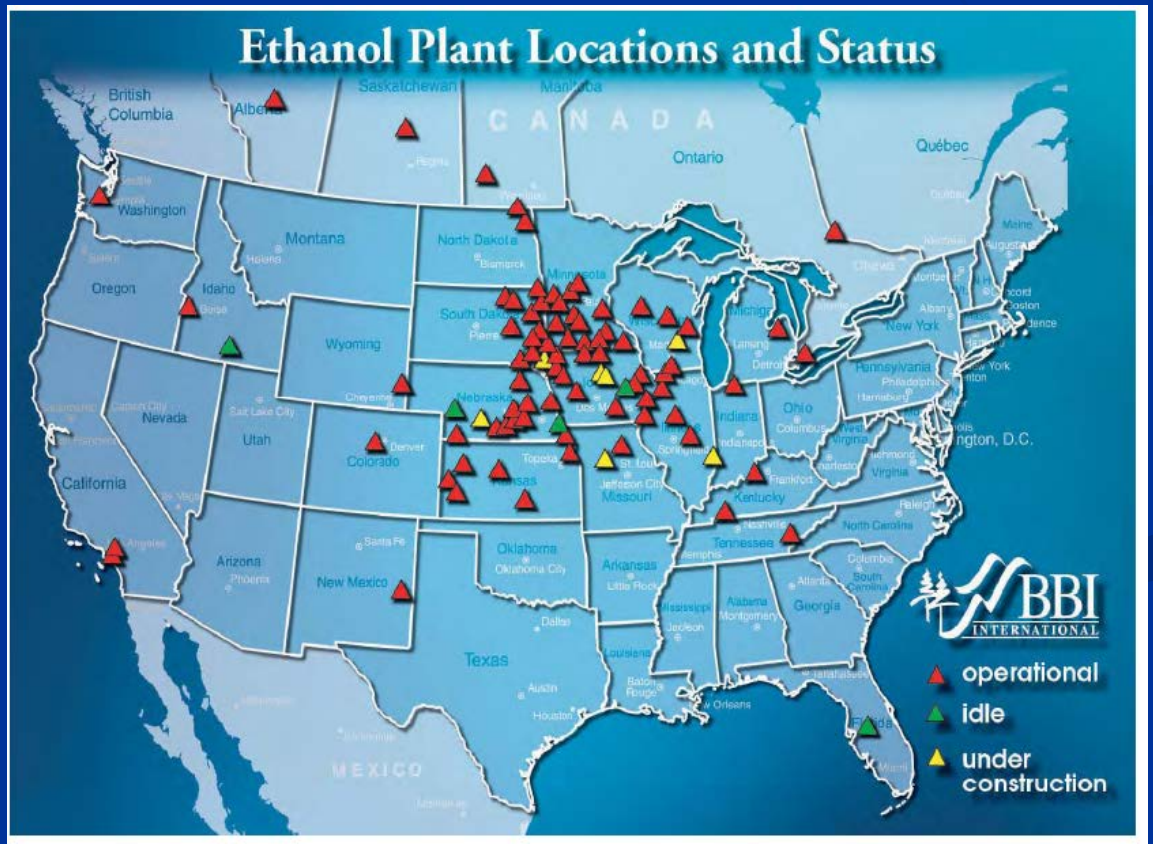
Biofuels

- Increasing Federal and State support
- Wide Variety of Fuel Types
  - Ethanol
    - Sugar & Starch (Corn)
    - Cellulosic
  - Biodiesel
  - Methanol

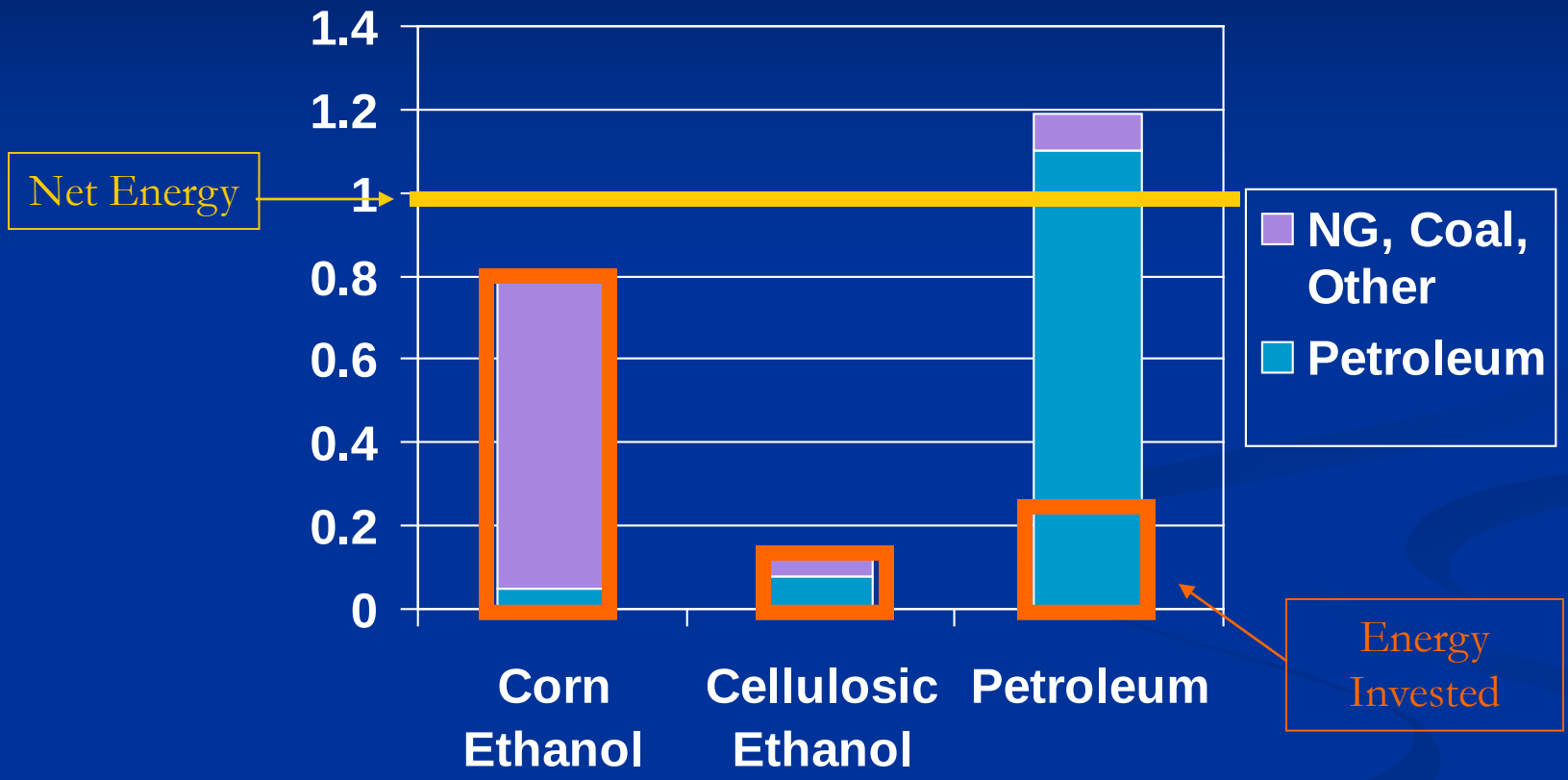


Ethanol

- Production predominately in heartland
- Idaho higher cost of production (Corn)
- Can be offset
  - Wet Milling
  - Transportation



Energy Inputs



Units of energy input per 1 unit of energy output (MJ)

Science, January 27, 2006, Ferrel et. al (U.C. Berkeley)

Biofuel Energy Input

	Corn Ethanol	Cellulosic Ethanol	Petroleum
Petroleum	.05	.08	1.1
NG, Coal, Other	.74	.04	.09
Net Energy	1.25	8.3	.83
EROI*	1.25/1	8.3/1	5/1

*Energy Return on Investment

Units of energy input per 1 unit of energy output (MJ)
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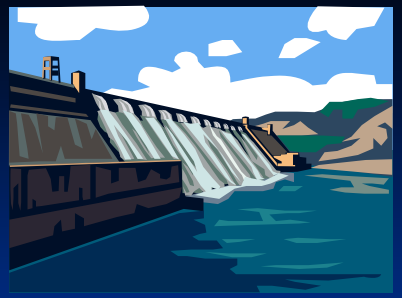
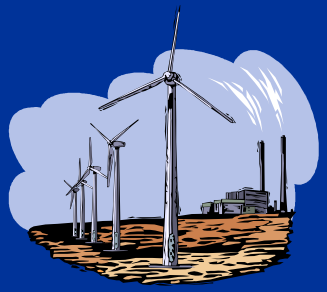
Biofuel: Other Issues

- Greenhouse gasses
  - Cellulosic much better than corn based
- Devoted acreage/food supply
- Water use/Environment Impacts
- Corn as transition to cellulosic ethanol
- Modified/new infrastructure and vehicles required above 10% mix
- Idaho production costs vs. Heartland



Idaho Policy Goals



Policy Goals from June Mtg.

- Five Categories
  - Reliability & stability
  - Low-cost & affordability
  - Environment & conservation
  - Jobs & economy
  - Flexibility

DRAFT Policy Goals

1. Ensure a secure, reliable and stable energy system for the citizens and businesses of Idaho
2. Maintain Idaho's low-cost energy supply and ensure access to affordable energy for all Idahoans
3. Protect Idaho's public health, safety and natural environment and conserve Idaho's natural resources
4. Promote sustainable economic growth, job creation and rural economic development through investments in Idaho's energy infrastructure
5. Provide the means for Idaho's energy policy to adapt to changing circumstances

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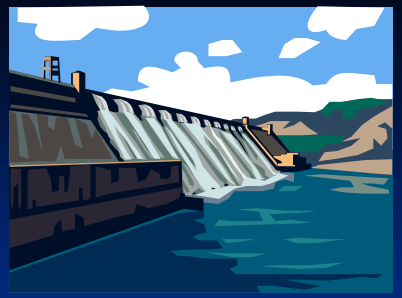
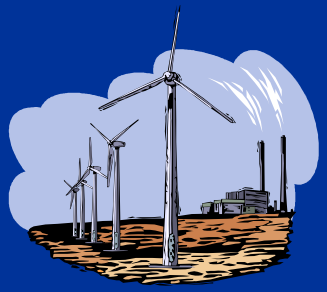


Other State Energy Plans



Nevada State Energy Plan

- Support and Encourage a Reliable, Affordable and Sustainable Supply of Electricity and Natural Gas
- Support and Encourage the Efficient Use of Energy
- Support and Encourage Further Diversification and Increased Reliability of Nevada's Transportation Fuel Supply

Nevada - Transportation

- Ensure Effective Competition in Transportation Fuels Markets
  - Work with other states and the Consumer Advocate to monitor transportation fuel supplies and prices
  - Continue to engage suppliers and distributors to exchange information during supply interruptions
  - Continue discussions with alternative transportation fuel suppliers

Nevada – Fuel Reliability

- Improve Transportation Fuel Reliability
  - Assess options to improve the supply reliability of refined products
  - Improve consumer education on transportation costs
  - Establish reasonable goals for ethanol and biodiesel production
  - Join other states in seeking higher CAFÉ standards
  - Engage rural Nevadans in the production of biofuels

Oregon - Petroleum

- Petroleum Price Increases and Production Peaks
  - Employer incentives to reduce single-occupant commuting
  - Expanding incentives to encourage carpooling
  - Starting commuter rail
  - Expanding transit service
  - Tax credits for hybrid vehicles
  - Reduce Truck Idling

Oregon - Biofuels

- 2% Biodiesel and 2% Ethanol content requirements
- 15 million gallon biodiesel and 100 million gallon ethanol production target
- Technical assistance, tax credits and low-interest loans for alternative fuel production and fueling stations

California - Transportation

- Building vision for the future
  - State should develop flexible overarching strategies that simultaneously reduce petroleum fuel use, increase fuel diversity and security, and reduce emissions of air pollution and greenhouse gasses.
  - The state should implement a public goods charge to establish a secure, long-term source of funding for a broad transportation program.

California – Natural Gas

- Develop capability to evaluate natural gas adequacy under extreme conditions, not just normal peak conditions
- Increase natural gas savings targets in light of higher wholesale prices
- Rigorously evaluate and monitor natural gas efficiency programs

California – Fuel Supply Diversity

- Transportation fuel plan shall include an evaluation of alternative fuels on a full-cycle assessment of emissions criteria, air and water pollutants, impacts on petroleum consumption, and other matters the state board deems necessary
- Plan shall set goals for increased alternative fuel use in the state that:
  - Optimizes environmental and public health benefits consistent with existing and future regulations in most cost-effective manner possible
  - Ensures there is no net material increase in air and water pollution or other toxic substances

California – Alternative Fuels

- Pursue all reasonable non-petroleum fuel and technology options
  - High priority given to fuel blends that can be used in existing engines, do not void manufacturer warranties and can be dispense through existing infrastructure
  - Vigorously pursue other fuel options where cost effective (fleets)

California – Elec. & CNG Vehicles

- Investigate how utilities can best develop infrastructure to fuel electric and natural gas vehicles
- Engage automakers and fuel system "upfitters" to continue production of gaseous alternative fuel vehicles
- Join national Plug-In partners campaign and communicate interest in plug-in hybrids

California – Biodiesel

- 5% non-petroleum diesel standard
- Seek recommendations for expanding use of B-20 fuel
- Investigate feasibility of requiring B-20 in state fleet
- Establish acceptable standard that will preserve engine performance

California - Ethanol

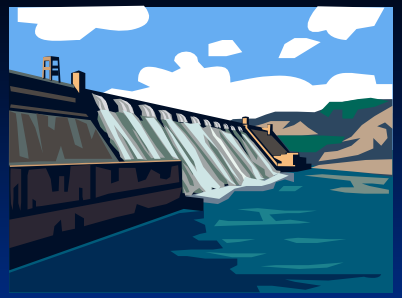
- 10% renewable fuel standard
- Seek recommendations for increasing use of E-85
- Expedite permitting of E-85 stations
- Investigate feasibility of Flex Fuel Vehicle requirement
- Establish collaborative state/industry working group
- Consumer education programs
- Evaluate various incentive options for creating E-85 infrastructure
- Support research for development of biomass to ethanol conversion technology
- Examine feasibility of establishing ethanol pool or reserve to provide E-85 fuel at prices competitive with gasoline on cents-per-mile basis

California – Fuel Conservation

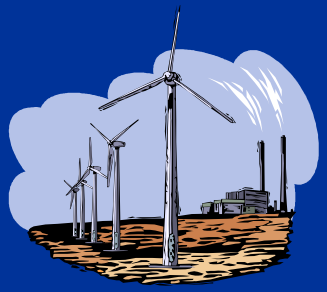
- Intensify efforts with other states to influence federal government to double CAFE standards
- Use state fleet as model of efficiency
  - Minimum fuel standards by 2009
  - Procurement requirement for alternative fuel and vehicles
- Encourage local governments to adopt minimum fuel efficiency standard and procurement process for efficient and alternative fuel vehicles
- Establish state/industry working group to examine potential for plug-in hybrids
- Develop program to reduce diesel engine idling
- Develop program to reduce non-road fuel use

California – Fuel Conservation

- Establish low interest loan program for projects that reduce use and increase diversity
- Explore efficiency standards for replacement tires
- Sponsor consumer outreach on transportation energy choices
- Sponsor research and development
- Explore incentive programs to influence customer choice
  - Pay as you drive insurance, purchase fees/rebates



Straw Proposal



Natural Gas

- *Conservation*
  - *Decoupling*
  - *Tariff rider or public purpose charge*
- Conservation
  - Encourage direct end use of natural gas
  - Encourage use of natural gas vehicles for company and/or state owned fleets

Natural Gas (con't)

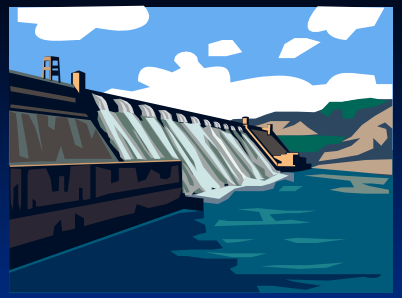
- Low cost & stability
  - Procurement Incentive mechanism
  - Encourage hedging & long-term contracting
- Best Use (Loading order)
  - Direct end use
  - Peaking generation– (hydro)
  - Base load generation– (coal, renewable)
  - Instate industry
    - Fertilizer, biofuels…

Petroleum

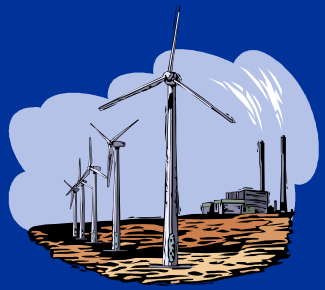
- Supply Reliability
  - Strategic reserve, in state storage
  - Investigate supply reliability improvements
- Conservation
  - Encourage use of hybrid/high mpg vehicles
    - Public/Company fleets/State fleets
  - Work with other states to promote increase in Federal CAFÉ standards
  - Reduce speed limits

Biofuels

- Encourage purchase of FFV and alt. fuel vehicles
- Incentives for growers and producers of biofuel
- Encourage future development of cellulosic ethanol production
- Include triggers or defer adoption of renewable fuel standard
  - *Primary feedstock supply initially from out of state producers*
  - *Need to address concerns regarding high ethanol prices and potential supply shortages*
  - *Need to better understand impacts of increased production on water supply, water quality and energy demand in Idaho*



Your Turn



Discussion Guidelines

- Please be mindful of time
  - Give everyone time to speak
- Focus on high level policy goals
  - details to come later
- AM – Information gathering
- PM – Critique and editing
- Provide reasoning, data, experience