



State Energy Strategic Planning

April 3, 2013

DOE's Technical Assistance Program

Agenda

- Welcome & Introduction of Technical Assistance Program
 - Eleni Pelican, U.S. DOE
- Strategic Energy Planning: Analysis and Guidelines
 - Kate Marks, NASEO
- Experiences from the Field:
 - Tony Usibelli, Washington
 - Jeff Herholdt, West Virginia
- Q&A and Next Steps

What is the Technical Assistance Program?

- DOE's Technical Assistance Program (TAP) provides state, local, and tribal officials with resources to advance successful, high-impact, and long-lasting clean energy policies, programs, and projects
- TAP supports one of EERE's key missions – taking clean energy to scale through high impact efforts
- TAP has been around for over a decade and handled thousands of inquiries – most recently TAP had been focused on supporting Recovery Act grantees
 - One-on-one assistance
 - Online resource library & webinars
 - Facilitation of peer exchange

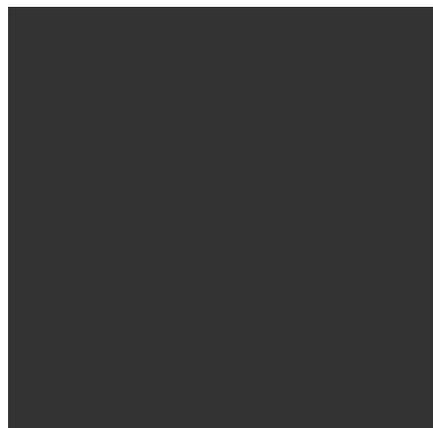
New TAP Approach



Why is Strategic Energy Planning a Priority Area?

- Strategic energy planning can help state and local governments build on initial or one-off energy successes, by moving from single projects and programs to a comprehensive, long-term energy strategy that delivers benefits for years to come
- The creation of a robust strategic energy plan for your government and community that can help save money, create local jobs, and improve our national security





State Energy Plan Evaluation and Guidelines

April 2013

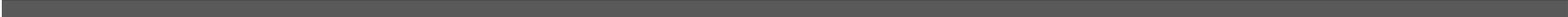


About NASEO

- Only national non-profit organization of the 56 State and Territory Governor-designated energy offices
- Facilitate ideas exchange across states
- Improve the effectiveness of state energy programs and policies
- Act as a repository of information
- Committee Structure
 - Fuels and Grid Integration, Buildings, Industrial and Advanced Manufacturing, Energy Security, Financing, Renewables, Government Affairs
- Serve as the voice of SEOs in Washington, D.C.

+ State and Territory Energy Offices are a Vital Resource



- Economic Development
 - Private Sector
 - Advisory Role
 - Building Retrofits and Energy Management
 - Public Education and Outreach
 - Energy Planning
 - Innovation
 - Utilities
- 

+ U.S. State Energy Program: Measurable Results

SAVINGS

Each \$1 of SEP federal funding is associated with annual savings of 1.03 million source BTUs and energy cost savings of \$7.22.

LEVERAGING

Each \$1 of SEP federal funding is typically leveraged by \$10.71 of state and private (non-federal) funds.

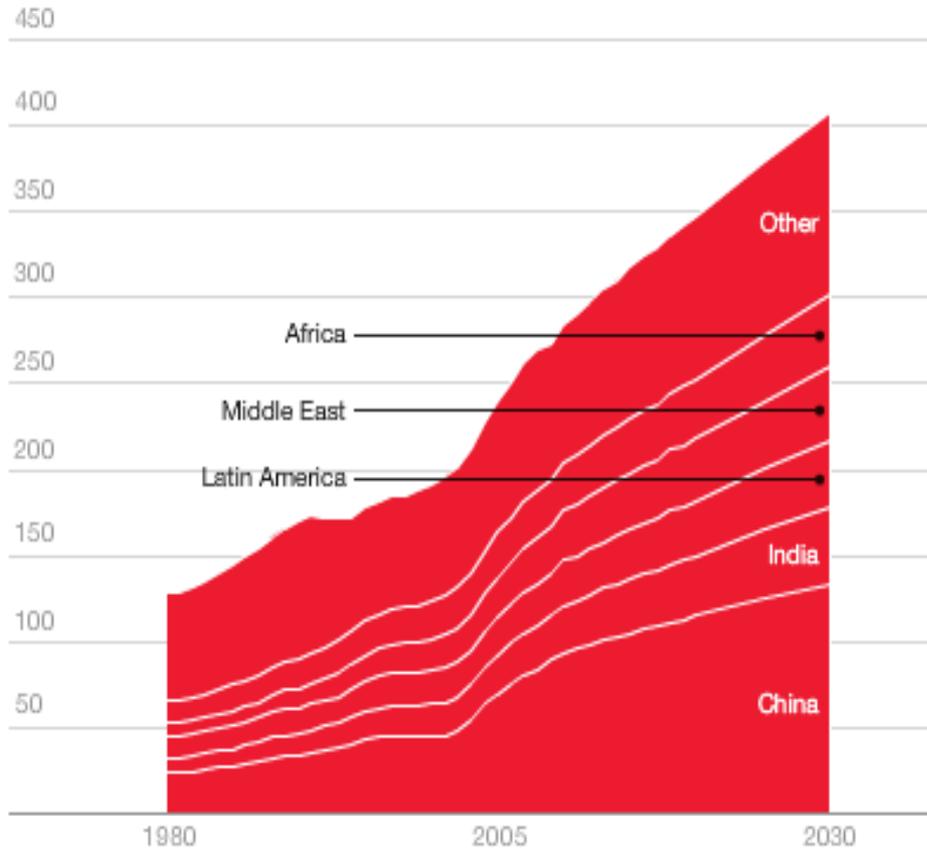
+ Overview: Comprehensive State Energy Planning

- Meet future energy needs
 - Cost effective and sustainable
 - Builds consensus among stakeholders
 - Encourages innovative technologies
 - Fosters competitive energy markets
-

+ Why State Energy Planning?

Non OECD energy demand

Quadrillion BTUs



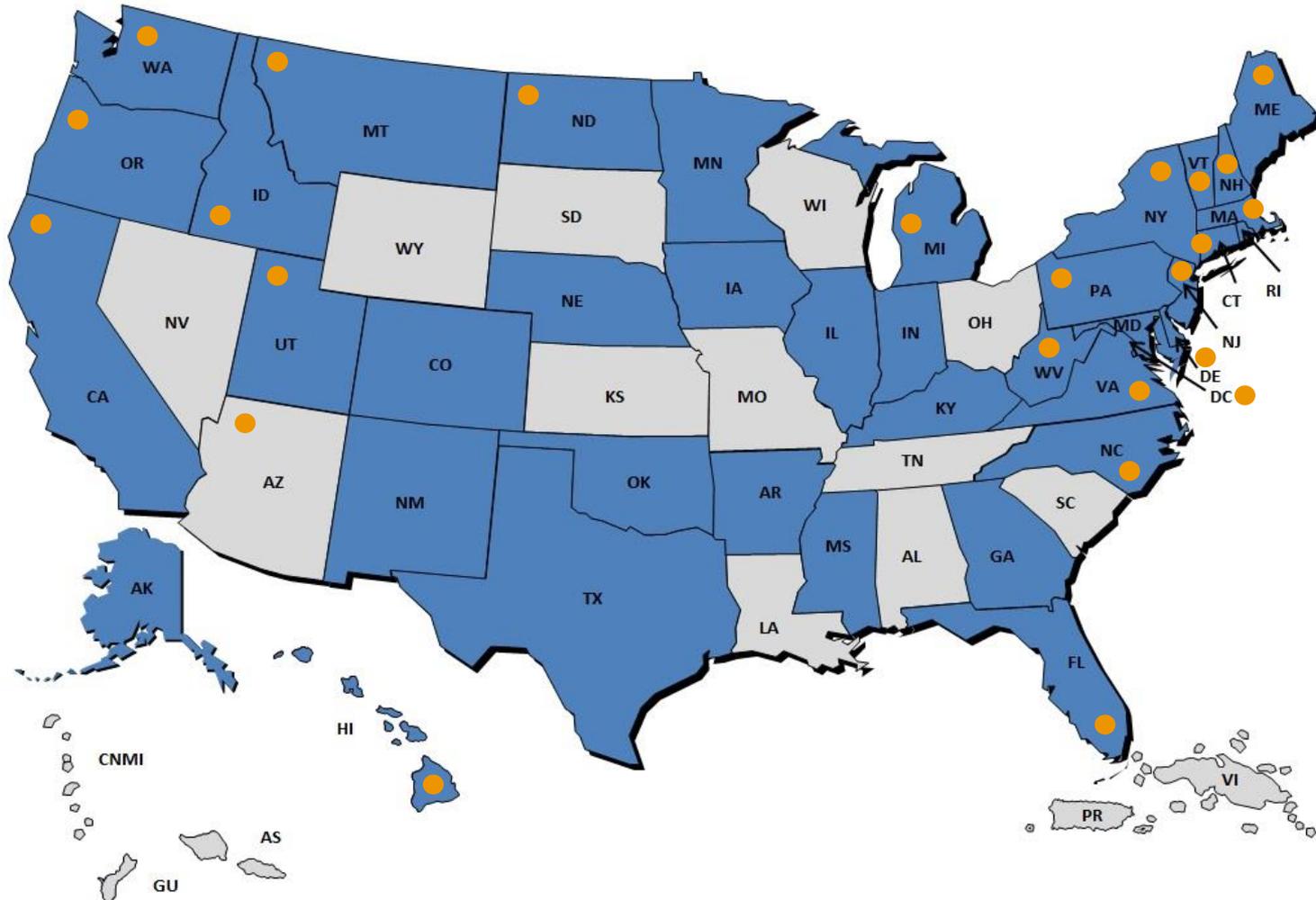
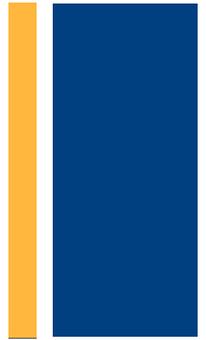


Context and Considerations for NASEO's State Energy Plan Analysis

- Most plans were completed pre-2010.
 - Energy market, resource, and demand factors have changed since most of the plans were developed.
- Some of the plans only focused on clean energy or a few specific resources.
- State energy plans provide a strategic, long-term, and comprehensive approach to energy policy.
 - But...energy and economic opportunities arise from time-to-time....

+ State Energy Plans for Analysis

NASEO collected plans from 38 states and D.C.



● States with Energy Plans Required Through Mandate or Executive Order (23 states and D.C.)

+ Data Points Collected and Analyzed



- ✓ Lead
- ✓ Frequency
- ✓ Outlook
- ✓ Drivers
- ✓ Vision
- ✓ Governor's Strategy?
- ✓ Climate Action Plan?
- ✓ Restructured?
- ✓ Existing state policies
- ✓ Energy sectors
- ✓ Unique/innovative elements
- ✓ Financing
- ✓ Targets
- ✓ Energy assurance?
- ✓ "Lead by example"?
- ✓ Legislative mandate
- ✓ Goals/Topics/Focus Areas

+ Benefits of a State Energy Plan

- Cost savings in the public and private sectors
- Job creation
- Competitive economic advantage and growth
- Sustainable environment
- Security, reliability, and resiliency
- Resource diversity

State Energy Plans Themes Pre- and Post-2010

Pre-2010:

- Reduce dependence on fossil fuels and foreign oil
- Enhance energy reliability through grid improvements and ensuring adequate supply
- Reduce GHG emissions

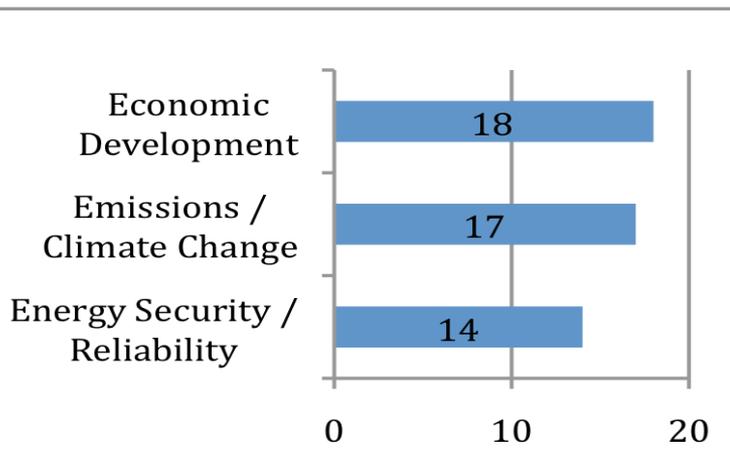
Post-2010:

- Enhance economic development
 - Create jobs
 - Improve workforce development
 - Spur innovation and technology
- Reduce energy use
- Enhance energy affordability

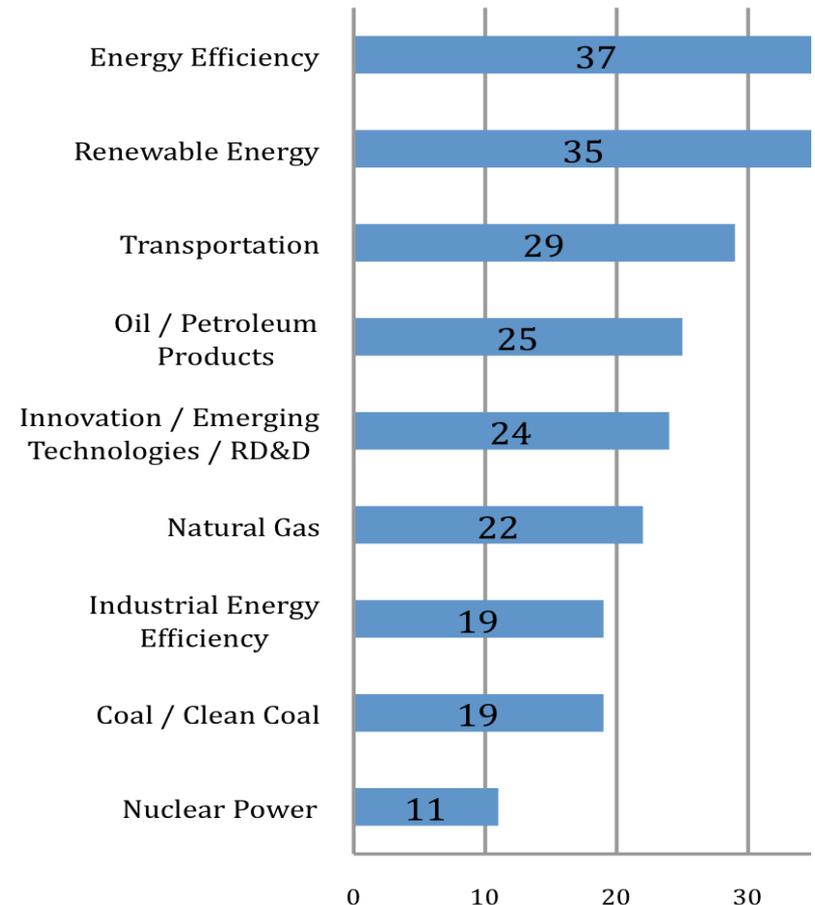
State Energy Planning Motivators and Goals



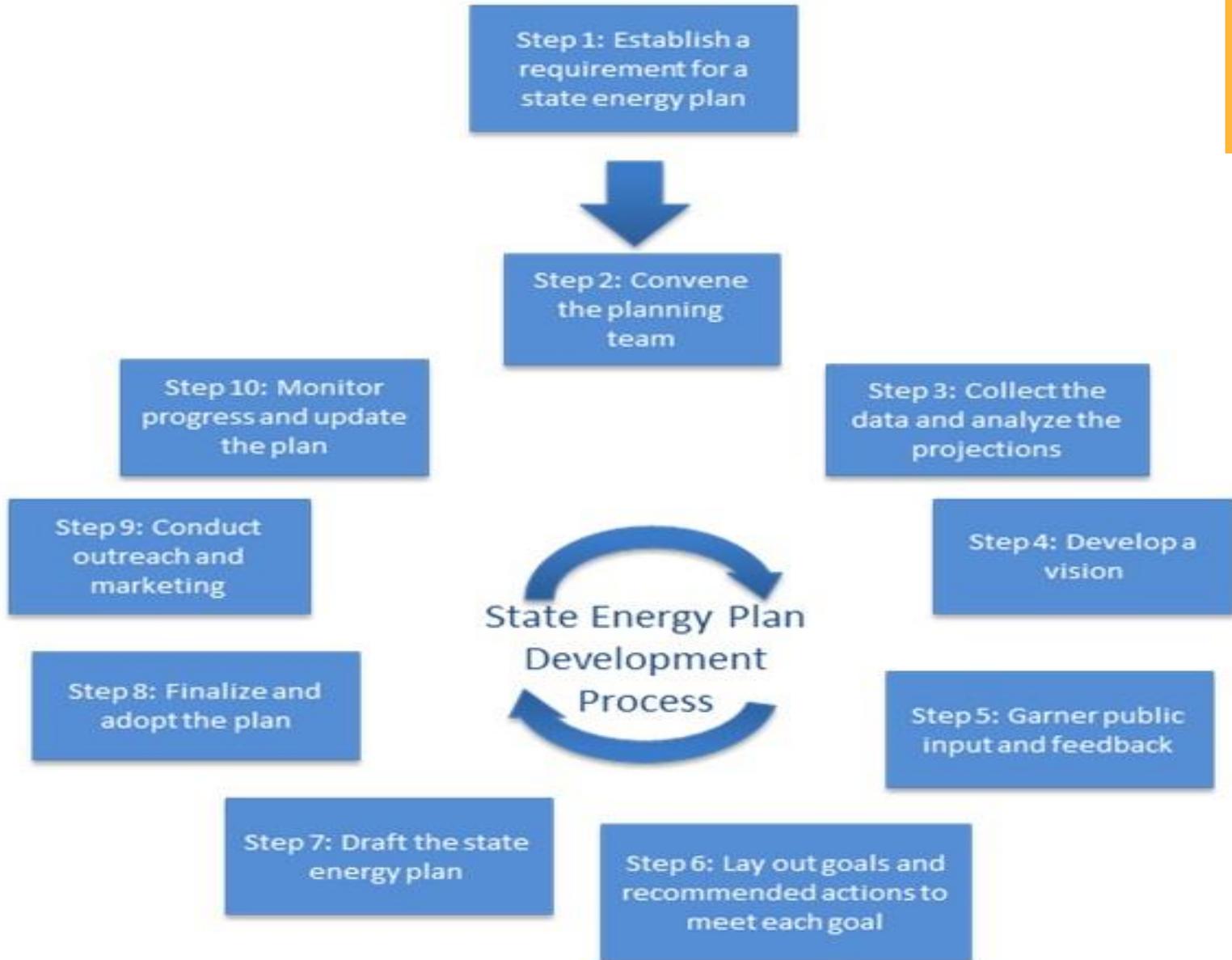
Motivators for State Energy Planning



Commonly Cited Energy Topics



+ The Guidelines: Energy Planning Process



+ Step 1: Establish a Requirement for a State Energy Plan

- Generally the state energy planning process is initiated through a top-level state authority via an executive order, statute, or agency directive.
- Often identifies the following:
 - Overall Vision
 - Stakeholders
 - Resources
 - Timeline

+ Step 2: Convene a Planning Team

Public Sector

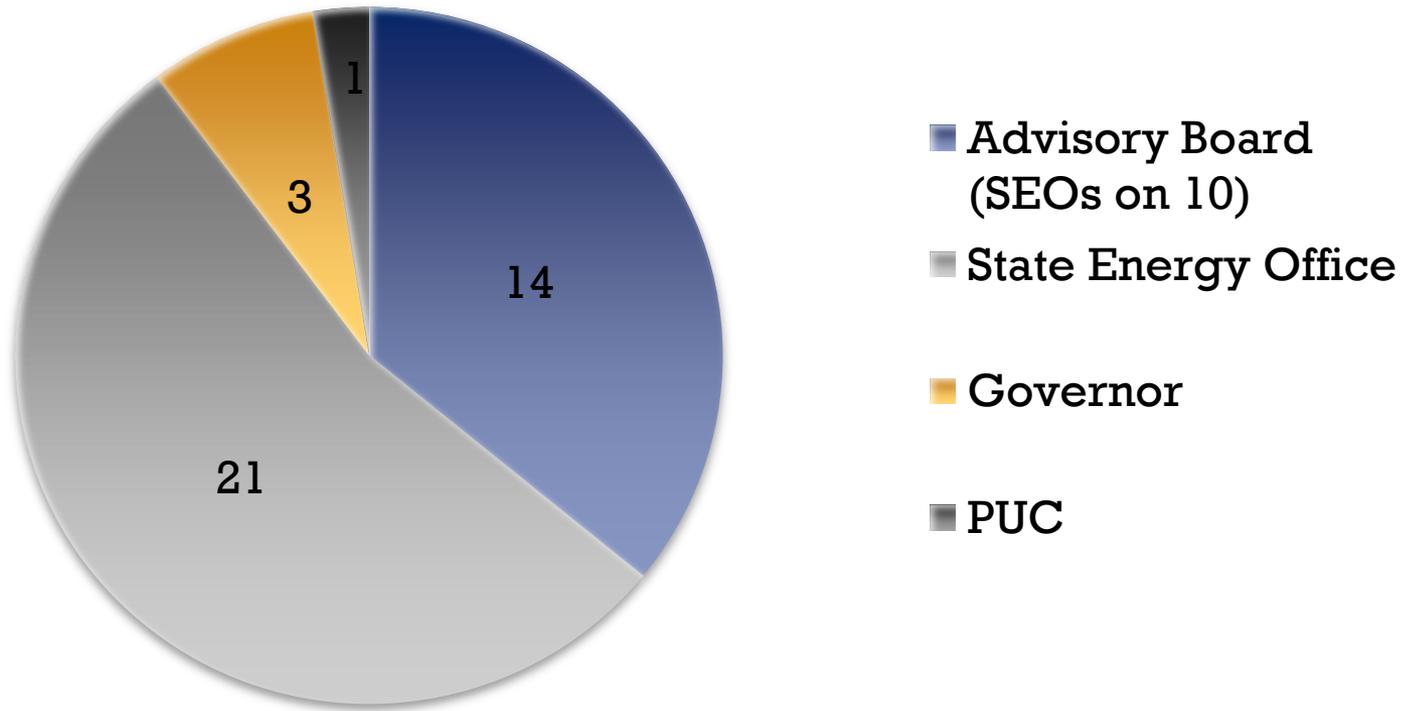
- Governor's office
- Key energy legislator(s)
- State Energy Office
- Public Utility Commission
- Environmental Agencies
- Related agency directors
- Local government and tribal leaders
- Military installation representatives
- Consumer advocates
- Research and technology transfer institutions

Private Sector

- Utility representatives
- Major industry groups
- Business leaders
- Energy producers
- Financial institutions
- Academic institutions
- Energy-focused non-profit organizations
- Others: civic groups, faith based groups, community groups

+ Findings: Authoring/ Lead Entity

- Leads the planning process, engages stakeholders, solicits public input, and writes the energy plan.



+ Step 3: Collect and Analyze Data



- *Analysis of data and information will allow the planning team to consider options within realistic parameters and set benchmarks for measuring progress.*
- Questions to consider in the data collection process:
 - What other energy-related plans, policies, and programs exist at the state level that can be leveraged by the state energy plan?
 - What is the current profile of the state's energy resources, industry figures, and intellectual capacity?

+ Step 4: Develop the Vision



- *A focused vision statement or statements will reflect the overall objective of the plan. The vision drives the remainder of the plan's development.*

*“Grow Indiana jobs and incomes by producing more of the energy we need from our own natural resources while encouraging conservation and energy efficiency.”
-Indiana’s 2006 Strategic Energy Plan*

*“... We intend to manage the continuing transition from traditional energy fossil fuel to cleaner energy supplies in a manner that secures our economic and environmental future.”
-Vermont’s 2009 Comprehensive Energy Plan*

+ Step 5: Garner Public Input



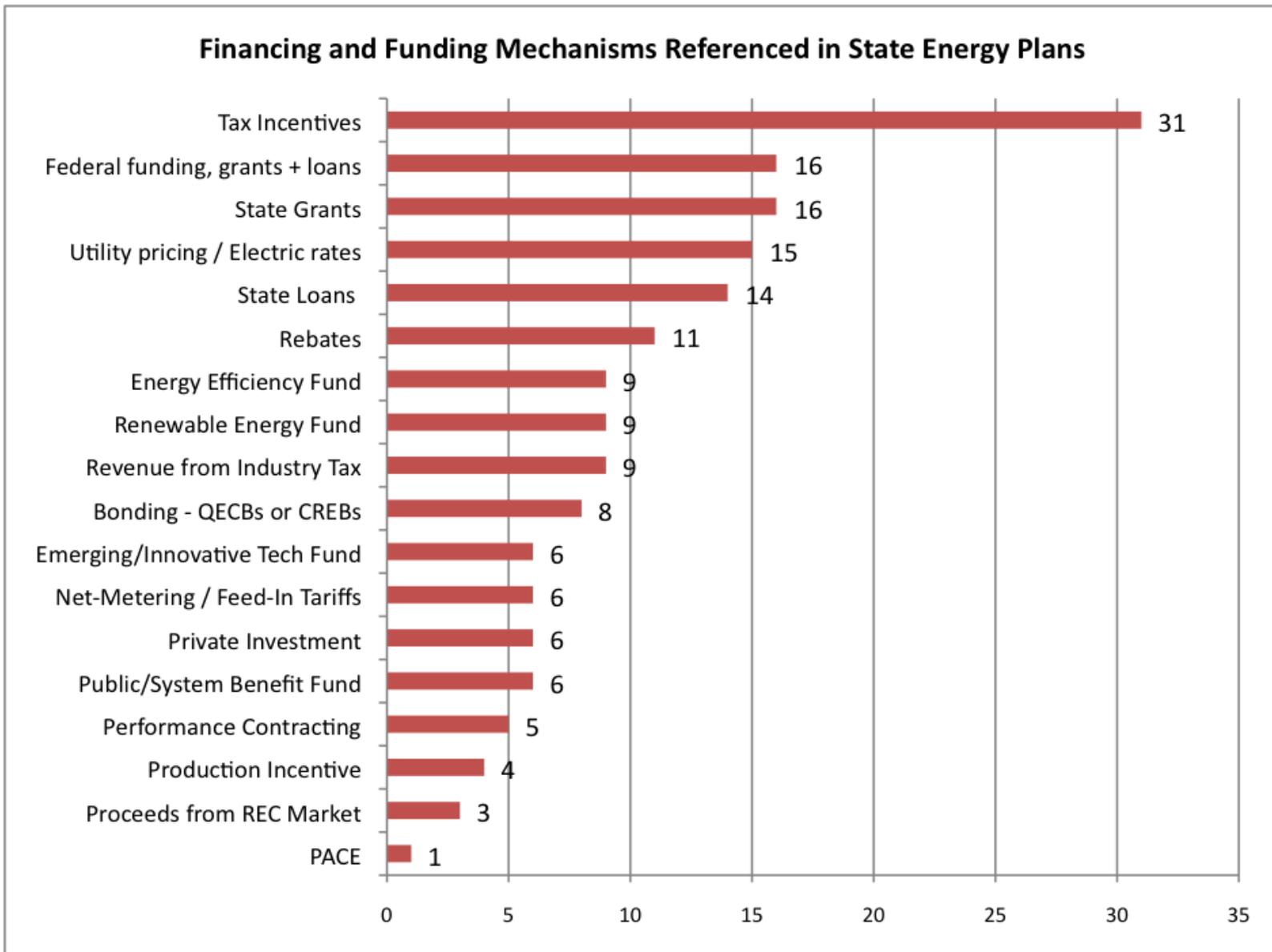
- *Public communication will elevate the visibility of the plan, attract valuable input from energy consumers, and facilitate public support.*
- Broad acceptance is essential to the plan's recognition as the primary energy strategy for meeting future energy needs.
- Avenues for communication:
 - Public forums
 - Announcements
 - Working groups
 - Information campaigns
 - Open educational events
- Factoring in the costs for these types of outreach is a key component of the budget for the energy planning process.

+ Step 6: Outline Goals and Actions



- “SMART” goals
 - *Specific*
 - *Measurable*
 - *Attainable*
 - *Realistic/Relevant*
 - *Timely*
- Once goals are established, it is important to:
 - Recommend actions to meet each goal
 - Explore financing mechanisms
 - Consider evaluation and measurement criteria

+ Financing and Funding Mechanisms



+ Step 7: Draft the Plan



- The content of the state energy plan will be unique to the state's forecasted energy needs and constraints, as well as state-specific political, economic, and social drivers.

+ Step 8: Finalize and Adopt the Plan



- Present the plan to the appropriate authority (e.g., Governor or Legislature) for approval.
- The planning team will respond to any final questions and defend the plan as needed.
- Once approved, the state energy plan should be publicly accessible.

+ Step 9: Conduct Outreach and Marketing



- Options for marketing an energy plan:
 - Use a graphics firm to give the final version(s) of the state energy plan a professional appeal
 - Host local events to showcase the plan and the recommended actions
 - Create a website to report on the progress of the state energy plan measures
 - Host a series of community meetings
- The extent of the outreach and marketing strategy will depend on the state's planning budget. Limited budgets may find that a website is the most cost-effective form of communication.

+ Step 10: Monitor Progress and Update Plan



- A specific outline should be developed to evaluate the implementation and progress of goals and actions against the established timelines and measurement criteria.
- Publicly report on the progress of the state energy plan measures and implementation efforts to help build accountability and transparency.
- Establish a transparent process for modifying and updating the plan.
 - Regular updates will ensure that the plan adequately reflects current realities and the state's evolving energy objectives and needs

+ Impactful Policy and Program Options



- Energy resources (e.g., hydro, coal, oil, natural gas) vary state to state
- Customer-sited generation and demand-side management activities (in the electricity and transportation sectors) that are broadly applicable to all states
 - Energy Efficiency
 - Renewable Energy Grid Integration
 - Clean and Efficient Transportation
 - Financing Mechanisms
 - Evaluation and Measurement for Continuous Improvement
 - Energy Assurance and Emergency Response



Conclusions

- Successful implementation is dependent on the plan's overall development.
- There is an opportunity to draw out a national policy perspective on meeting the country's future energy needs.
- Linkages between state, local, and federal policies and programs that can be addressed within the plans.
- NASEO seeks to highlight the significance of state energy planning and further institutionalize and formalize the process.



+ Moving Forward: NASEO Support for States



■ Online Training

- Offer an online training module led by expert professors that further explores state energy planning processes and critical plan elements.
- Provide direct recommendations and guidance on state energy planning approaches and strategies.

■ Direct Technical Assistance

- Work directly with state energy offices that are undergoing planning to offer expertise and targeted assistance to meet specific needs.



Questions?
Thank you!

Kate Marks, Managing Director
kmarks@naseo.org





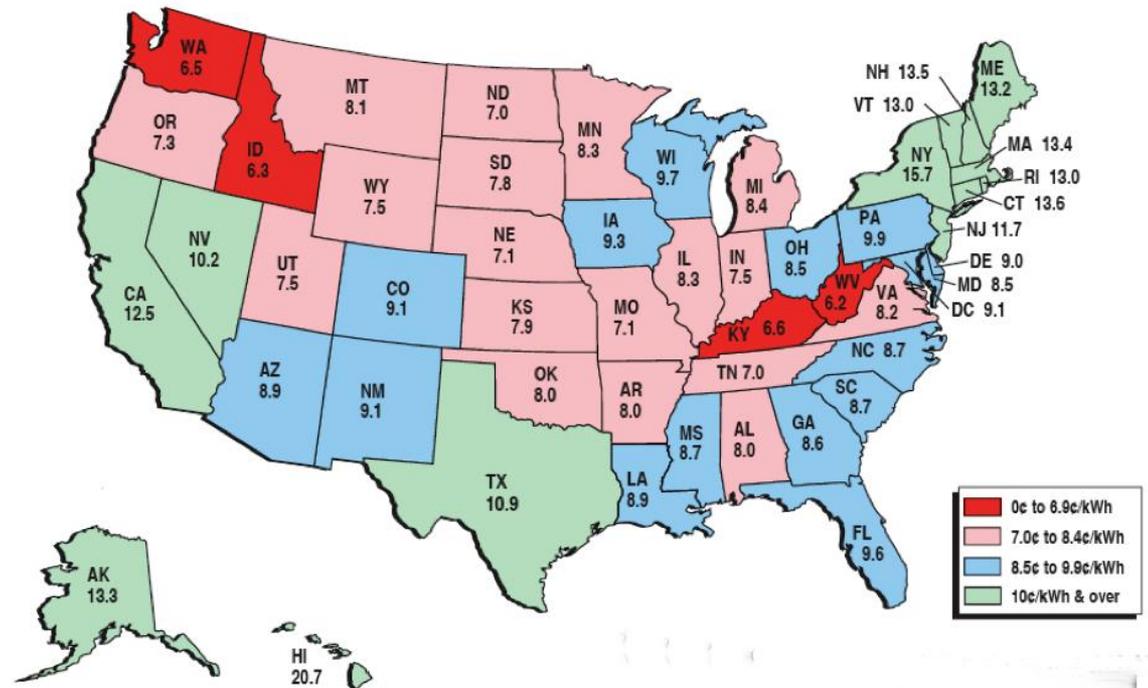
Department of Commerce
Innovation is in our nature.

2012 Washington State Energy Strategy

April 2013

Washington's Three Energy Strategy Goals

Maintain **competitive energy prices** that are fair and reasonable for consumers and businesses and support our state's continued economic success



001.0607

* Source: Energy Information Administration, Table 4, 2005
Year-to-Date Average Residential Retail Price of Electricity, Revised June 2007



Department of Commerce
Innovation is in our nature.

Washington's Three Energy Strategy Goals

Increase competitiveness by fostering a **clean energy economy and jobs** through business and workforce development

WASHINGTON

Key Statistics:

| | |
|--|-------------------------------------|
| Clean Economy GDP (2010) | \$8.8 billion |
| Clean Economy Jobs (Direct Production) | 79,149 (Brookings, 2011) |
| Investment in clean technology (2006-2008) | \$635 million (Pew, 2009) |
| VC Disbursement per Capita (2010) | \$94 |

Top 9 Clean Economy Job Segments

| Segment | # of Jobs |
|-------------------------------------|-----------|
| Conservation | 12,666 |
| Hydropower | 11,769 |
| Organic Food & Farming | 10,121 |
| Public Mass Transit | 8,571 |
| Waste Management & Treatment | 6,547 |
| Professional Environmental Services | 4,117 |
| Energy-saving Building Materials | 3,815 |
| Sustainable Forestry Products | 3,411 |
| Recycling & Reuse | 2,563 |

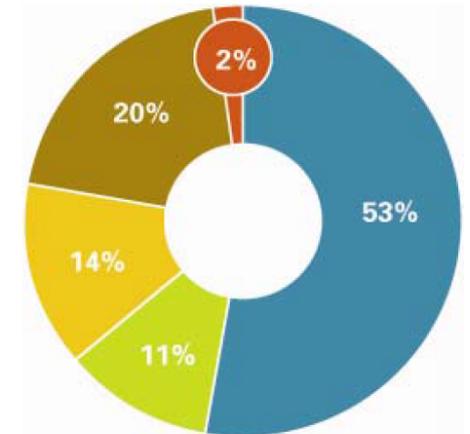
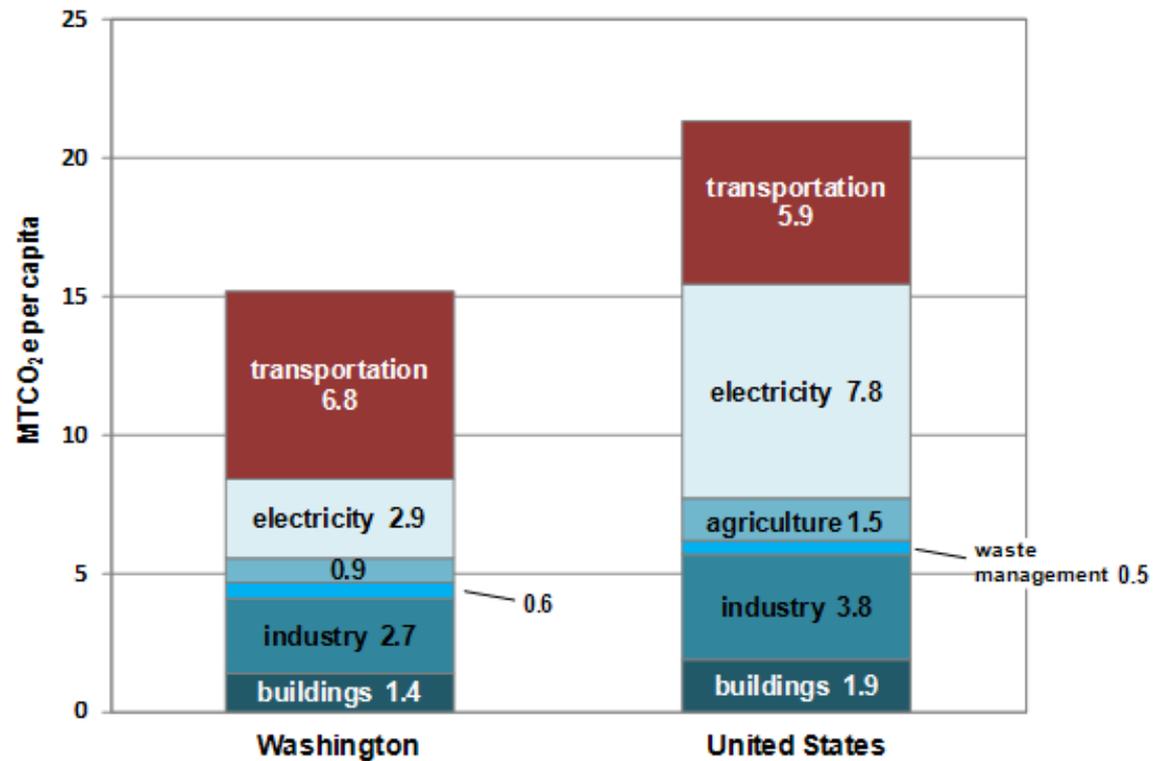


Figure: Direct production jobs in Washington's clean economy by sector in 2010.



Washington's Three Energy Strategy Goals

Meet obligations to
reduce greenhouse gas
emissions





Nine Legislated Principles

1. Pursue **conservation** as the preferred energy resource
2. Ensure our energy system meets the needs of citizens, especially **vulnerable populations**
3. Maintain and enhance **economic competitiveness**
4. **Reduce** dependence on **fossil fuels**





Nine Legislated Principles (part 2)

5. Improve efficiency of **transportation** energy use
6. Meet greenhouse gas limits and **environmental requirements**
7. Build on our **clean electrical grid**
8. Make **state government a model**
9. Maintain & enhance **existing infrastructure**



Focusing the 2012 Energy Strategy

**Transportation
Efficiency**

**Buildings
Efficiency**

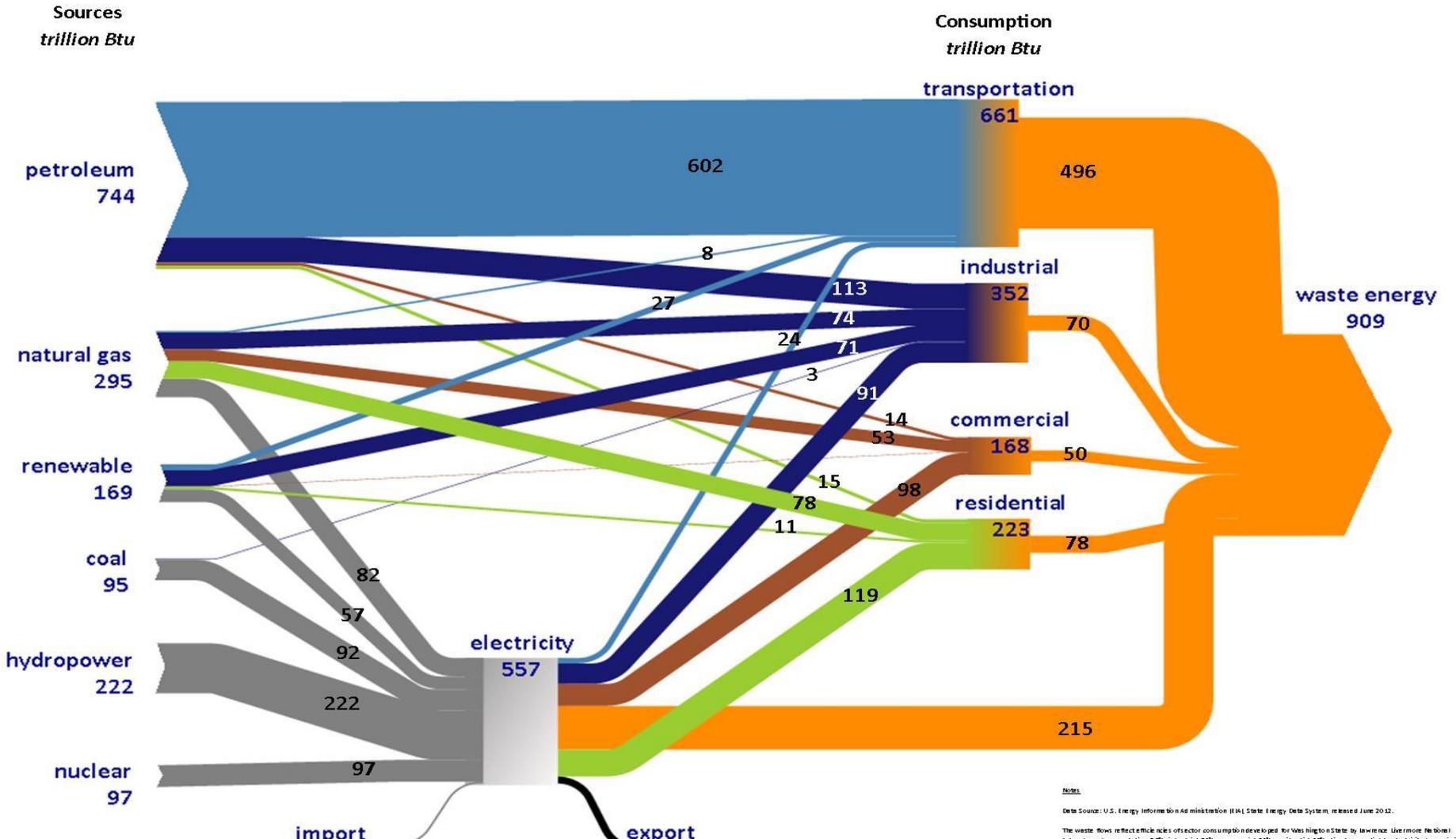
**“Distributed
Energy”**

JOBS



Why Transportation Efficiency?

Washington State Energy Flows in Calendar Year 2011



Why not Electricity Planning?



Sixth Northwest Conservation and Electric Power Plan

Figure 10-1: Cost-Effective Conservation Resources

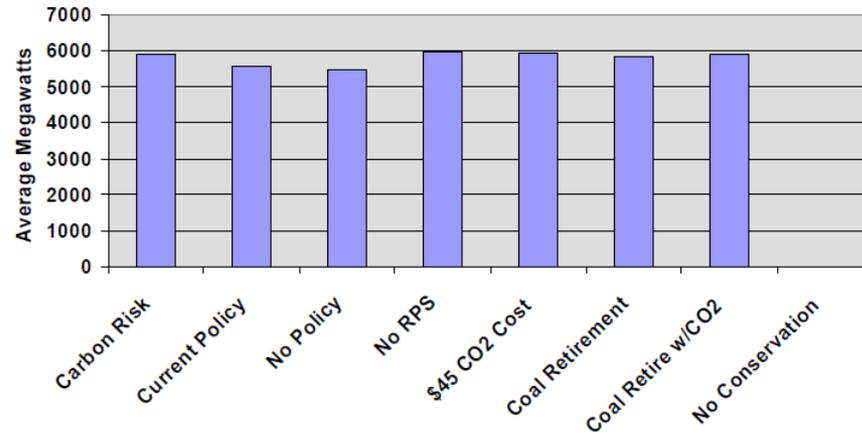
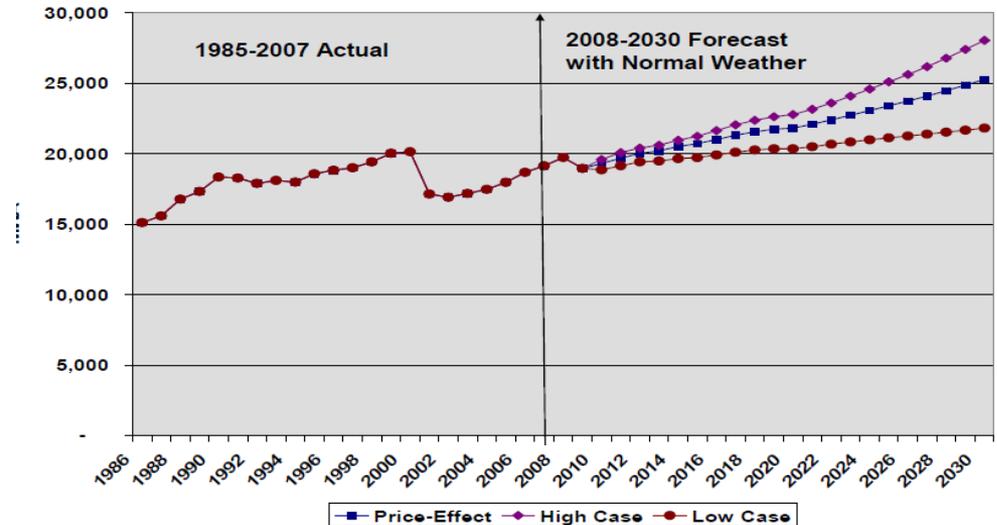
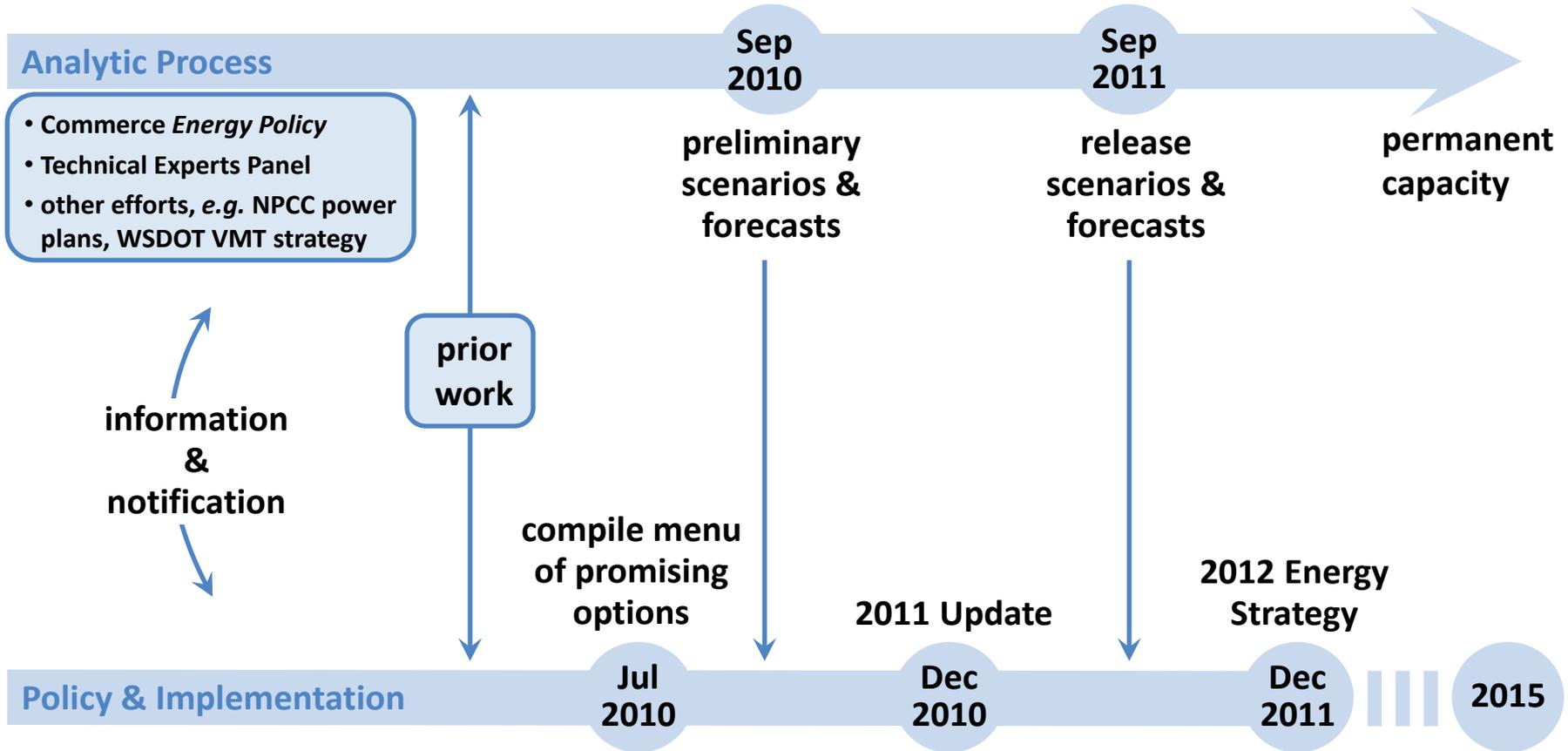


Figure 3-2: Historical Sixth Northwest Power Plan Sales Forecast (MWa)



Washington State Energy Strategy Process



Advisory Committee

| | | | |
|-------------------------------|--------------------------|-------------------------|--|
| Sharon Nelson | NCEP / Itron | | |
| Rogers Weed | Department of Commerce | | |
| Ben Bagherpour | SEH America, Inc. | Tom Karier | Northwest Power & Conservation Council |
| Angela Becker-Dippmann | PNNL | William Kidd | BP America |
| Mike Davis | PNNL | Steve Klein | Snohomish County |
| David Benson | Stoel Rives | Bob Link | AREVA NP Inc. |
| Terry Brewer | Grant County PUD | Rick LeFavre | OVP Venture Partne |
| Shari Brown | Weyerhaeuser | John McCoy | House, D-Tulalip |
| Jerome Delvin | Senate, R-Richland | Kris Mikkelsen | Inland Power & Light Co. |
| Bob Drewel | PSRC | Steve Rigdon | Yakama Power |
| Dave Finet | Bellingham Opp'y Council | Phil Rockefeller | Senate, D-Bainbridge |
| KC Golden | Climate Solutions | Dave Sauter | Klickitat County comm. |
| Don Guillot | IBEW Local 77 | Shelly Short | House, R-Addy |
| Kimberly Harris | Puget Sound Energy | Larry Smith | City of Vancouver council |
| Nancy Hirsh | NW Energy Coalition | | |



Technical Experts Panel



Northwest Power and Conservation Council - Howard Schwartz

Pacific Northwest National Laboratory - Marc Cummings, Dennis Stiles

Puget Sound Regional Council - Matthew Kitchen

University of Washington - Mark Hallenbeck, Daniel Schwartz

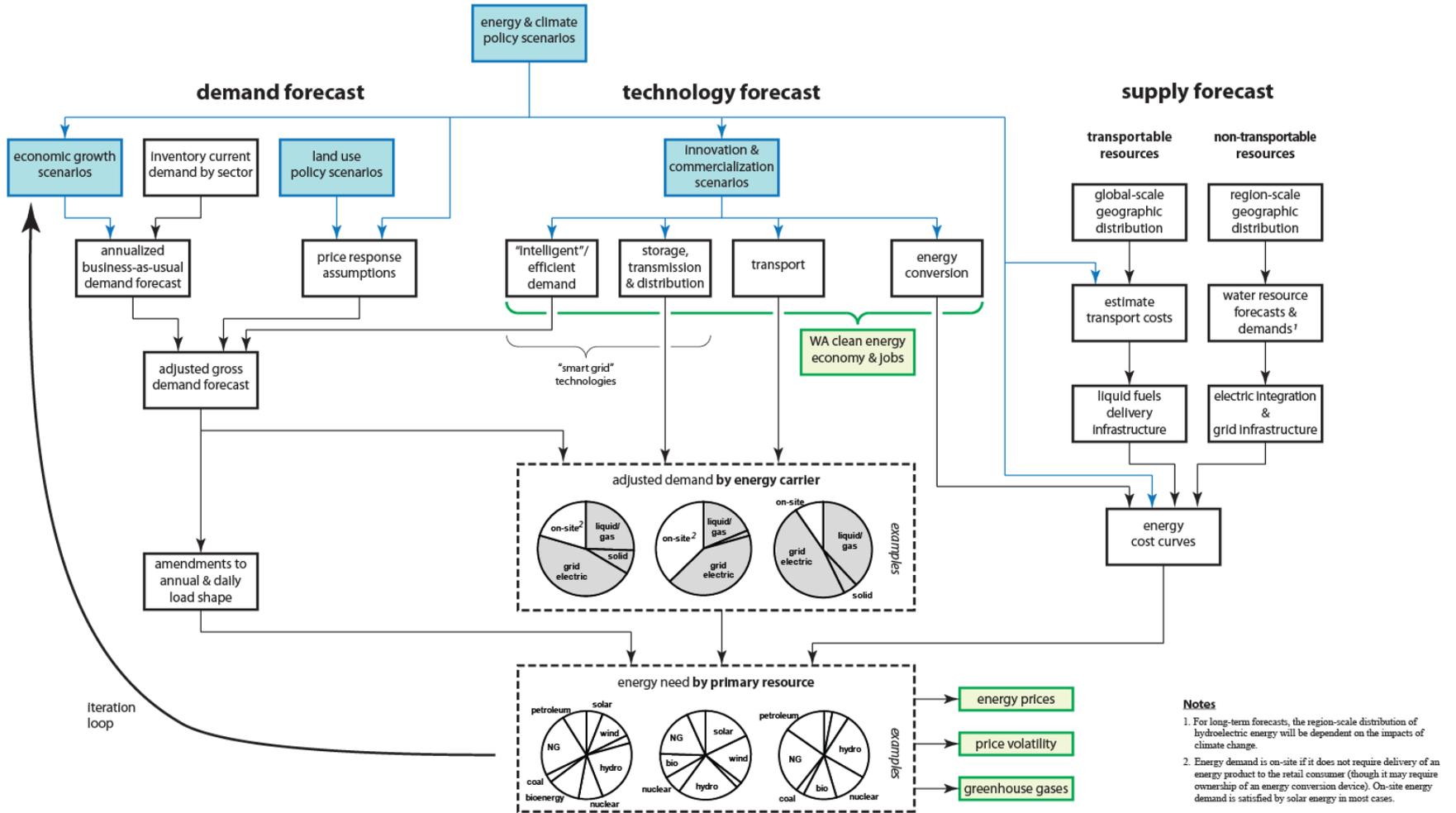
Washington State Department of Commerce - Roel Hammerschlag, Greg Nothstein

Washington State Office of Financial Management - Ta-Win Lin

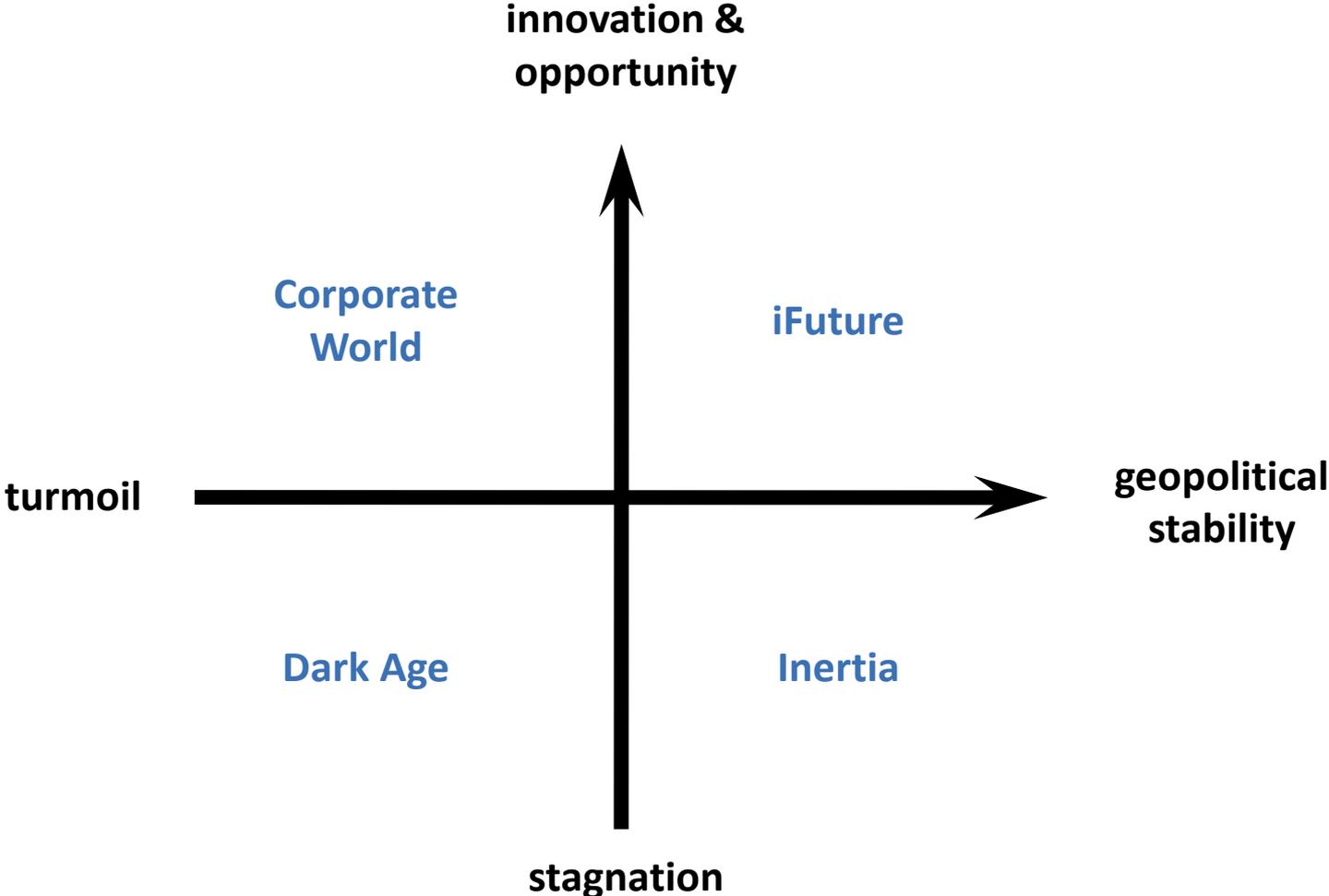
Washington State University - Todd Currier, Chad Kruger



Analytic Framework



Scenario Planning Process



Near-term recommendations: transportation

vehicles & fuels

3.4.1 electric vehicle support

3.4.2 RFS

3.4.3 diesel engine fuel efficiency improvements

travel efficiency

3.4.4 Commute Trip Reduction program expansion

3.4.5 smart growth and transportation planning

3.4.6 transportation systems management

3.4.7 Regional Mobility Grants

pricing

3.4.8 electric vehicle mileage pricing pilot

3.4.9 car sharing and mileage based insurance



Near-term recommendations: buildings

performance & transparency

4.4.1 non-residential disclosure

4.4.2 residential disclosure

4.4.3 marketing and quality assurance

funding & financing

4.4.4 meter-based financing

4.4.5 energy efficient property conversions

low income & rental housing

4.4.6 minimum standards for rental housing

4.4.7 sustaining investment in low-income weatherization programs

4.4.8 prevailing wage class for weatherization



Near-term recommendations: distributed energy

facilitating DE development

5.3.1 interconnection standards

5.3.2 net metering policies

5.3.3 streamlined permitting for distributed energy

financial incentives

long-term options only



Long-term policy options: transportation

vehicles & fuels

3.5.1 revenue neutral
feebate

3.5.2 low carbon fuel
standard

3.5.3 advanced
aviation fuels

3.5.4 improvements
to railroads

travel efficiency

3.5.5 comprehensive
trip reduction program

3.5.6 energy efficient
transportation choices

pricing

3.5.7 emerging pricing
methods

- congestion pricing
- mileage pricing
- cordon pricing

6 carbon pricing



Long-term policy options: distributed energy

facilitating DE development

5.4.1 DE-compliant power purchase agreements

5.4.2 distributed energy in I-937
(contingent on I-937 revision)

5.3.3 streamlined permitting for distributed energy

financial incentives

5.4.3 rationalize DE incentives

- renewables sales tax
- production incentives
- biomass incentives
- distributed energy credit in I-937
(contingent on I-937 revision)

6 carbon pricing





A few lessons

- Analytical work is difficult and complex, especially with limited resources
- Links to other plans and organizations are important
- It is never easy to translate recommendations into a political agenda
- State governments' role beyond electricity is more difficult





Department of Commerce

Innovation is in our nature.

For more information

Email:

tony.usibelli@commerce.wa.gov

Presented by:

Tony Usibelli

April 2013

West Virginia
Energy

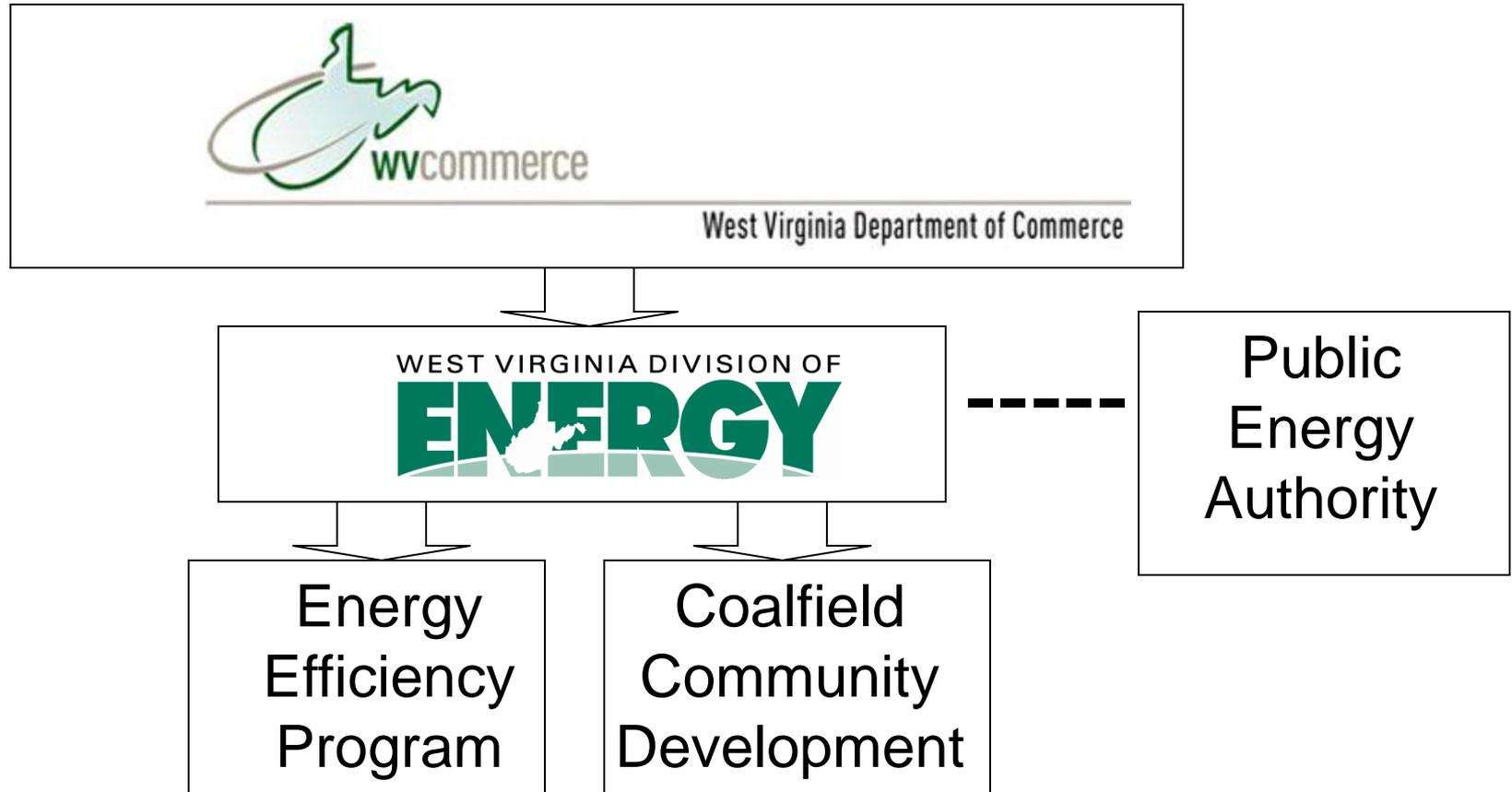


DIVISION OF ENERGY

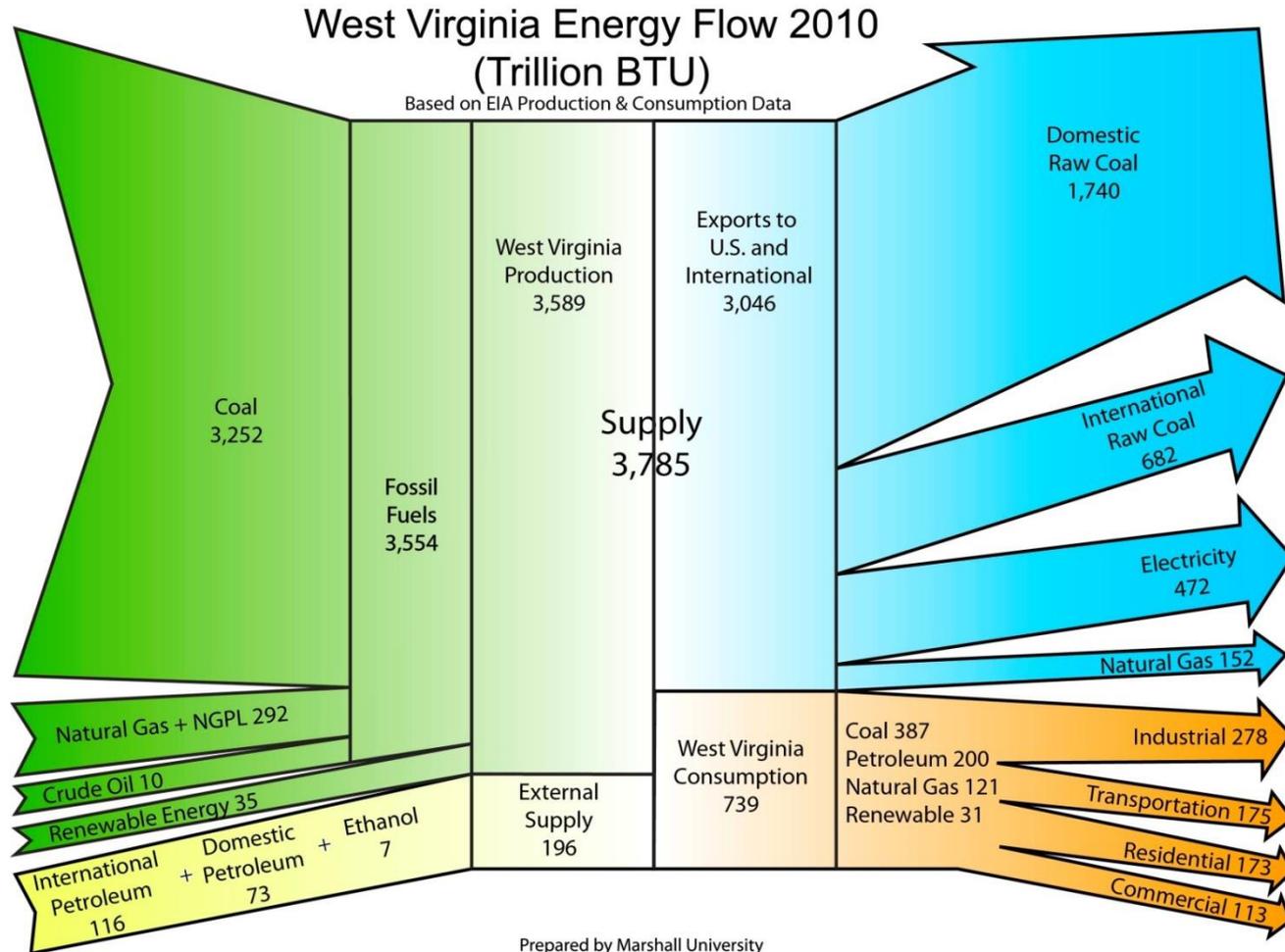


West Virginia
WEST VIRGINIA

Who We Are...



West Virginia Energy Profile



Prepared by Marshall University
under contract to WV Division of Energy

The West Virginia State Energy Plan Requirements



- Annual and five-year plans are required by WV State Code (5B-2F-2(d),(f))
- Meetings are to be held to receive public input

State Code §5B-2F-2(g) -

The Annual and 5-Year Plans shall address:



- Increased awareness of energy use on the environment and the economy
- Energy infrastructure
- The development and implementation of advanced energy projects in this state.
- Increased efficiency of energy use
- Traditional and alternative energy resources
- Water as an energy system resource
- Siting of energy facilities

Energy Technologies identified to be addressed in the Plans



- Traditional fuels such as coal, natural gas and oil
- Renewables such as solar, wind energy, low-impact hydro power, geothermal technologies, biomass
- Unconventional fuels such as landfill gas, fuel cells, renewable hydrogen fuel, animal wastes
- Alternative fuels such as waste coal, coal mine methane, coal gasification and coal liquefaction technologies and solid waste to ethanol

The 2013-2017 Plan Process and Recommendations



It is the Governor's Plan

PREFACE by Governor Earl Ray Tomblin

AS ONE OF THE NATION'S TOP energy producing states, West Virginia shoulders a lot of responsibility when it comes to fueling our state and nation. Together, members of our energy sector — coal, oil, natural gas, hydro and wind power, and more, share this responsibility to have a diverse, strong, and growing energy sector as energy stands as one of the traditional strengths of the state's economy. We continue to embrace innovative ideas evolving our long-established energy resources to meet today's expectations. We're also making the most of the opportunities associated with our abundant natural gas. Coal continues to enable West Virginia to be a national leader. For our families, economy and communities, the many benefits we enjoy today are directly related to our energy sector and its evolving abilities.

West Virginia has been a leader in America's energy program for years, and today our 20,000 miners produce approximately 13 percent of this country's coal, which is more than any other state in the East or Midwest. West Virginia has been the benefactor of strong energy markets, strong pricing and world demand which has contributed to our fiscal stability. During the global recession, West Virginia has consistently maintained balanced budgets with annual surpluses, resulting in "rainy day" funds of unprecedented levels. I believe we must do everything possible to sustain our role as an energy leader in this nation, protecting our skilled workers, providing clear-cut rules and expectations while encouraging investment so we can take full advantage of our proximity to high-demand areas and outboard export points on the eastern seaboard and the Gulf coast.

Our coal transportation infrastructure is vital to our success. One out of every two tons of coal exported from America comes from West Virginia and our coal is shipped to 30 countries across the world, throughout Europe and Asia. In 2011, West Virginia led the nation in coal exports, \$5.3 billion worth, which helped our state's exports as a whole reach historic highs. The world wants our coal and needs our coal. According to the International Energy Agency's Medium-Term Coal Market Report, by 2017 coal is expected to rival oil as the world's top energy source.

"This report sees that trend continuing. In fact, the world will burn around 1.2 billion more tons of coal per year by 2017 compared to today — equivalent to the current coal consumption of Russia and the United States combined. Coal's share of the global energy mix continues to grow each year, and ... coal will catch oil within a decade," said IEA executive director Maria van der Hoeven.

Our more than 500 mines are often among the largest private employers in a majority of the 30 West Virginia counties in which they operate. West Virginia's coal miners are the best in the world and are among the highest-paid industrial workers in our state. They are safe, caring, professional and true craftsmen who work every day to meet our energy needs, maintaining our standard of living in an environmentally responsible and safe manner.

West Virginia's 16 electric-generating plants utilize more than 32 million tons of coal each year to make some of the lowest-cost, most reliable electricity in the country. Because 97 percent of our electrical needs in West Virginia



Earl Ray Tomblin



Letter from the Director

DEAR READER,

The Division of Energy was created in 2007. Our first mission was to prepare West Virginia's first five-year energy plan. The document that follows is West Virginia's second five-year plan, building on the continued development of West Virginia's fossil, renewable and energy efficiency resources.

Energy stands as one of the principal strengths of West Virginia's economy. Our state is taking a lead in meeting the country's energy needs through traditional resources and advanced technology. The preparation of this energy plan enables one to appreciate both the magnitude of our resources and the national dependence on West Virginia energy. Our approach is truly an all-of-the-above strategy including advanced coal technologies, natural gas production and utilization of biomass, hydro, wind and solar power.

Our resources have and will continue to compete in a free-market economy in compliance with environmental regulations. Our energy resources can be affordable, reliable and sustainable. They can power our nation in the twenty-first century and beyond. We will be a leader in fostering an innovative clean energy economy.

The inspiration for this plan has come from the leadership and vision of Governor Tomblin. Analysis and projections for the plan were contributed by Tom Witt, former director of the Bureau of Business and Economic Research at West Virginia University; Cal Kent, former vice president of Business and Economic Research at Marshall University; and Christine Risch, director of research for the Center for Business and Economic Research at Marshall University. The Division of Energy thanks them for their time and effort on this project.

We would also like to thank the citizens of West Virginia who attended three public meetings to offer comments on the plan, as well as those who submitted comments online. Those can be accessed at www.energywv.org/publiccomments.

By working together, we can develop and implement an energy plan for the benefit of all West Virginians.

Sincerely,

Jeff Herhold
Director, West Virginia Division of Energy

Our Plan Website

www.energywv.org/energyplan

recent pages: [state energy...](#)

[west virginia state energy plan](#)



The State of West Virginia is in the process of developing the 2013-2017 West Virginia State Energy Plan. This plan will develop analyses and policy recommendations to guide the state in reliably meeting its future energy needs in a cost-effective and sustainable manner while fostering an innovative clean energy economy. The plan is updated every five years.

A series of meetings were held to invite public comment on the state energy plan. The meetings included discussion of increased energy efficiency, traditional fossil energy forms and renewable energy.

[Energy Plan Process](#)

The West Virginia Energy Plan Process

[Speakers](#)

Transcripts and audio from speakers at public meetings

[Public Comments](#)

See Public Comments

[Energy Plan News](#)

News Releases, Legal Advertisements, Important Announcements

[Presentations](#)

See Presentations from public meetings

Energy Opportunities Document recommendations provided by WVU and Marshall

[Fossil Energy Opportunities For West Virginia](#)

[Energy Efficiency Policy Outlook for West Virginia](#)

[Renewable Energy Policy Outlook for West Virginia](#)



**2013-2017
State Energy Plan**

Documents Available on the Website

state energy plan

process

speakers

public comments

news

» energy plan document

energy efficiency

office of coalfield
community development

fossil energy

renewable energy

alternative fuels

energy summits

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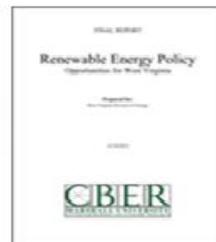


[Energy Plan 2013-2017
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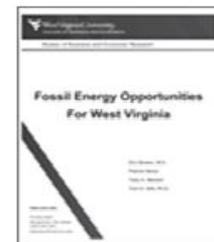
Appendices



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[Fossil Energy
Opportunities
for West Virginia
PDF](#)

[Public Comments](#)

Public Meetings



- In the Fall of 2012 three public meetings were held across the state (Huntington, Morgantown and Martinsburg)
- Each meeting was well attended and there was media coverage at each location
- At each meeting three presentations/recommendations were provided:
 - West Virginia University (Fossil Energy Opportunities)
 - Marshall University (Energy Efficiency Policy Outlook)
 - Marshall University (Renewable Energy Policy Outlook)

Governor's Energy Plan

General Recommendations

- Continue to monitor and publicize energy production, consumption and related data ... report on the implications for the continued development of the state's energy sector
- Advocate the economic importance of West Virginia's energy resources at the national, regional and state levels in terms of their contributions to the state's economy and importance in maintaining affordable and secure energy supplies
- Convene meetings with industry, academia, federal agencies and public officials to assess current fossil energy production and value-added opportunities

Coal Recommendations

- Development of poly-generational plants converting coal to liquids
- Promote the continued use of reclaimed surface-mined lands for local economic development
- Provide briefings on the status of coal to the executive and legislative branches
- Promote coal technology research funding
- Assess feasibility of enhanced EOR with CO₂
- Advocate retention of coal-powered electric generation to ensure the continuation of affordable electricity
- Market West Virginia as a location where industrial energy users have access to affordable, reliable electricity supplies

Natural Gas Recommendations

- Monitor and encourage development of mid-stream natural gas facilities and pipeline infrastructure
- Continue the efforts in attracting downstream petrochemical manufacturing facilities
- Determine the potential opportunities for additional value-added energy investments within the state

Energy Efficiency Recommendations

- Support the adoption of the 2009 IECC and 2007 ASHRAE standards for state funded construction and public buildings
- Energy code adoption should be no further than one series of codes behind the most recent version
- Consider the appointment of an energy management specialist to an ex-officio role on the State Fire Commission to provide the expertise and advocacy necessary to ensure the future promulgation of updated building energy codes in the rule-making process
- Make training on energy codes and energy efficient building components available to home builders, local governments, and the built community

Energy Efficiency Recommendations (cont.)

- Continue providing energy services to West Virginia manufacturers in order to maintain a competitive advantage in energy costs. Provide technical assistance to manufacturing and small businesses using the resources of Projects with Industry – West Virginia Program, West Virginia Manufacturing Extension Partnership and the WVU Industrial Assessment Center
- Establish benchmark programs for state, county school systems and local governments. Benchmarking programs, such as the ENERGY STAR Portfolio Manager program, will allow decision-makers to effectively assess the energy efficiency and necessary actions needed to increase energy savings in their facilities
- Establish, in tandem with electric utilities, an energy savings target for utility energy efficiency initiatives.

Alternative Fuel Recommendations

- Promote alternative fuel vehicles to units of local government and private sector fleets
- Implement recommendations of the Governor's Natural Gas Task Force
- Monitor the implementation of the hydrogen fueling station at West Virginia University to determine the commercial feasibility of hydrogen as a transportation fuel

Solar Recommendations

- Maintain current state income tax credit for PV installations
- Monitor national solar integration activities, policies and research
- Review the performance of photovoltaic systems installed at state and local government facilities
- Monitor and update net metering policies as necessary
- Continuation of the current 30% residential solar energy tax credit (limit \$2,000)

Wind Recommendations

- Maintain current state legislative policy for wind. The two existing State tax incentives for commercial wind development have allowed some cost savings for developers while also assisting in the development of wind resources in rural areas of West Virginia
- Monitor national wind integration activities, policies and research
- Given most West Virginia wind projects are located on surface-mined land, extend efforts to determine if adequate wind resources exist to support commercial wind development on additional surface mined sites

Hydro Recommendations

- Continue efforts with federal agencies and private companies to ensure that the current preliminarily licensed hydro projects are completed in a timely fashion
- Regarding small-scale hydro power:
 - Determination should be made if there are public sites such as recreational areas that are not currently served by electrical connections for which development of mini- and micro-scale hydro is appropriate
 - Current rules and regulations impacting small-scale hydro should be reviewed to determine which, if any, could be eliminated or modified for application specifically to small-scale hydro
 - Similar tax incentives to those granted to direct use solar and wind facilities should be considered for mini- and micro-hydro installations

Biomass Recommendations

- Continue data collection on wood biomass availability and site-specific evaluations of wood biomass utilization for industry specific and electrical generation
- Evaluate the feasibility of creating rural woody biomass industry centers as a form of rural community development
- Determine if the use of small-scale wood-powered systems would be beneficial or cost-effective for government-owned facilities
- Promote the use of wood pellets in residential and commercial buildings
- Review wood pellet incentive programs offered by other states

Other Recommendations

GEOHERMAL

- Monitor technological advancements in geothermal heat recovery
- Should commercial geothermal generation opportunities become a reality, tax credits similar to those provided to the wind industry could be considered in order to promote the development of commercial geothermal projects

LANDFILL GAS

- Continued monitoring of developments in the utilization of landfill gas as a fuel is merited in light of the nine state landfills that are “candidates” as identified by the U.S. Environmental Protection Agency’s Landfill Methane Outreach Program (LMOP). Continue to monitor if any of these sites can be readied for use within the five-year time frame of this plan

Thank You!

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The West Virginia State Plan:

www.energywv.org/energyplan