



GOVERNOR'S ENERGY ADVISOR REPORT

CODY B. STEWART, ENERGY ADVISOR
OFFICE OF THE GOVERNOR



SAMANTHA MARY JULIAN, DIRECTOR
OFFICE OF ENERGY DEVELOPMENT

ADVISOR REPORT TO LEGISLATURE

1) Summarize Status & Development of the State's Energy Resources

2) Address the Governor's Energy Advisor's Activities

3) Recommend Energy-Related Executive or Legislative Action



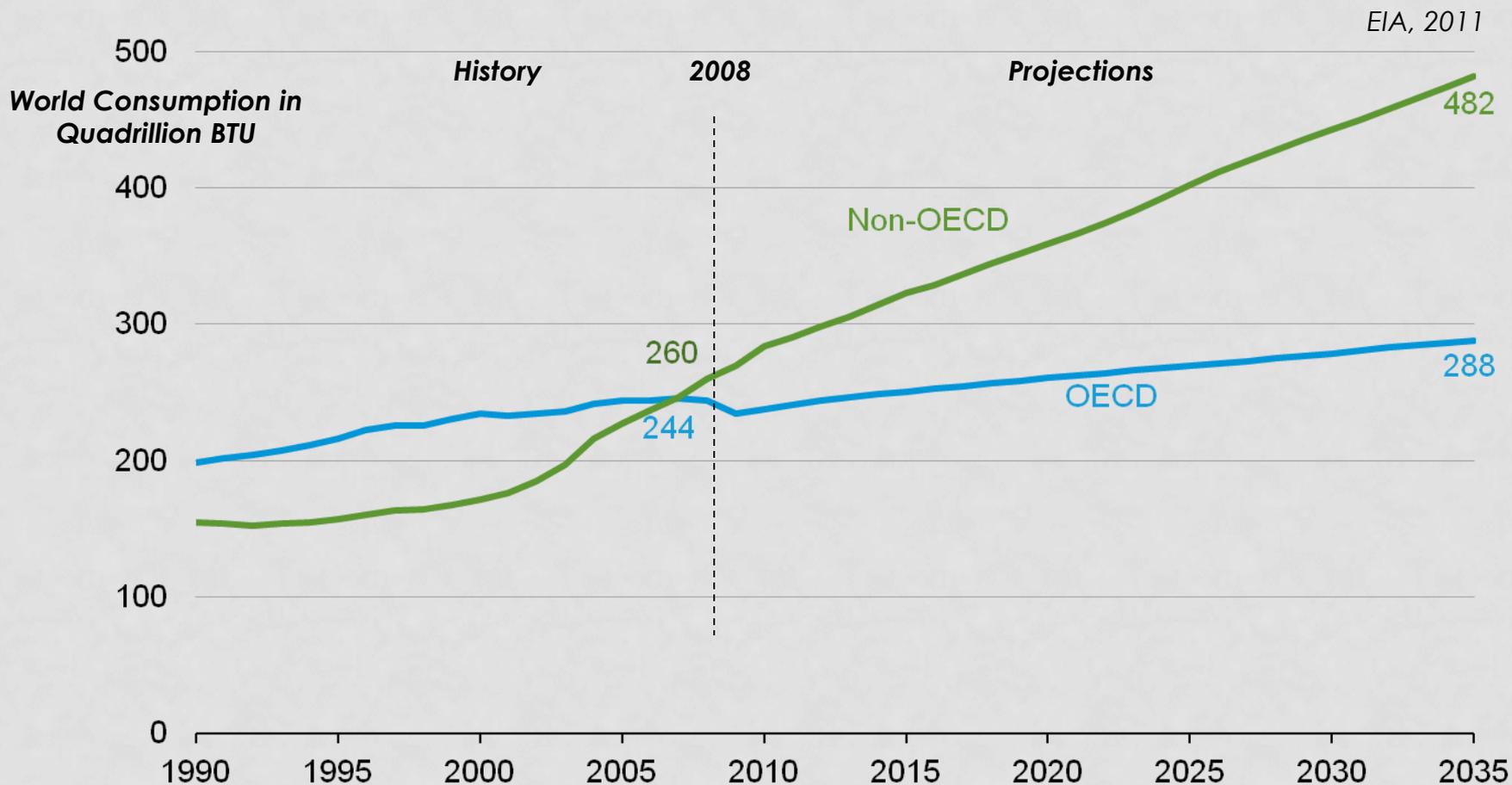
STATUS & DEVELOPMENT OF RESOURCES

GLOBALLY, REGIONALLY, UTAH



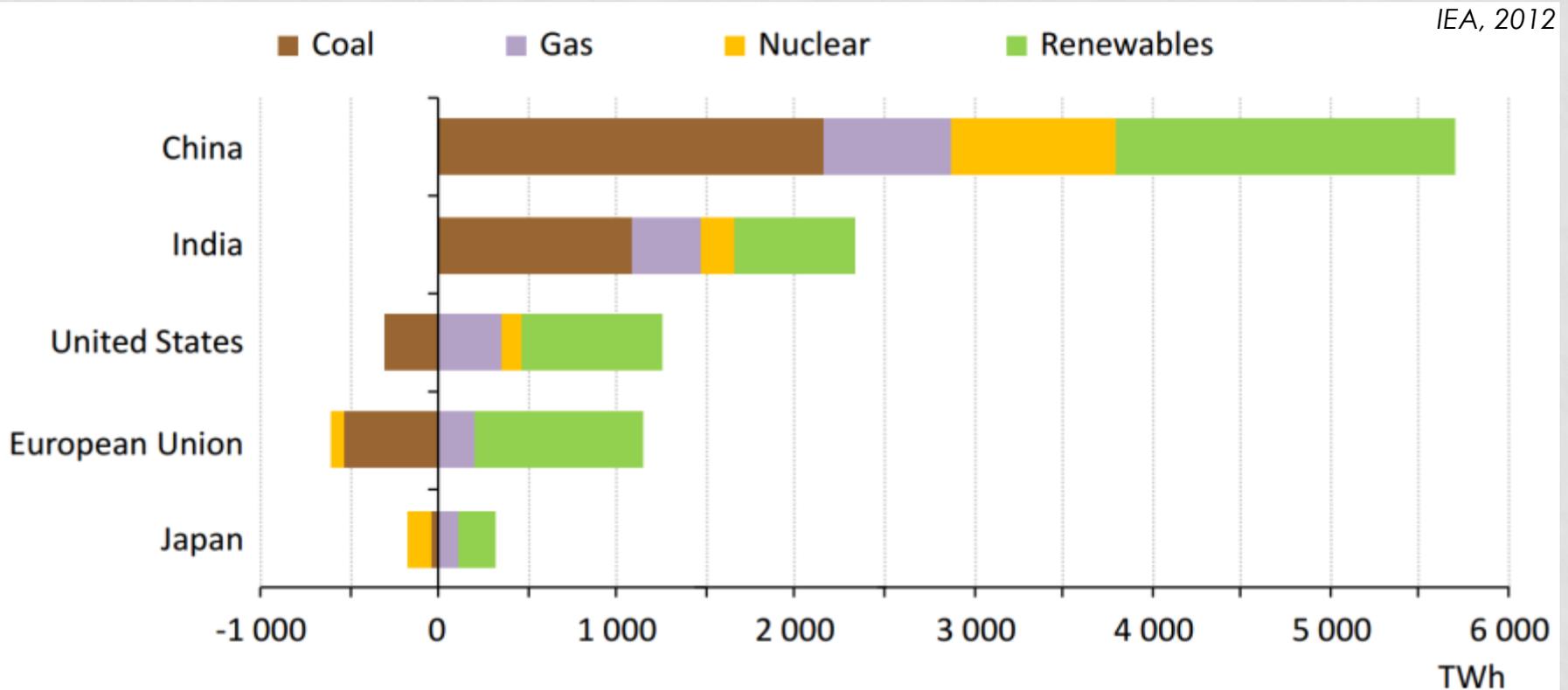
NON-OECD NATIONS WILL DRIVE THE INCREASE IN DEMAND

Energy Consumption in 2035



A POWER SHIFT TO EMERGING ECONOMIES

Energy Consumption in 2035

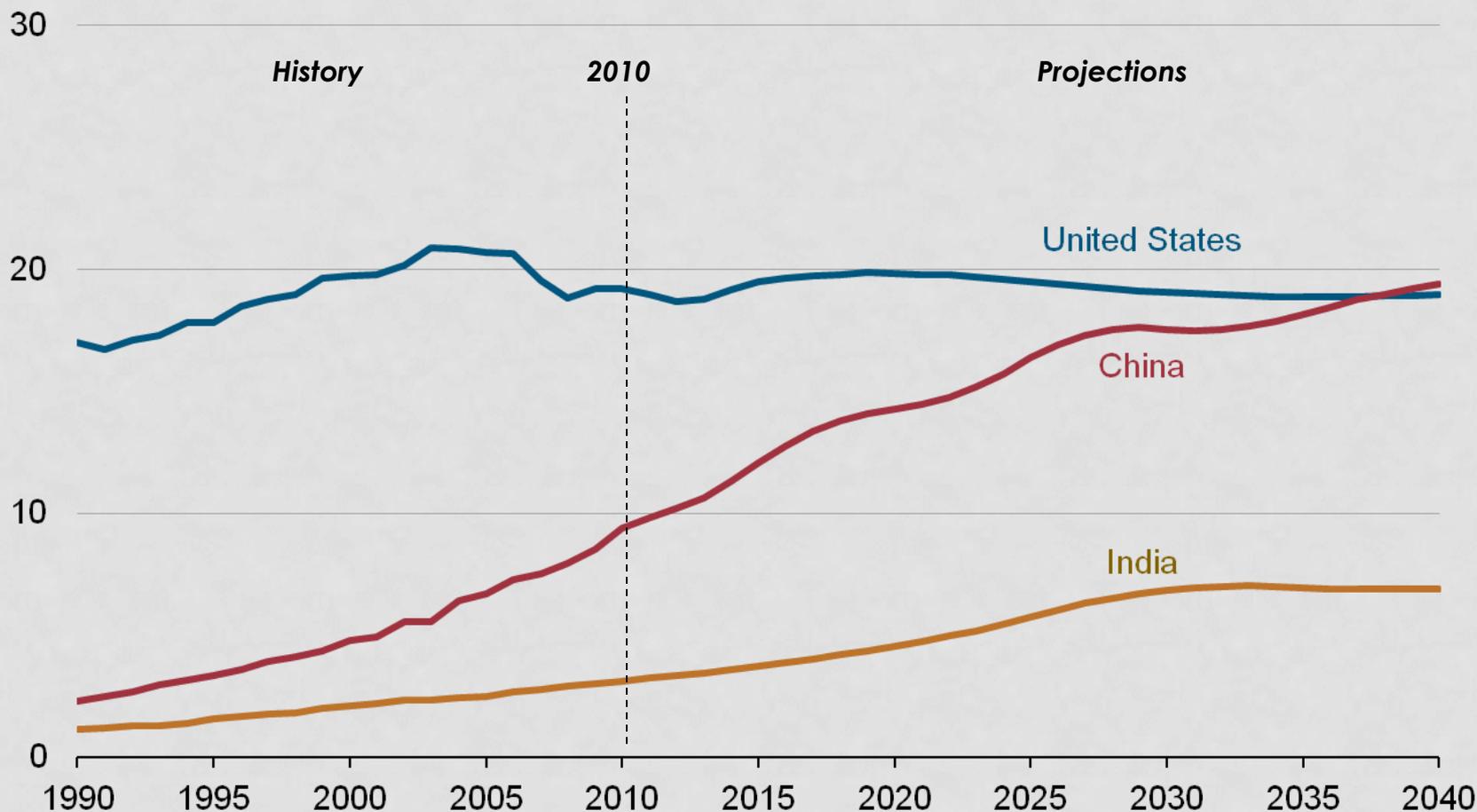


The need for electricity in emerging economies drives a 70% increase in worldwide demand, with renewables accounting for half of new capacity.

LIQUID FUEL CONSUMPTION IN THE U.S., CHINA & INDIA (1990-2040)

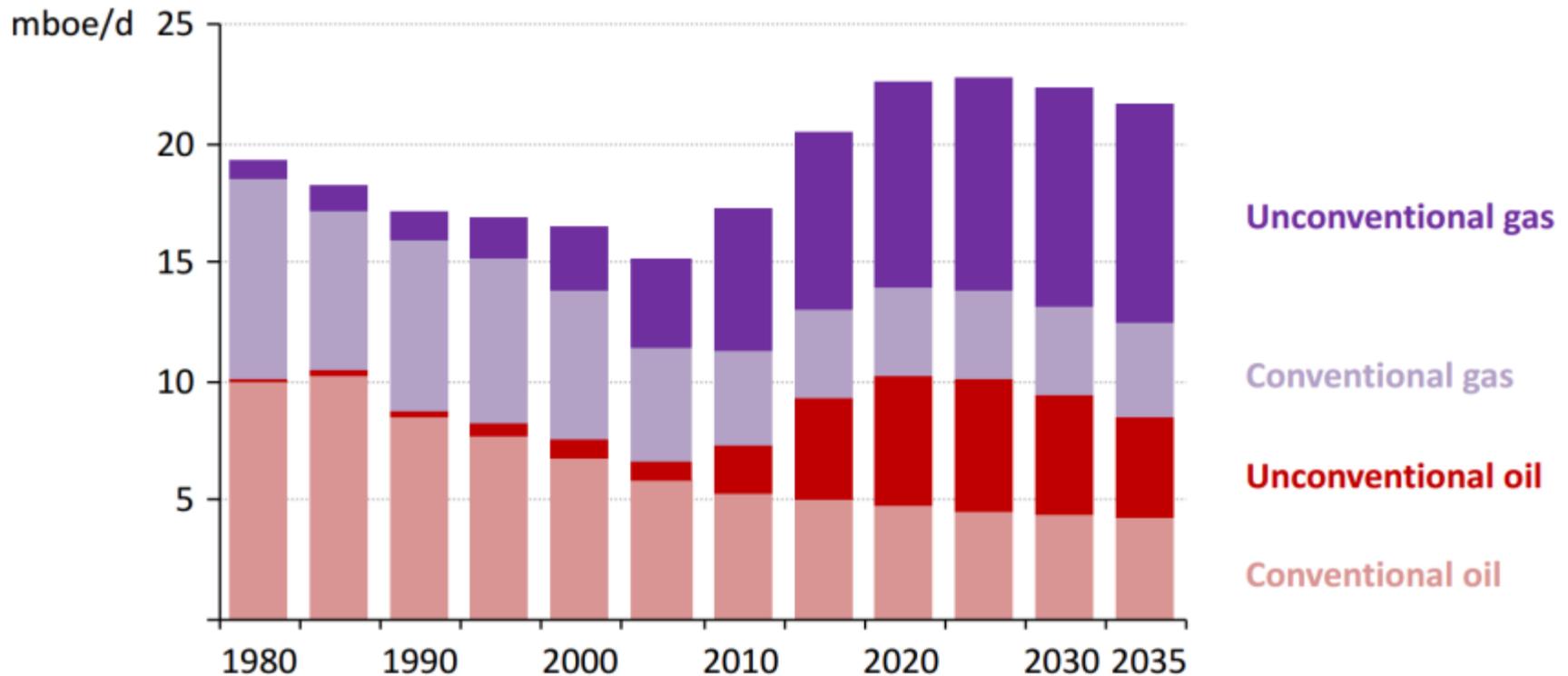
Million Barrels per Day

EIA, 2013



U.S. OIL & GAS TRANSFORMATION

US Oil and Gas Production

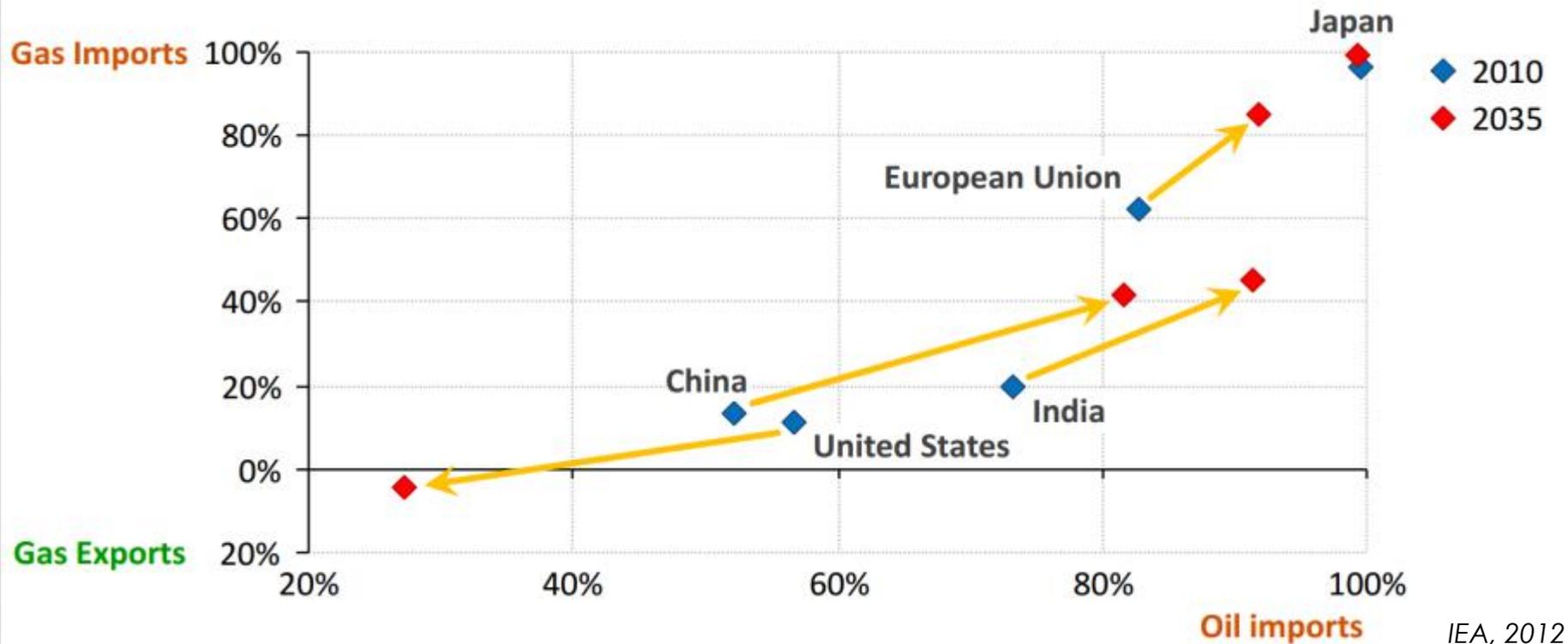


IEA, 2012

The surge in unconventional oil and gas production has implications well beyond the United States.

TRENDS IN OIL & GAS IMPORT DEPENDENCY

Net Oil and Gas Import Dependency in Selected Countries



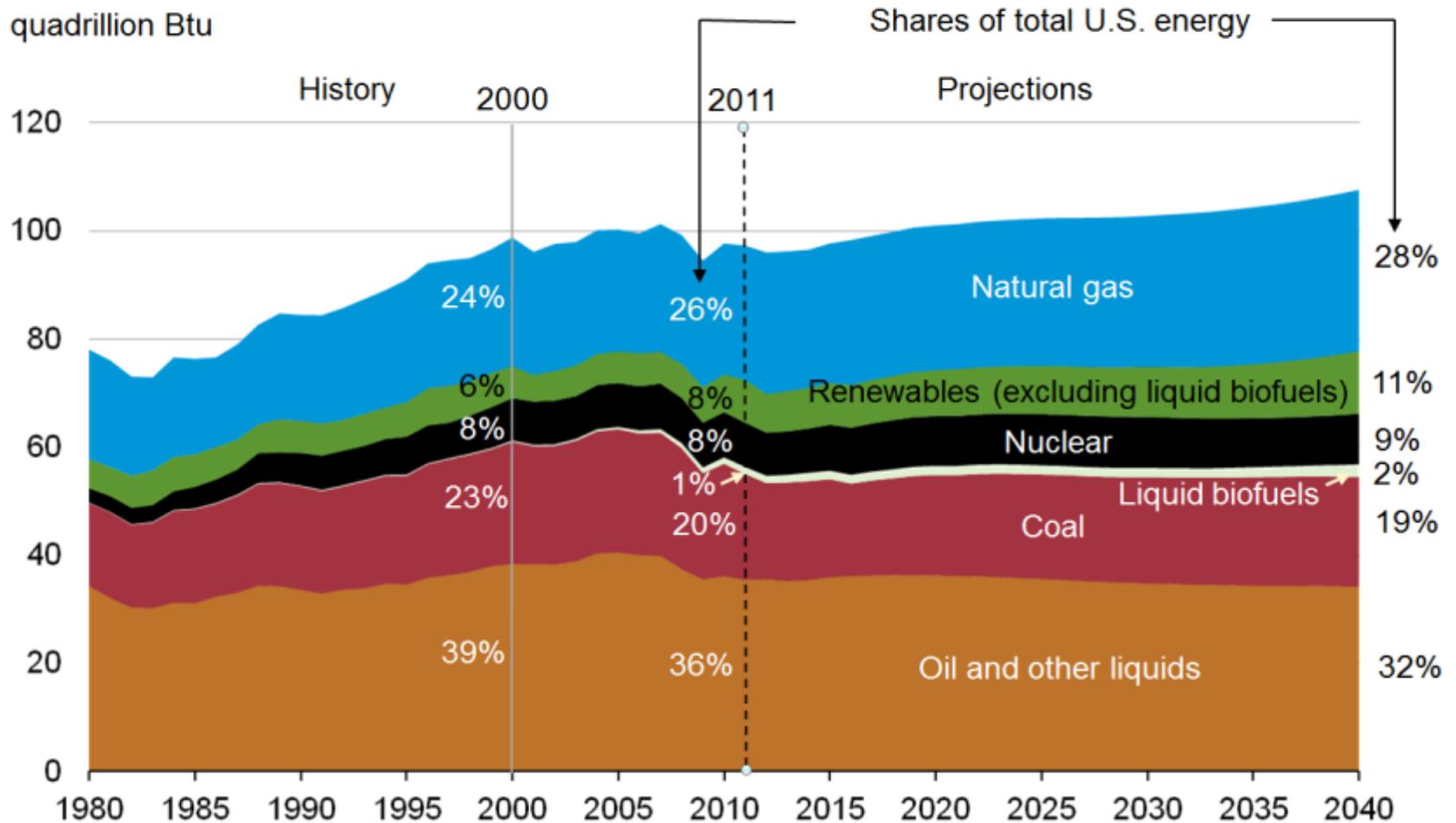
IEA, 2012

While dependence on imported oil & gas rises in many countries, the U.S. swims against the tide.

U.S. ENERGY USE GROWS SLOWLY DUE TO IMPROVE EFFICIENCY AND SLOW ECONOMIC RECOVERY

U.S. primary energy consumption
quadrillion Btu

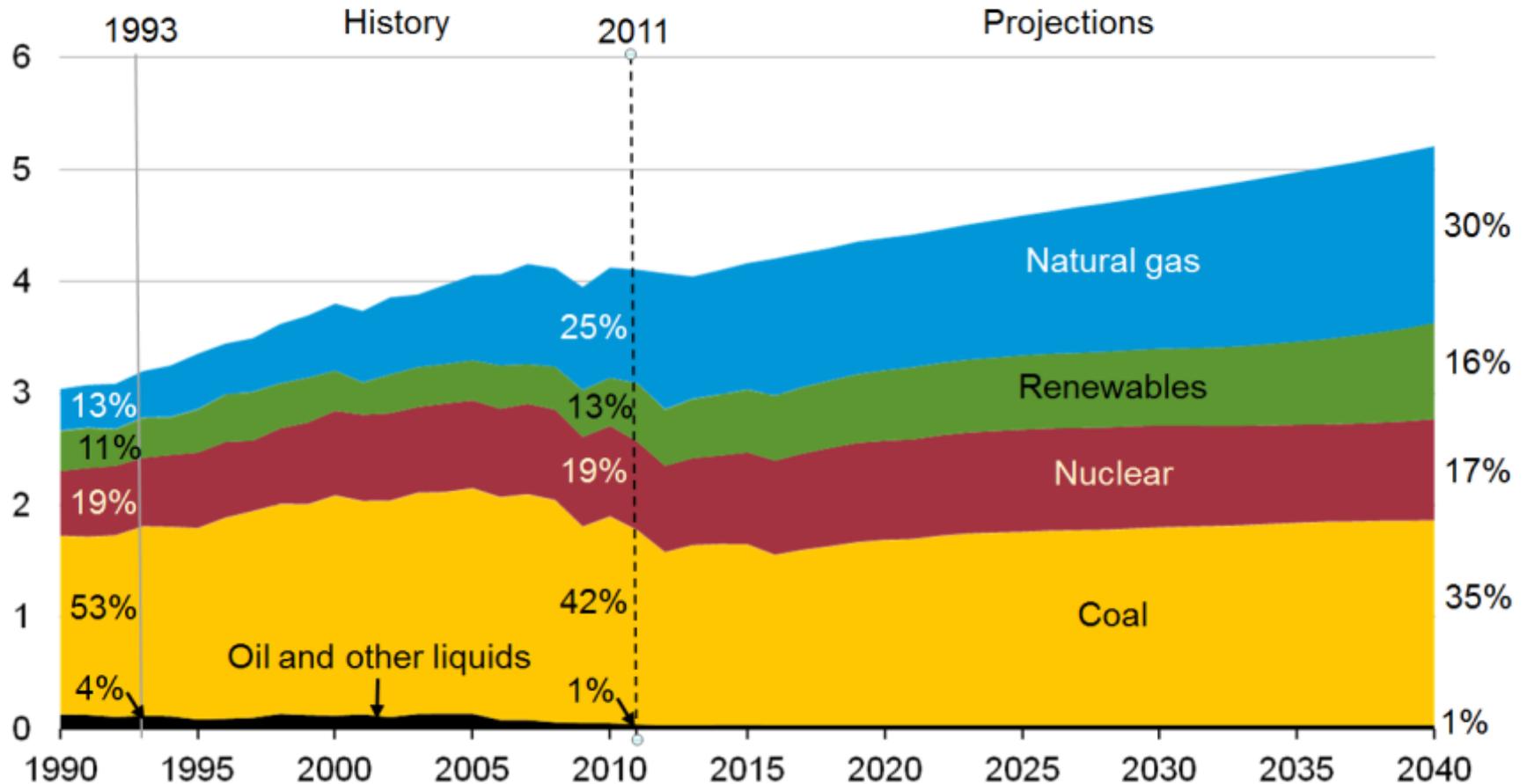
EIA, 2013



OVER TIME THE ELECTRIC GENERATION MIX SHIFTS TOWARD GAS AND RENEWABLES, BUT COAL REMAINS ON TOP

U.S. electricity net generation
trillion kilowatthours

EIA, 2013





STATUS & DEVELOPMENT OF RESOURCES

GLOBALLY, **REGIONALLY**, UTAH



ENERGY IN THE AMERICAN WEST

The West is the Energy Breadbasket of the United States. The West Accounts for:

- **100%** of the operational **geothermal** electric power generation
- Over **90%** of non-federal **petroleum** production
- Nearly **70%** of **natural gas** production & **hydroelectric** generation
- Over **65%** of **wind** power generation capacity
- Nearly **60%** of **coal** production & installed **solar** power capacity
- Over **20%** of **biomass** electricity generation
- Over **15%** of **nuclear** power generation

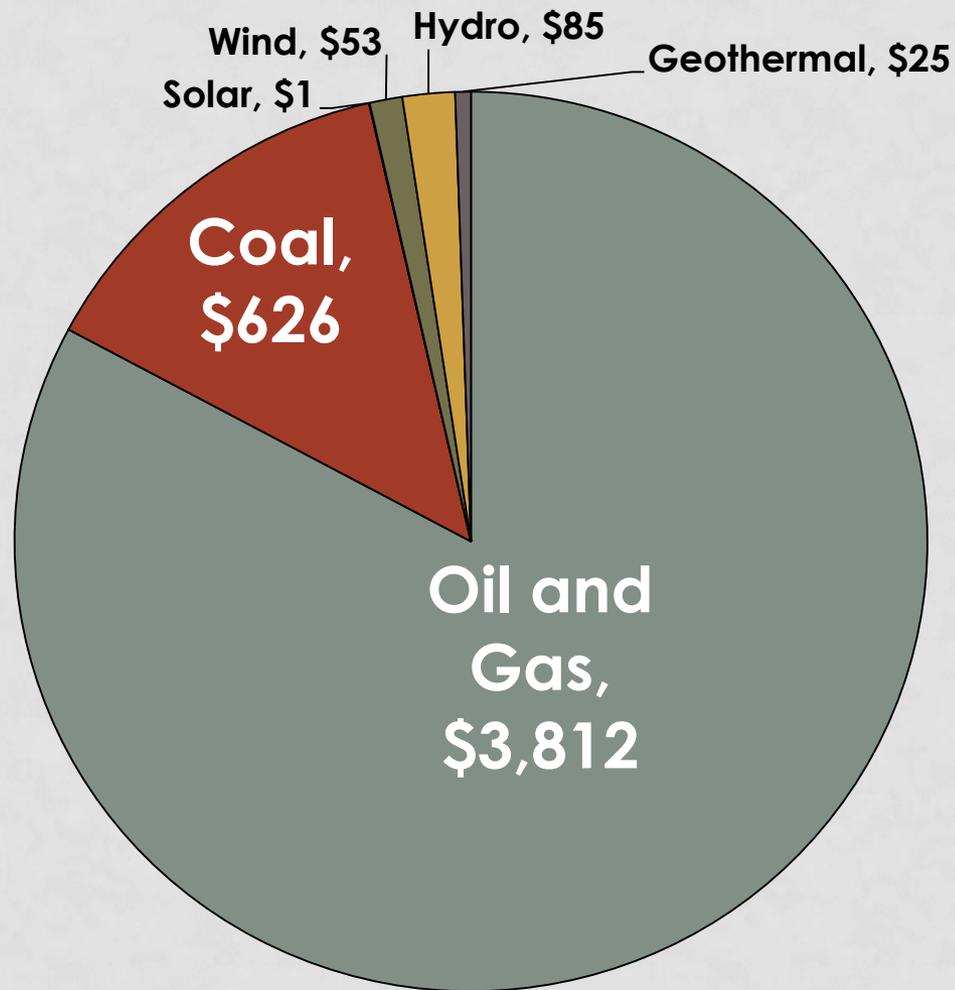


STATUS & DEVELOPMENT OF RESOURCES

GLOBALLY, REGIONALLY, **UTAH**



2012 UTAH ENERGY PRODUCTION VALUE (\$M)

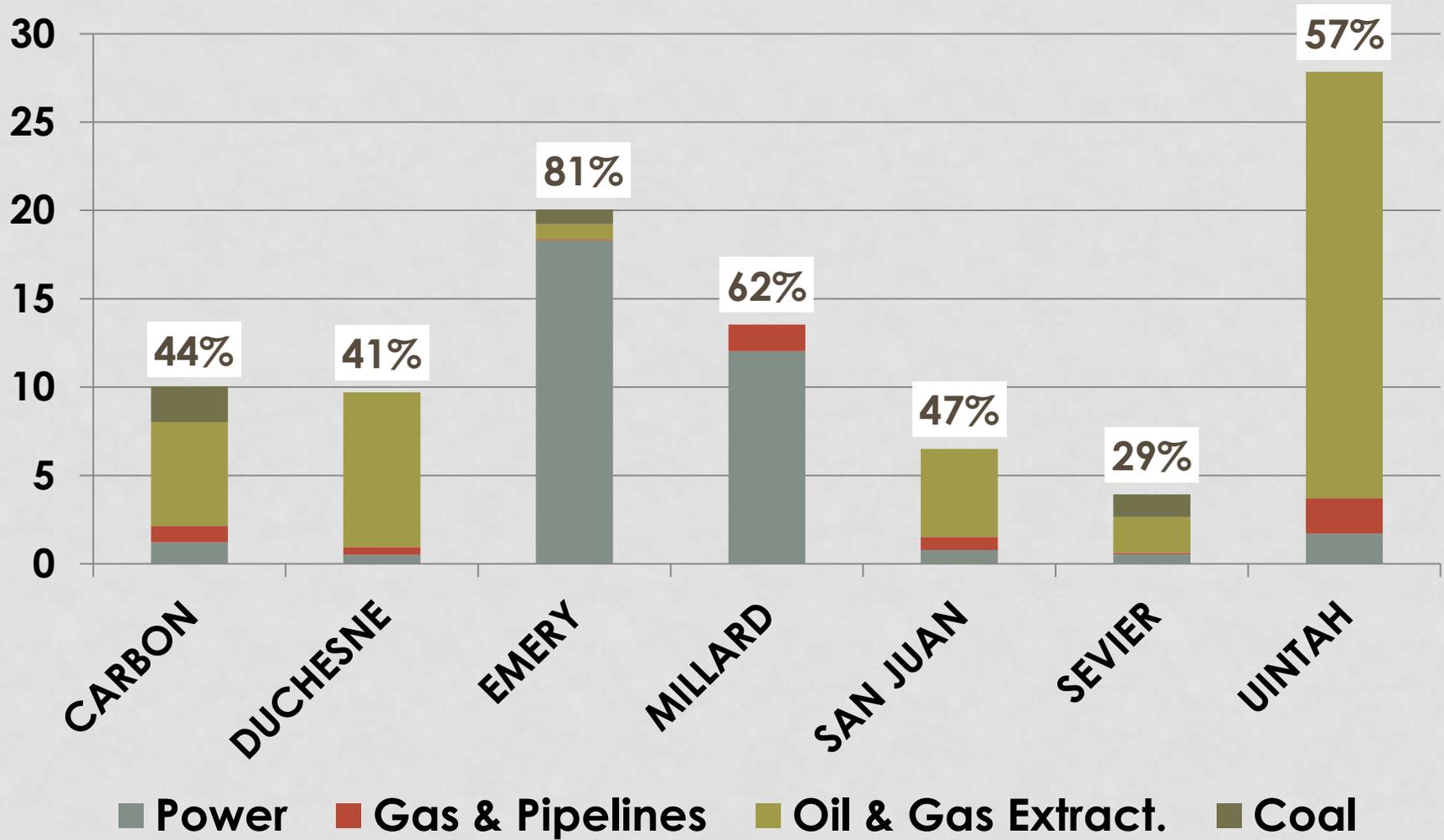


ENERGY DRIVES UTAH'S ECONOMY

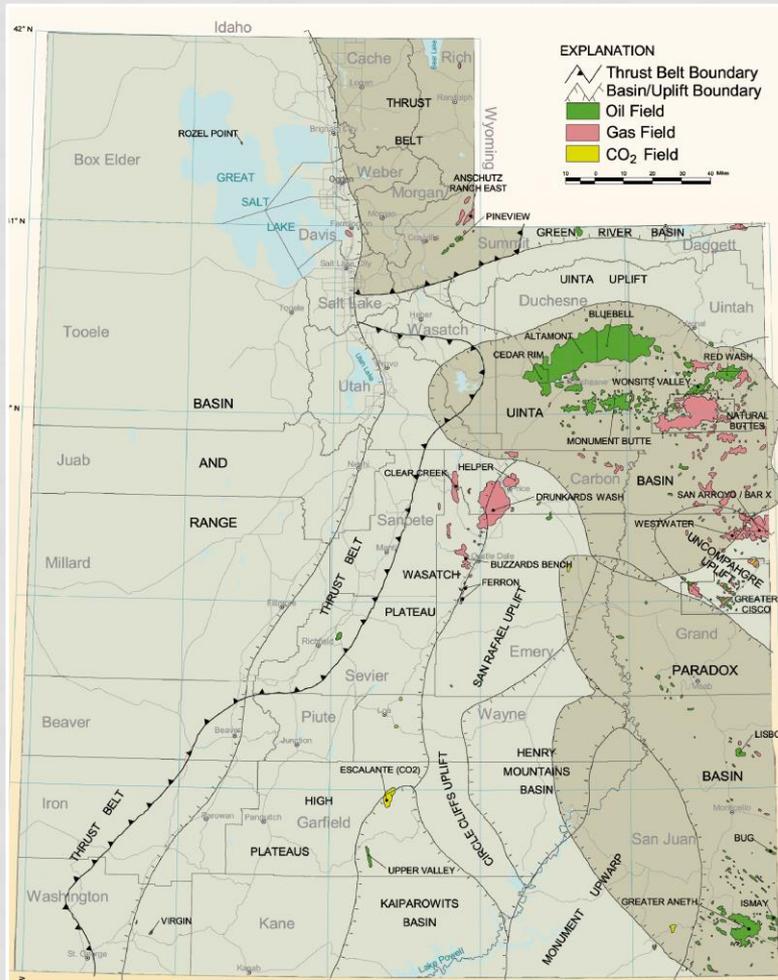
	Value (\$M)	Employment	Revenue (\$M)
Oil and Gas Production	3,812	9,322	397
Coal Production	626	1,831	40
Utilities, Elect. Dist., Refining, etc.	N/A	6,349	143
Total	4,603	17,541	587

- Value was \$4.6B last year
- More than 17,000 jobs
- State and local revenue of \$587M

ENERGY-RELATED COUNTY PROPERTY TAXES (\$M) (% TOTAL)



FOSSIL RESOURCES - OIL & GAS



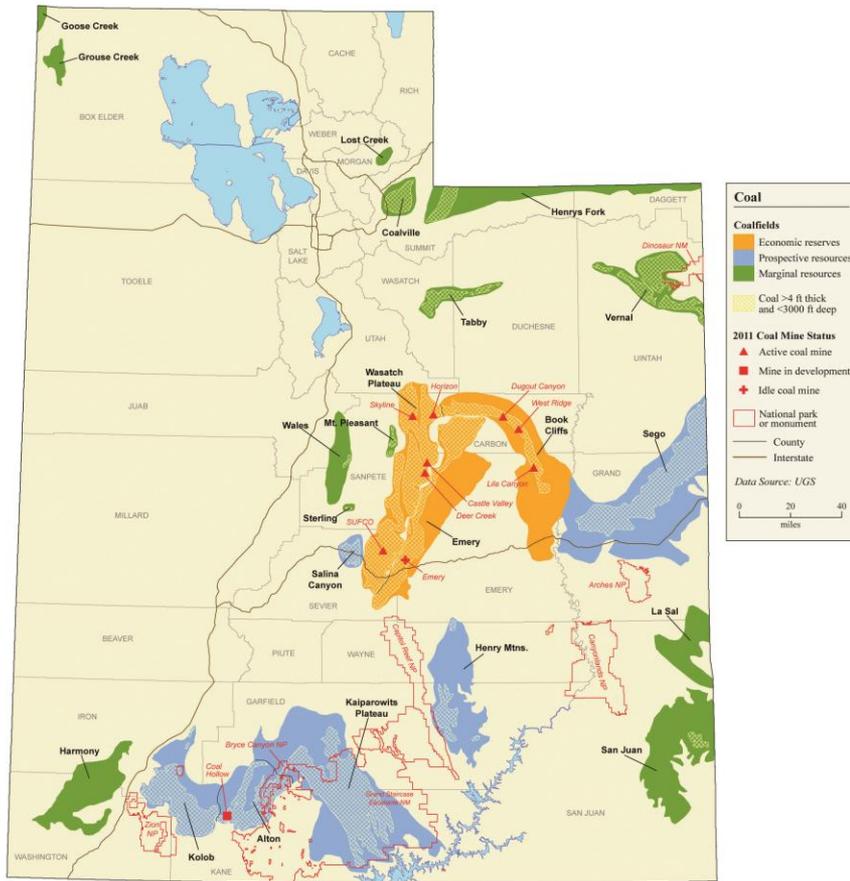
• Oil

- 11th Producer Nationally
- Expected to Double in 10 Years
- 2012 Increase 11.5%

• Natural Gas

- 9th Producer Nationally
- Highest Production
- 2012 Increase of 6.5%

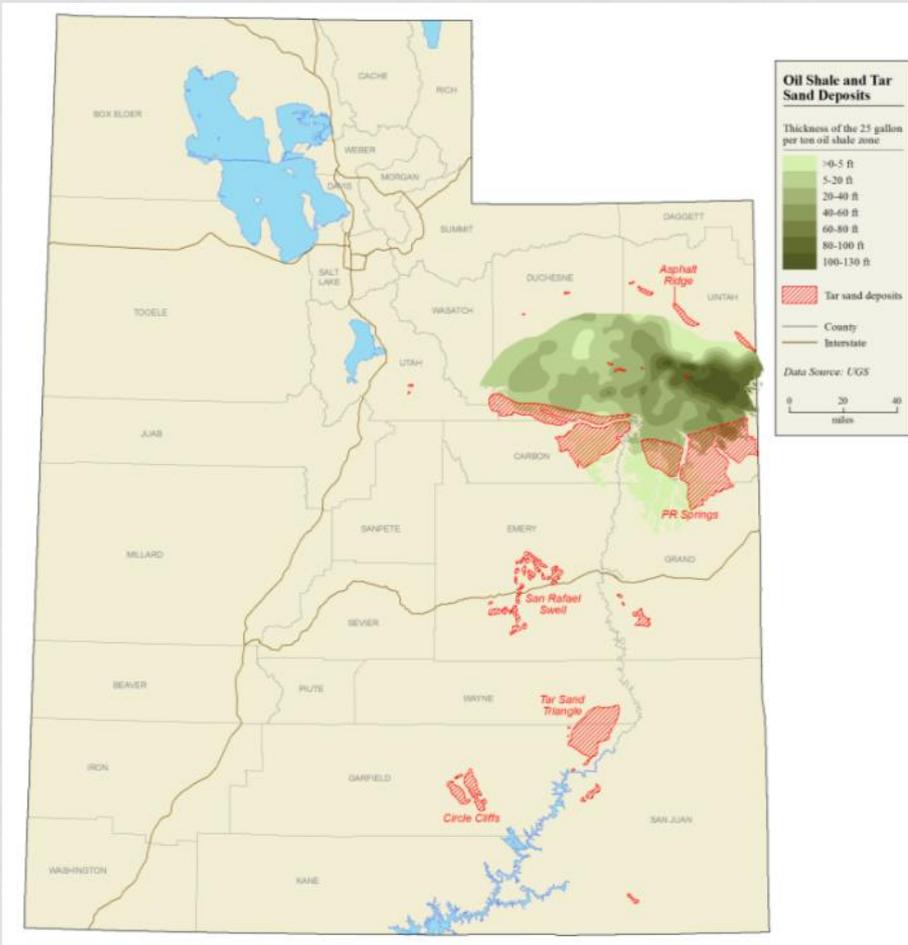
FOSSIL RESOURCES – COAL



- 15th Producer Nationally
- 15B Recoverable Tons
- 2012 Increase of 2.1%



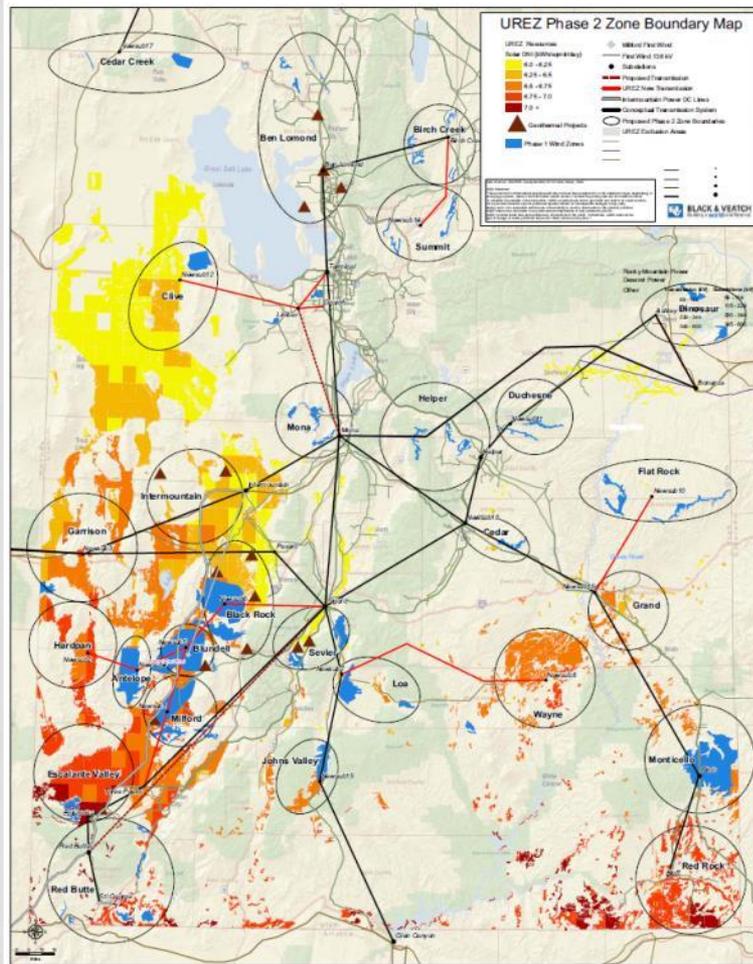
FOSSIL RESOURCES – UNCONVENTIONAL OIL



- #1 in Oil Shale & Oil Sands Reserves Nationally
- 77B bbls of Economically Viable Oil Shale
- 15B bbls of Oil Sands
- Near-Term Projects
 - US Oil Sands – 2,000 bbls/Day (2014)
 - Red Leaf – 10,000 bbls/Day (2015)



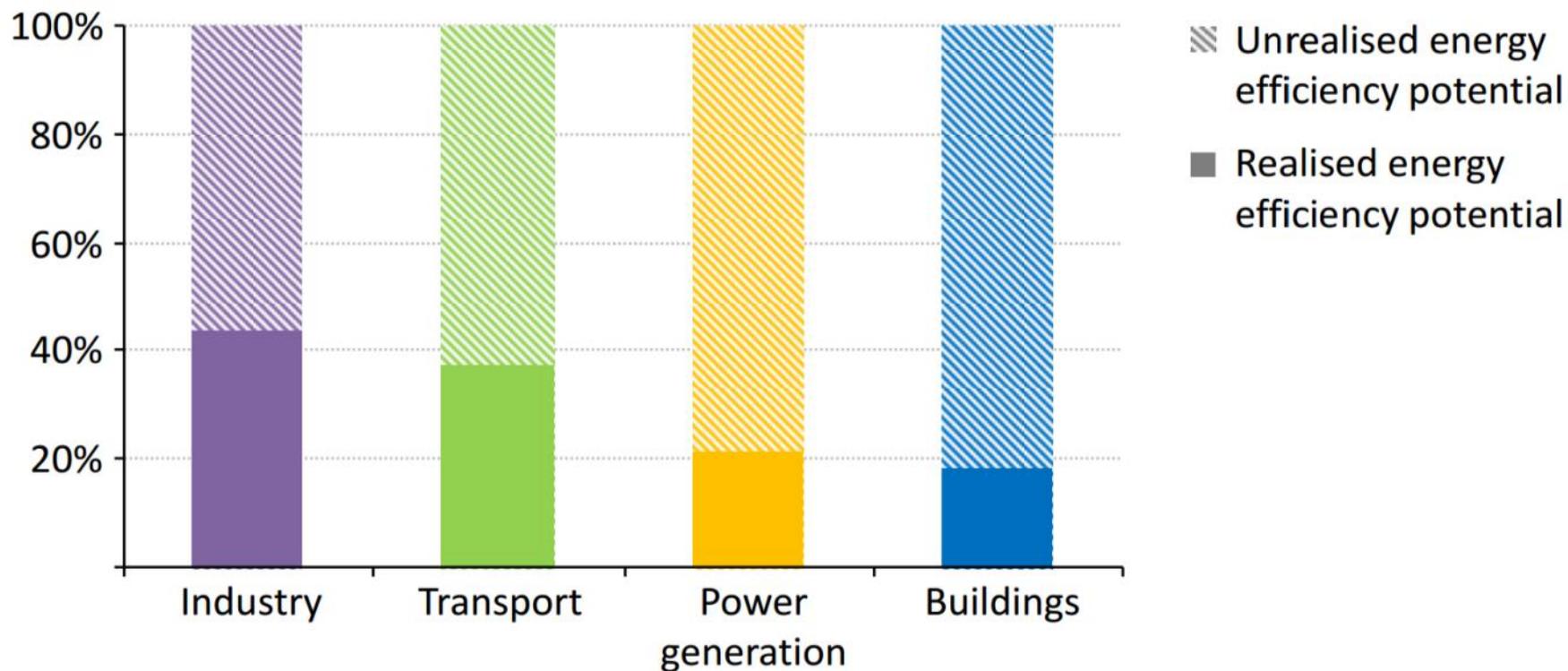
RENEWABLE RESOURCES - UTILITY



- **Geothermal**
 - 437 MW Potential
 - 67 MW's in Operation or Under Construction
- **Solar**
 - 14,700 MW Potential
 - 1.5 MW's Under Construction, >100 MW's in Predevelopment Stage
- **Wind**
 - 8,900 MW Potential
 - 325 MW's in Operation, 100's in Predevelopment Stage

ENERGY EFFICIENCY: AN OPPORTUNITY GOING UNREALIZED

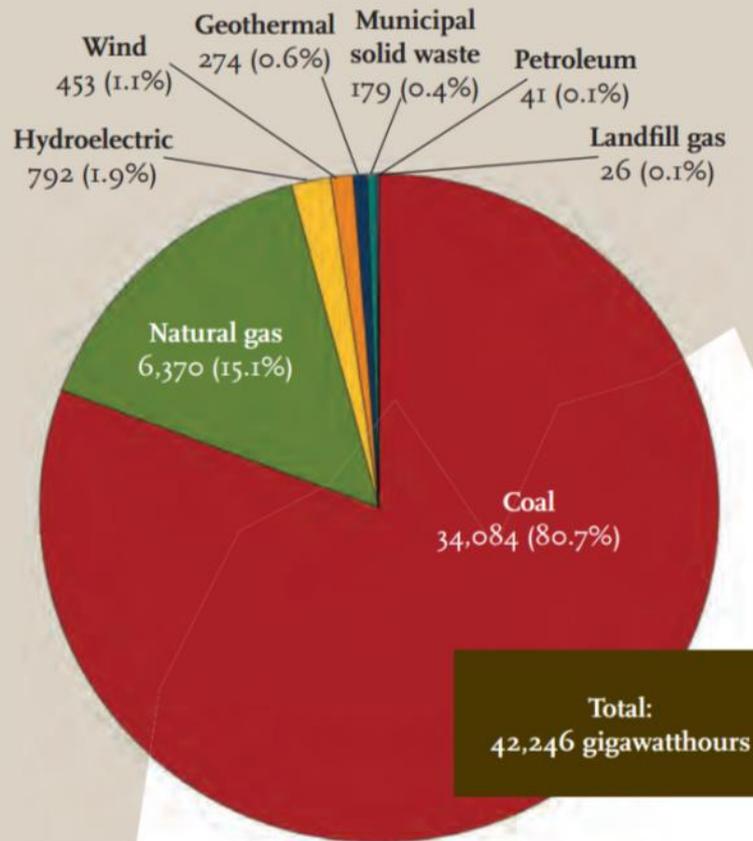
Energy Efficiency Potential by Sector



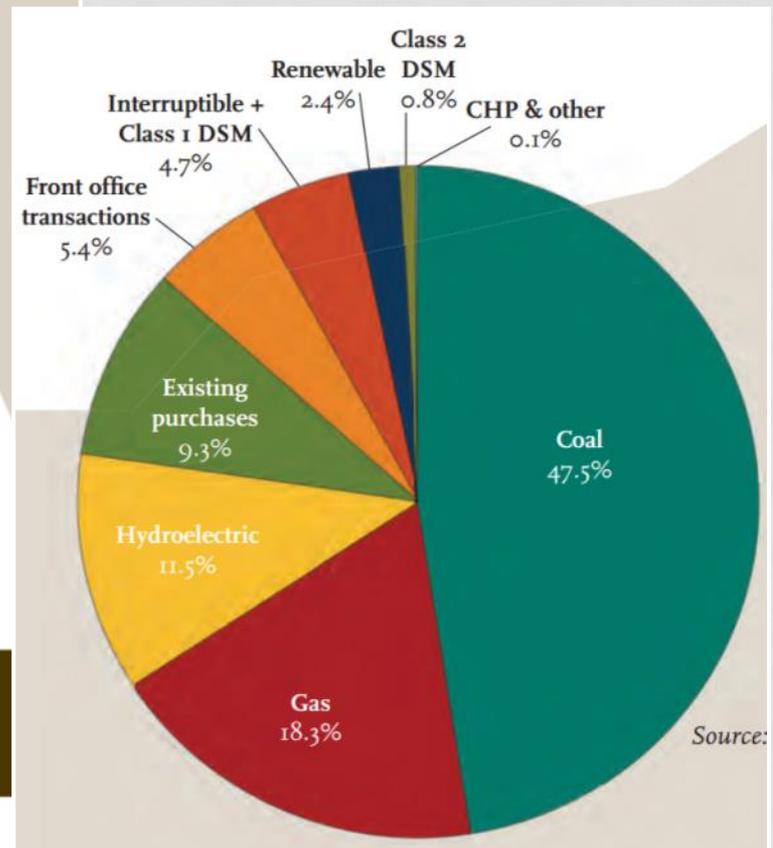
Two-thirds of the economic potential in the **U.S.** to improve energy efficiency remains untapped in the period to 2035.

UTAH'S ELECTRIC GENERATION RESOURCES

Generated at Utah Plants



Utilized by RMP Customers





ENERGY ADVISOR ACTIVITIES & CHALLENGES

ADVANCING RESPONSIBLE ENERGY
DEVELOPMENT IN UTAH



ROLE OF THE GOVERNOR'S ENERGY ADVISOR

- **Role of the Advisor**

- Advise the Governor on energy-related matters
- Review and update State's energy policy
- Promote the development of nonrenewable and renewable energy resources – “All of the Above”
- Promote energy conservation and energy efficiency
- Promote energy education
- Coordinate among State agencies to ensure consistency in implementing State energy policy
- Maintain State Emergency Energy Plan
- *Other duties related to energy infrastructure, utility regulation, etc. See U.C. 63M-4-102.*

ENERGY DEVELOPMENT CHALLENGES

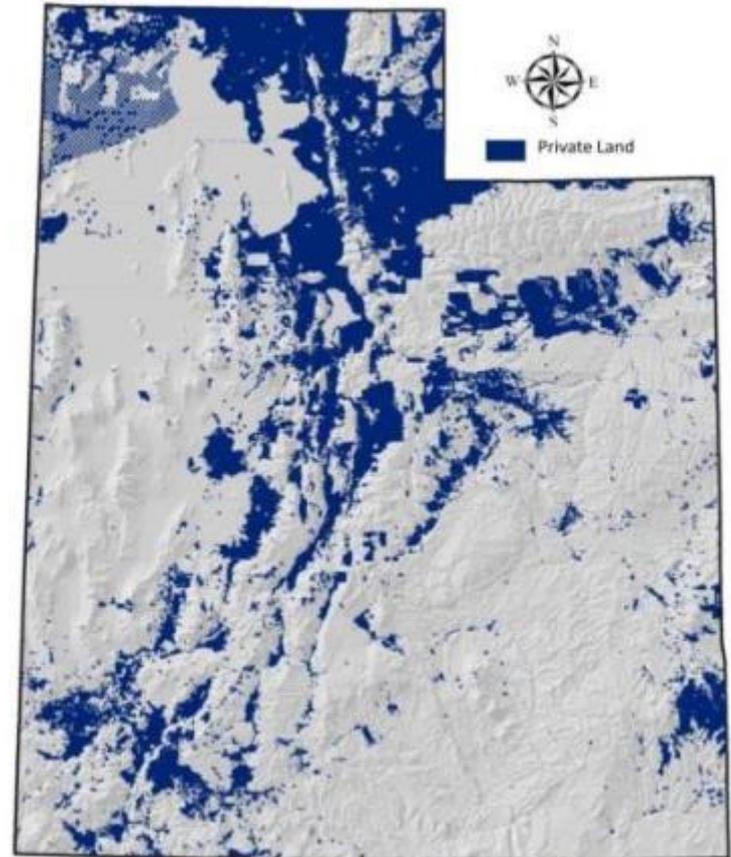
- Sage Grouse and Gunnison Sage Grouse
- Fracking and oil shale regulations
- Ozone in Uinta Basin – *Prospect of non-attainment designation*
- Takeout Capacity & Infrastructure/Transmission
- National Monument Concerns
- “Grand Bargain” efforts continue
- Federal “Climate Action Plan”: *carbon limits on new – and potentially existing – power plants, and possibly oil/gas production methane reduction strategy*



FEDERAL LANDS ISSUES

- Roughly 70% of total oil and natural gas production in Utah occurs on federal lands.
- In FY 2012, oil and gas production on federal lands in Utah yielded \$424.8M.
- \$208.2M (49%) was disbursed back to the State.

Private Land in Utah – 21%



FOSSIL FUEL PRODUCTION 2003-2012

State and private lands

Fossil fuel production up 27% on state and private lands since 2003

+27%

Federal lands

Fossil fuel production down 15% on U.S federal and Indian lands since 2003

-15%

SERIOUS WARNING BELL FOR PUBLIC LAND STATES!

WESTERN GOVERNORS' ASSOCIATION

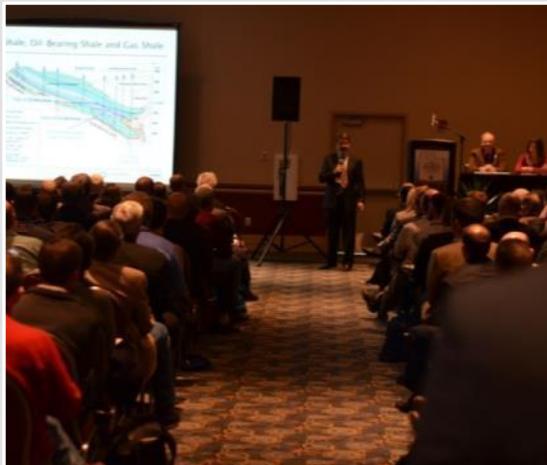
- Goal 1 – Put the U.S. on a path to energy security
- Goal 2 – Ensure energy is clean, affordable and reliable through a balanced energy portfolio
- Goal 3 – Increase energy productivity
- Goal 4 – Establish an energy distribution infrastructure
- Goal 5 – Protect western wildlife and the environment
- Goal 6 – Make the West a leader in energy education

OED FOCUSES ON POLICY & ECONOMIC DEVELOPMENT

- **Samantha Mary Julian**, *Director*
 - MBA
- **Alair Emory**, *Manager of Planning and Programs*
 - MChE
- **Jeffrey Barrett**, *Manager of Infrastructure & Incentives*
 - MUP
- **Gibson Peters**, *Manager of Conventional Energy*
 - PE, MBA
- **Rob Simmons**, *Manager of Unconventional Energy*
 - JD



GOVERNOR'S ENERGY DEVELOPMENT SUMMIT - 1,400 ATTENDEES IN ITS SECOND YEAR!



CONVENTIONAL FOSSIL RESOURCES & LANDS ISSUES – *GIBSON PETERS*

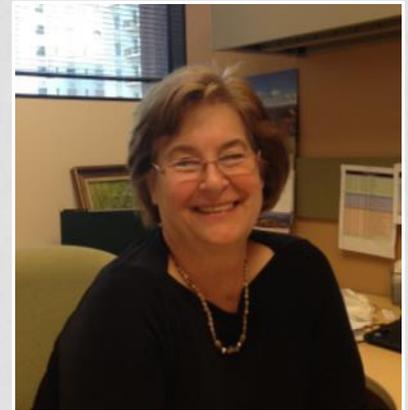
- Efficient Development of Utah's Resources – Making connections for companies, bringing capital investment to Utah
- Liaison to the Division of Oil, Gas, & Mining
- Working w/Federal Agencies & Tribes – reducing leasing/permitting timelines (BLM, FWS, NPS, etc.)
- Focusing on Environmental Issues – Endangered species, air quality, etc.
- Focusing on transportation in Basin



ENERGY EFFICIENCY & ALTERNATIVE TRANSPORTATION – ALAIR EMORY

- State Energy Conservation Plan
- USAVE – Revolving Loan Fund
- Agricultural Energy Efficiency Project
- Federal State Energy Program Grant
- Alternative Transportation Program – SB 275, etc.
- Federal Grant Alternative Transportation Project – UT Clean Cities Coordination, etc.

- Partnerships - DFCM, DEQ, USDA, State Dept. of Ag, Utah Clean Energy, Manufacturing Ext. Partnership, Weber State, SLCC, USU, U of U, Better Buildings Alliance, National Association of State Energy Offices, Rocky Mountain Power, Questar Gas, UAMPS.



INFRASTRUCTURE & INCENTIVES, RENEWABLE ENERGY – *JEFF BARRETT*

- Coordination with Developers
- Alternative Energy Development Incentive – *75% of newly generated state revenue for 20 years*
- Renewable Energy Systems Tax Credit – Investment & Production
- Policy Engagement – utility coordination, PSC dockets, DoD installations, localities
- Utah Energy Infrastructure Authority – Bonding for energy infrastructure
- Regional Coordination – Working with WGA, WECC, and other regional groups focused on expansion and reliability



UNCONVENTIONAL FOSSIL RESOURCES & NUCLEAR – *ROB SIMMONS*

- Incentives – Alternative Energy Development Incentive
- Land Access – Expedite projects on federal land; Address new and proposed federal oil shale regulations; Land exchanges
- Infrastructure – Support projects w/positive ROI for the state
- Regulatory Solutions – E.g. offset banking, etc.
- Technology & Innovation – Support deployment of innovative technologies/practices for advancing unconventional



GOVERNOR'S OFFICE 2013 ENERGY PRIORITIES

1. Develop a State Energy Conservation Plan

- *Stakeholder process underway starting in August, Plan to be complete in early '14*

2. Accelerate Production in the Uintah Basin Energy Zone

- *Ongoing – Land swaps, the “Grand Bargain,” the Alternative Energy Development Incentive, etc.*

3. Increase Fleet Usage of CNG and HEV

- *2013 – S.B. 275, other policy/projects ongoing*

4. Ensure Coordination with Federal Land Managers

- *Ongoing – Utah Energy Development Action Team with BLM, USFS, USFWS, etc.*

GOVERNOR'S OFFICE 2013 PRIORITIES

5. Enhance Coordination with Utah's Tribes

- Ongoing – Engagement on streamlining permitting, etc. w/both BIA and the Ute Tribe's Energy & Minerals Office

6. Foster Energy Innovation at Utah's Universities for Clean Air

- Creation of the Energy Research Triangle, Executive Director Al Walker hired in 2013

7. Commission Study for Transmission Development in Utah

- 2013 Siting/Permitting Regional engagement with WGA Siting & Permitting Task Force

8. Publish Updated the 10-Year Strategic Energy Plan

- Energy Plan as “Living Document” being incorporated into new energy.utah.gov site later by end of 2013

PROSPECTIVE 2014 LEGISLATIVE ISSUES

- Review/Update S.B. 275 as necessary per the guidance of the Interlocal Entity Board, initial sponsors and other key stakeholders
- Alternative transportation as it relates to clean air efforts
- Consider further options for advancing electric generation from Municipal Solid Waste and Wastewater
- Consider options for providing extra resources to stimulate Grand Bargain land swap initiatives
- Pursue opportunities to advance renewable energy through initiatives focused on consumer choice
- Be prepared to adopt measures proposed in State Energy Conservation Plan to be adopted in early 2014
- Priorities of legislators as it relates to energy



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