Utah State Legislature

Governor's Energy Advisor Report

Cody B. Stewart, Energy Advisor

&

Office of Energy Development Report

Samantha Mary Julian, Director

October 17th, 2012

2012 Report Overview

- **Status and Development of Energy Resources**
- **Energy Advisor Initiatives and Challenges**
- **Office of Energy Development Update**
- **Recommended Policy Actions**

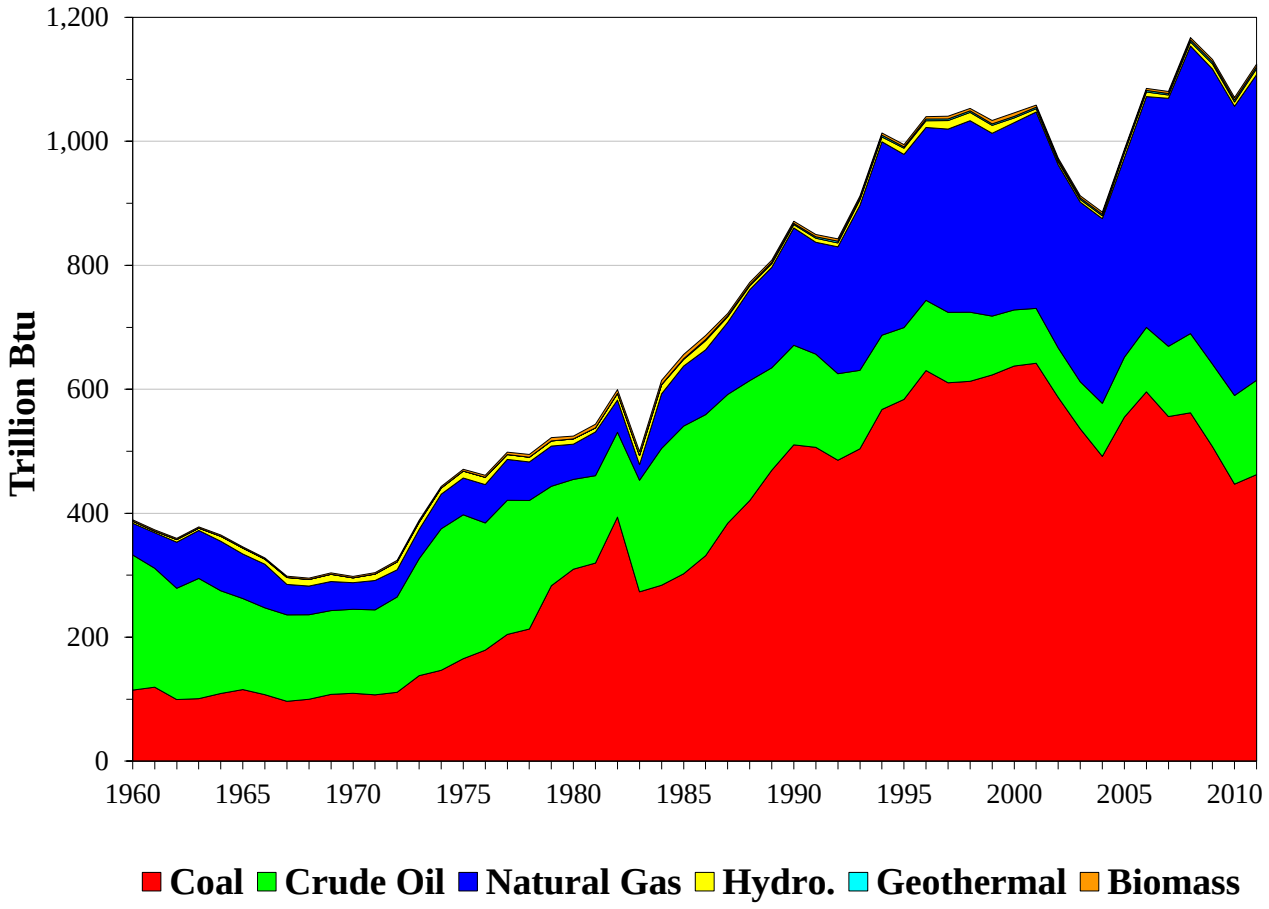
Status and Development of Resources

Economic Outlook 2012 (GOPB)

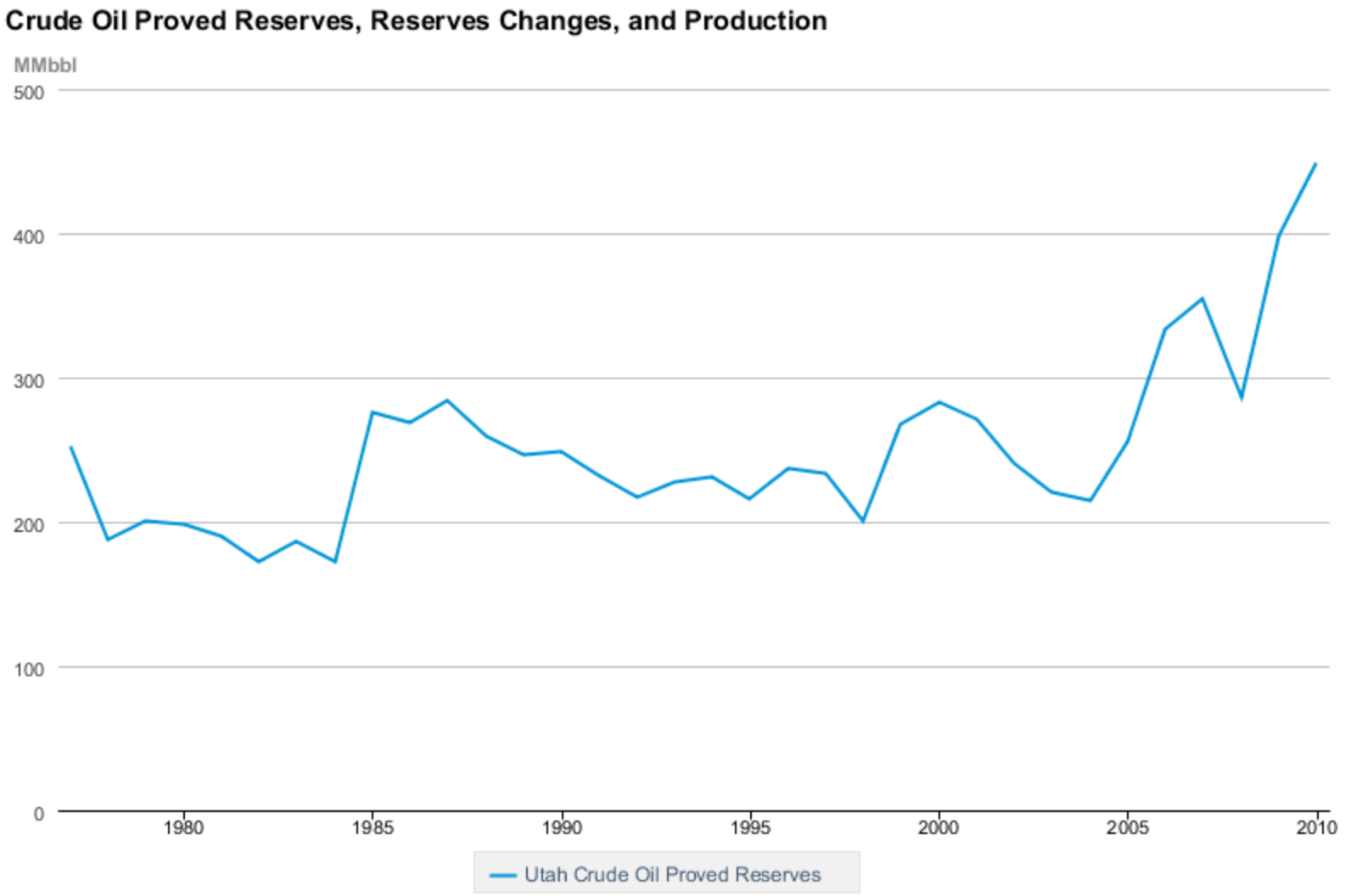
- Energy sector rebounding after declines in 2009/10.
- Crude oil rising and natural gas hit a new record.
- Weak out-of-state electricity demand contributed to reduced generation in Utah.
- Slow and cautious growth forecast, keeping the energy sector a bright spot in Utah's recovering economy.

Utah Energy Production 1960 - 2011

Figure 1.3a - Energy Production in Utah by Primary Source, 1960-2011

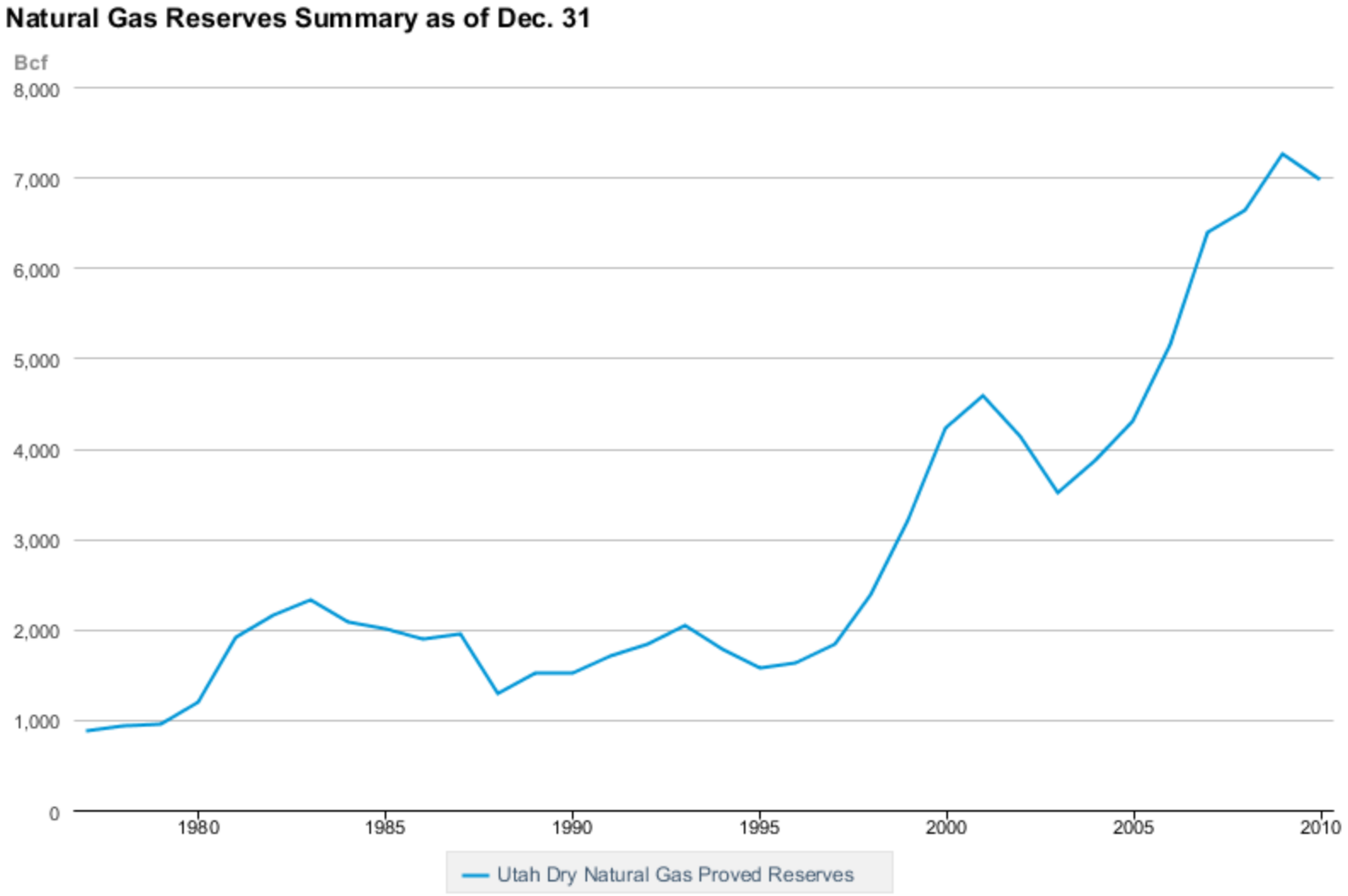


Utah Crude Oil Proved Reserves



Source: U.S. Energy Information Administration

Utah Natural Gas Proved Reserves



Source: U.S. Energy Information Administration

Utah's Energy Production: 2010-2011

Source	Energy (mcf, bbl, short tons)	Growth Percentage
Natural Gas	461,828,641	**+5.7%**
Crude Oil	26,260,326	**+14.5%**
Coal	19,820,000	**+2.1%**

mcf = thousand cubic feet
bbl = barrels

Conventional Energy Production

- **10,831 - Total Producing Wells in Utah** (DOGM)
  - 37% Oil Wells
  - 63% Gas Wells
- **Current Production**
  - 74% on Federal and Tribal Land
  - 26% on State and Private Land
- **Recently Approved EIS** (BLM)
  - Anadarko - 3,675 Gas Wells
  - Gasco - 1300 Gas Wells
- **Pending EIS** (BLM/USFS/BIA)
  - ~20,000 Oil and Gas Wells

Utah Energy Compared to Other States

- **3rd** for CNG infrastructure (US DOE)
- **3rd** lowest residential natural gas prices (EIA)
- **4th** lowest overall electricity prices (EIA)
- **9th** in natural gas production in 2011 (EIA)
- **11th** in oil production in 2011 (EIA)
- **15th** in coal production in 2011 (EIA)

Energy and Utah's Economy

- **$ 4.66 Billion in Oil, Gas, and Coal Revenue**
- **1st Quarter of 2012**
  - 17,486 Direct Energy Jobs
  - 1.4% of State Employment
  - 2.6% of Total Wages
  - Energy Wage ~186% Higher than State Avg Wage

Energy & State Revenues

- **Extractive Industry (millions)**
  - $130.4 Federal Mineral Lease (Extractive)
  - $59.9 Severance Tax (Extractive)
  - $53.2 SITLA Royalties (SITLA Permanent Fund)
  - $42.2 Ad Vellorum Tax
  - $31.5 Mineral Production Withhold Tax
  - $6.8 Conservation Tax

$323 Million Total State Revenue

Energy & the Community

- **Beyond Economic Development**
  - Community Infrastructure
    - K-12 school system
    - Roads
    - Vital Social Services
    - Many others

Energy Advisor Initiatives and Challenges

Governor Herbert's Priorities

- **Energy**
- Education
- Economic Development
- Self-Determination

ENERGY – Critical to Modern Society

"There is no substitute for energy. The whole edifice of modern society is built upon it…It is not "just another commodity" but the precondition of all commodities, a basic factor equal with air, water, and earth."

E. F. Schumacher, 1973

Guiding Principles of Energy Plan

1. **Free Market Development of All Resources**
2. **Minimize and Mitigate Impacts**
3. **Living and Evolving Document**
4. **Utility Costs**
5. **Energy Independence**

Implementation of 10-Year Initiative

- **2011 H.B. 475, OED Single Point of Contact**
- **Energy Coordinating Council**
- **Energy Research Triangle**
- **Support Education/Efficiency Programs**
- **Public Lands**

Recommendations

1. **Establish an Energy Office**
2. **Develop Plans to Keep Public Lands Open**
3. **Enhance Technology Advancement**
4. **Review Role of Tax Incentives**
5. **Increase Regulatory/ Licensing Transparency**
6. **Reduce Energy Consumption State-Wide**
7. **Diversify Transportation Fuels**
8. **Lay Foundation for Base Load Growth**

Utah Energy Research Triangle

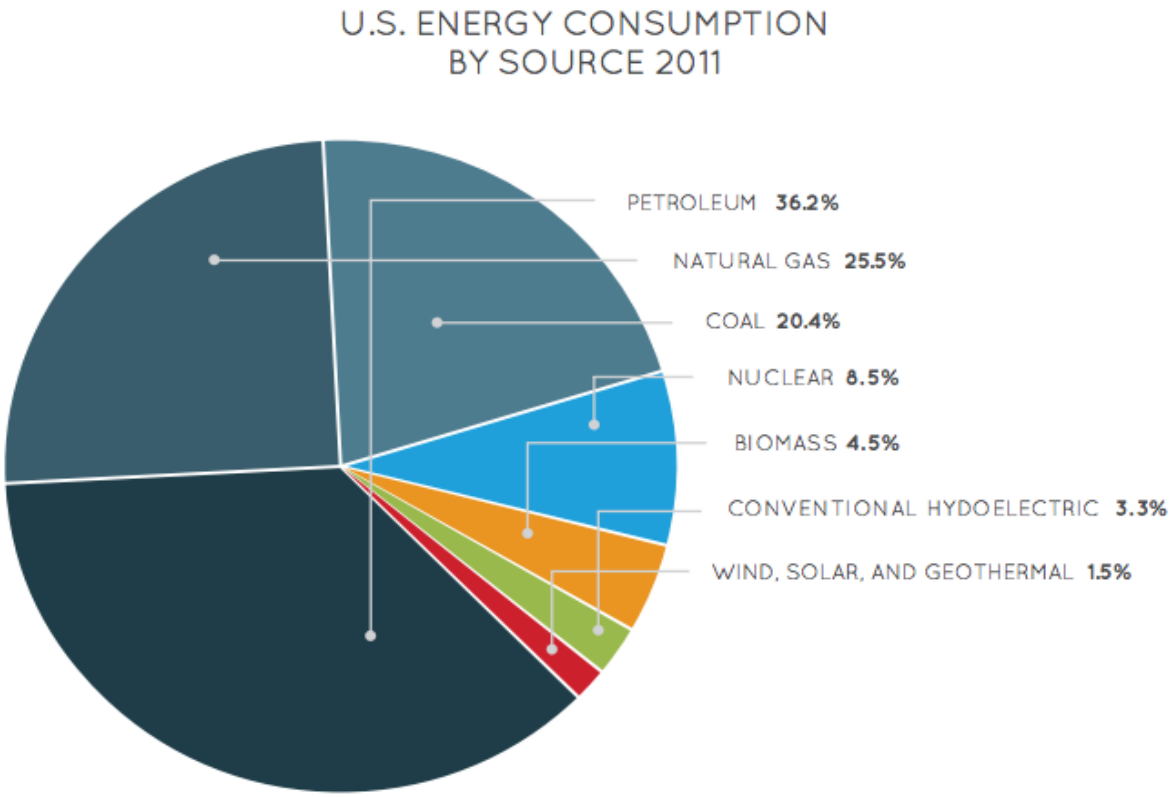
- **Mission: "Best-In-Country" Innovation Ecosystem by 2016**
  - Guided by recommendation in Governor's 10 year plan
  - Focus on strategic opportunities
- **Goals/Objectives**
  - Improve cooperation and coordination
  - Leverage university/industry strengths & resources
  - Catalyze Utah energy industries-of-the-future
  - Secure large-scale funding; build new capacity
- **Selected Focus Areas**
  - Clean, low-cost processes for developing unconventional resources
  - National integration test bed
- **Next Steps**
  - Continue coordination activities
    - Develop working groups, team leads, provide networking opportunities

Western Governors' Association

Governor Herbert Current Chair

1. **Energy Education**
2. **Energy Efficiency**
3. **Alternative Fuels & Transportation**
4. **Transmission Siting**
5. **Regional Plan**

U.S. ENERGY CONSUMPTION

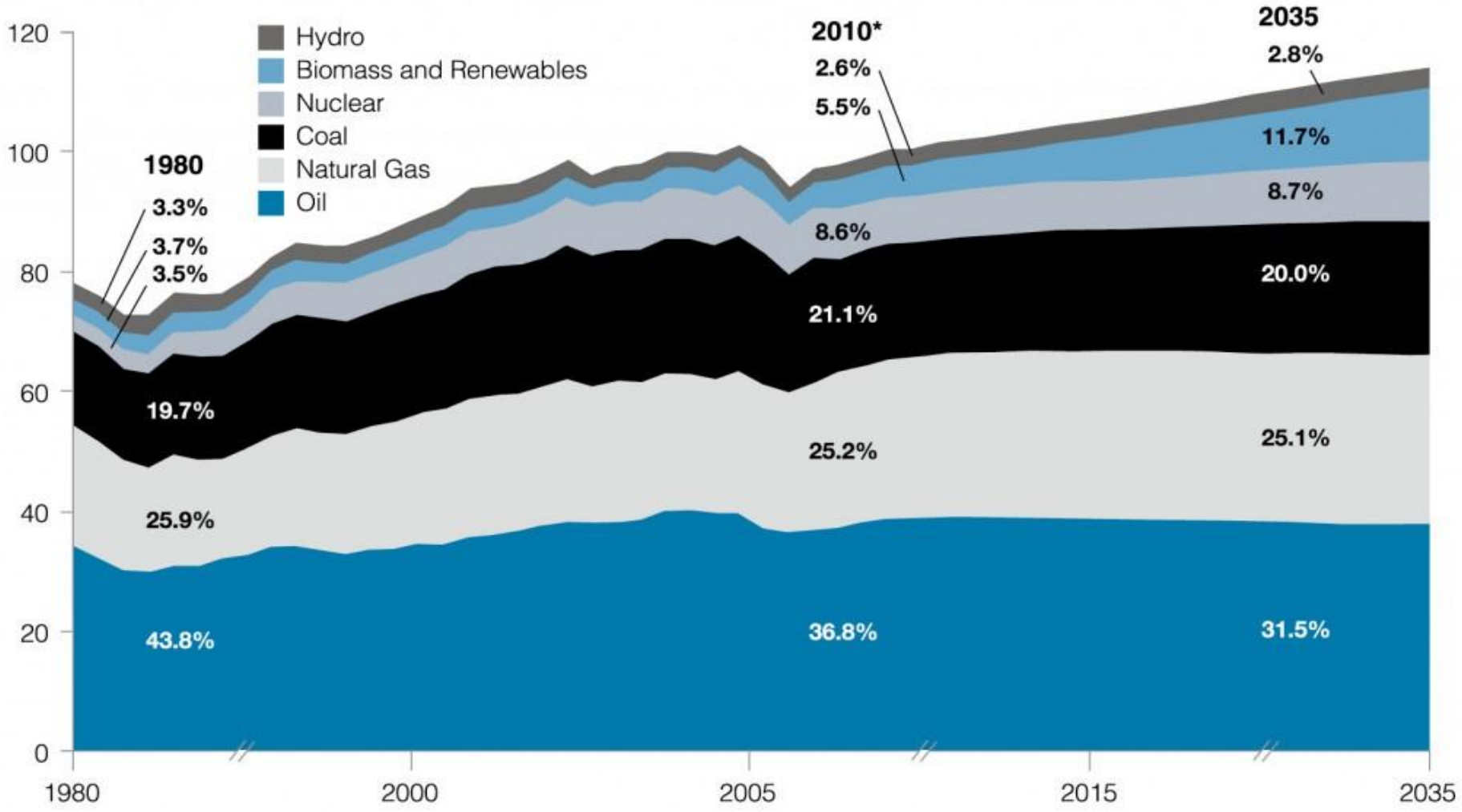


SOURCE: EIA, MONTHLY ENERGY REVIEW, MARCH 2012, TABLE 1.3
PRIMARY ENERGY CONSUMPTION BY SOURCE (QUADRILLION BTU), 7
HTTP://WWW.EIA.GOV/TOTALENERGY/DATA/MONTHLY/PDF/MER.PDF

Energy Illiteracy

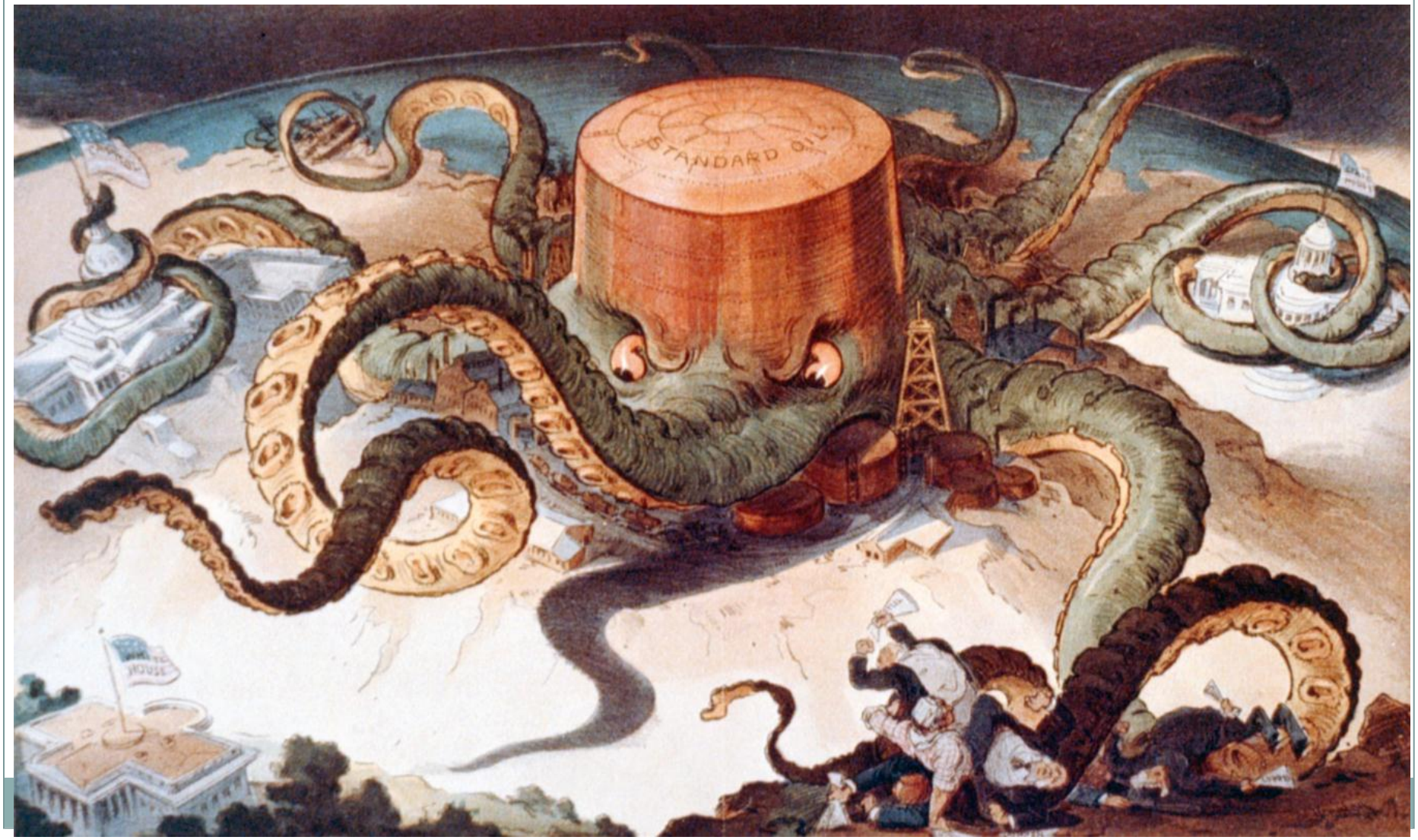
- When the public does think about energy, this is generally what they think….

Future U.S. Energy Demand (Quadrillion Btu)



Source: EIA, *Annual Energy Outlook 2012*, Tables A1 and A17

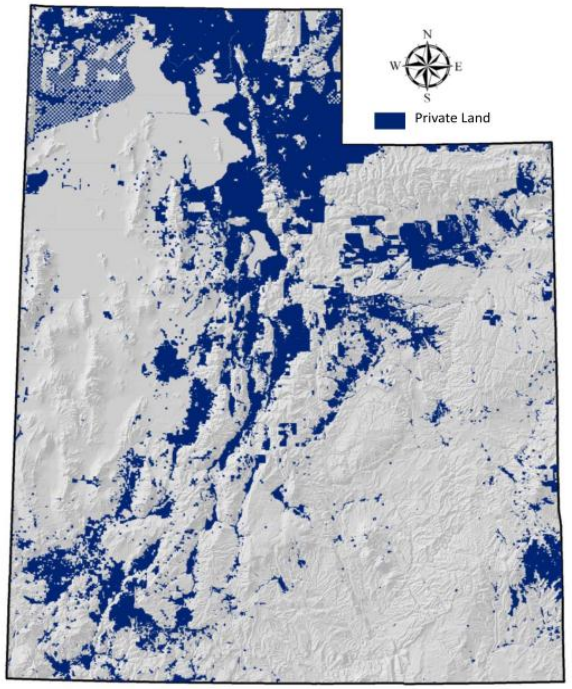
The Campaign Against Fossil Fuels



Private Lands in Utah – 21%

Private Lands in Utah

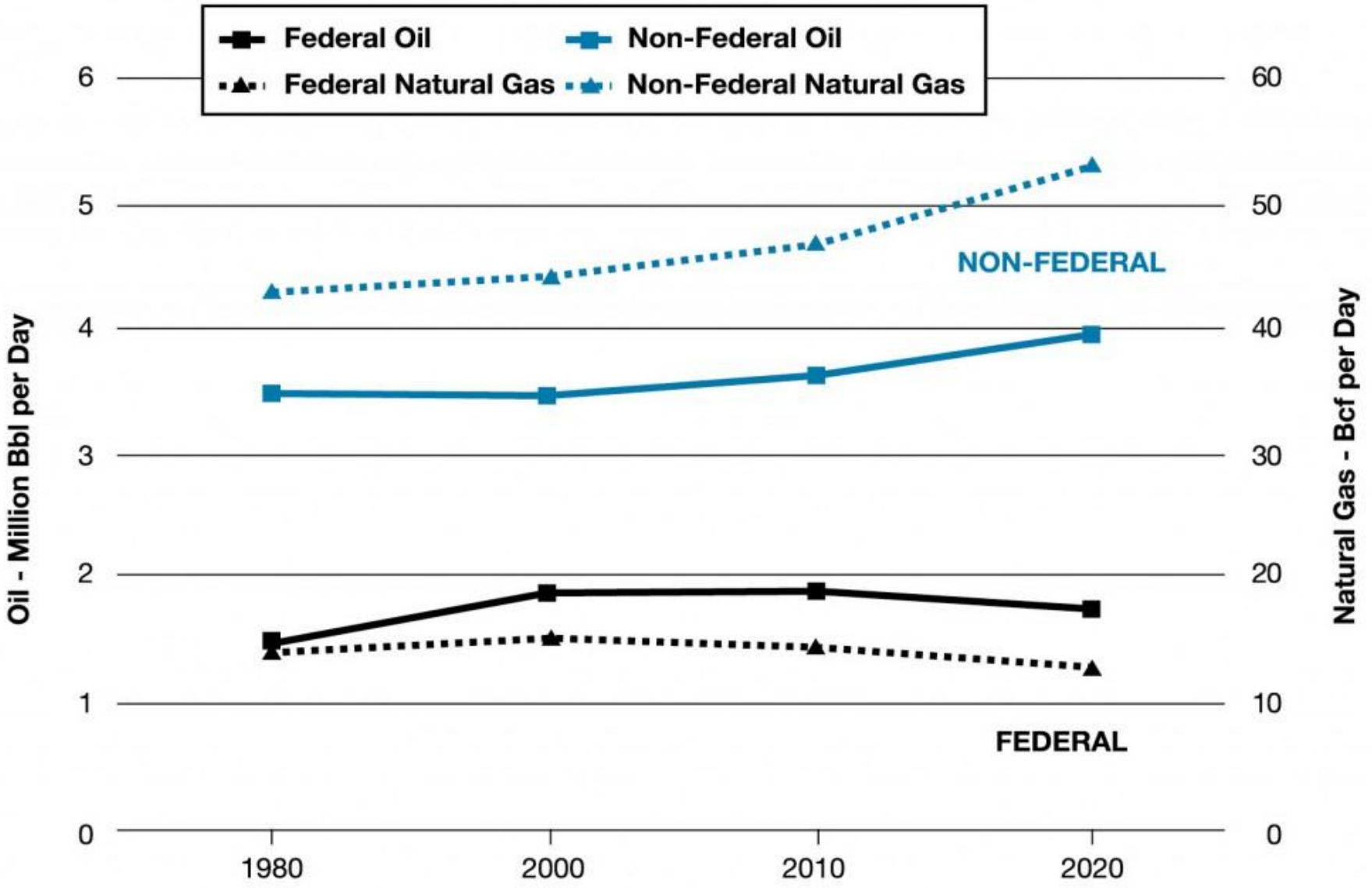
Of the nearly 85,000 square miles of surface area in Utah, 17,884 miles are in private ownership – only 21%. The map below shows where the privately owned land is. The maps on the reverse page show the relative size of Utah and its 29 counties if they were condensed to include only privately owned land.



PRODUCED BY GOVERNOR GARY R. HERBERT'S OFFICE OF PLANNING AND BUDGET
MIKE MOWER, STATE PLANNING COORDINATOR
EVAN CURTIS, STATE AND LOCAL PLANNING PROJECT MANAGER

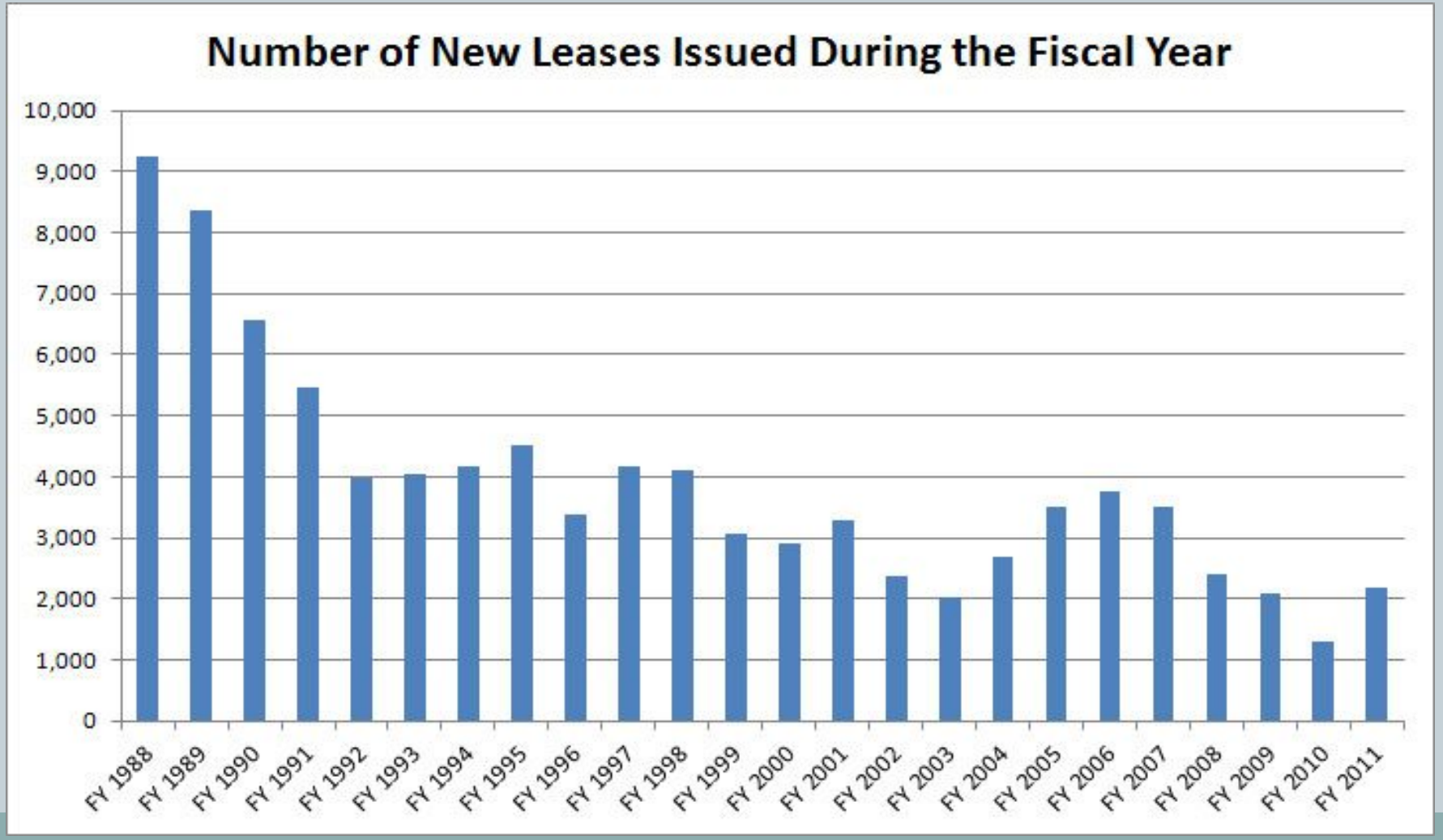
Data Source: Utah's State Geographic Information Database (http://gis.utah.gov/sgid) Land Ownership layer as maintained by State and Institutional Trust Lands Administration (SITLA) Salt Lake City Utah: Winter 2011
For Reference Use Only. Produced 2011, GOPB.

U.S. Oil and Natural Gas Production on Federal vs. Non-federal Lands and Waters

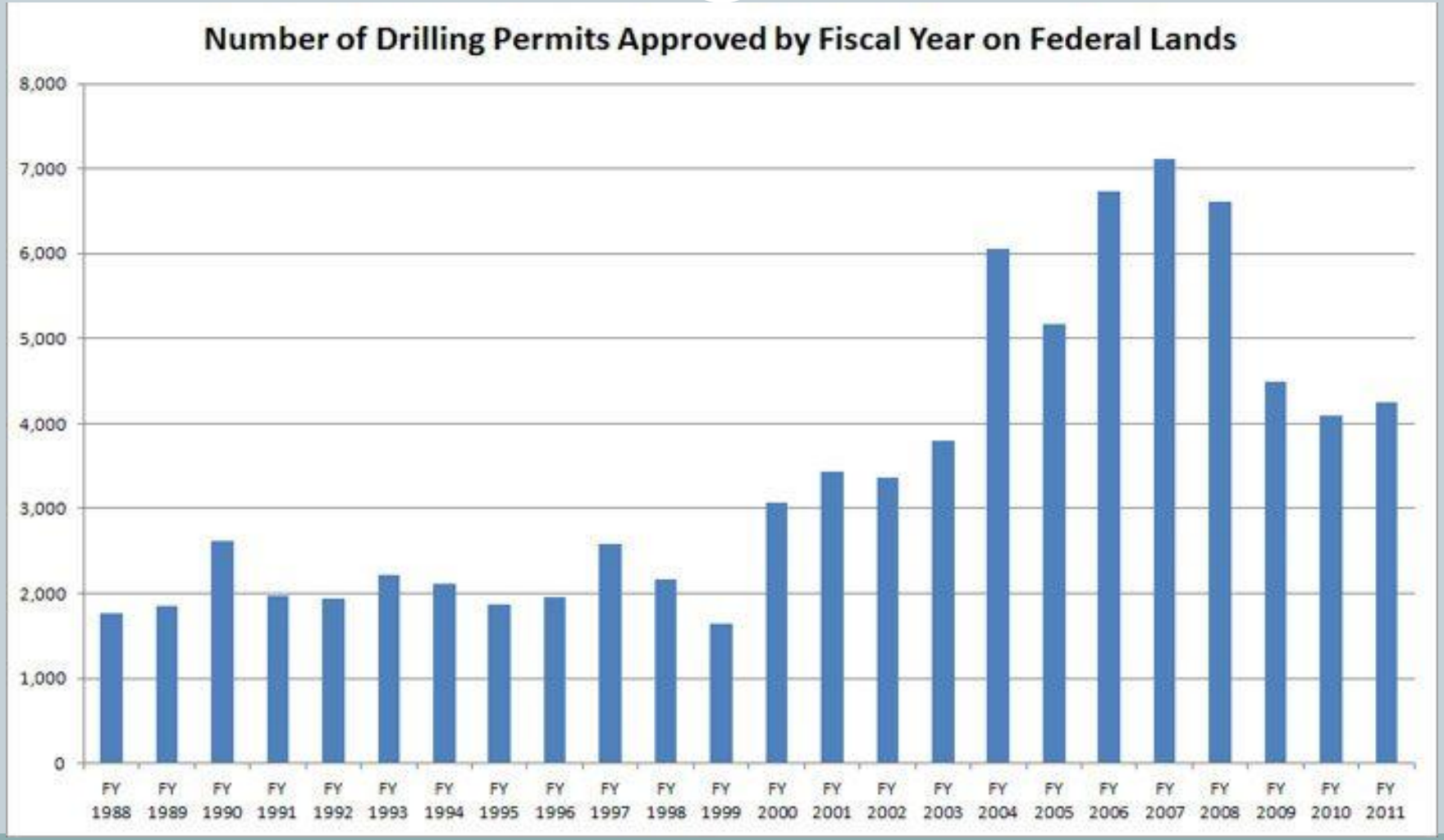


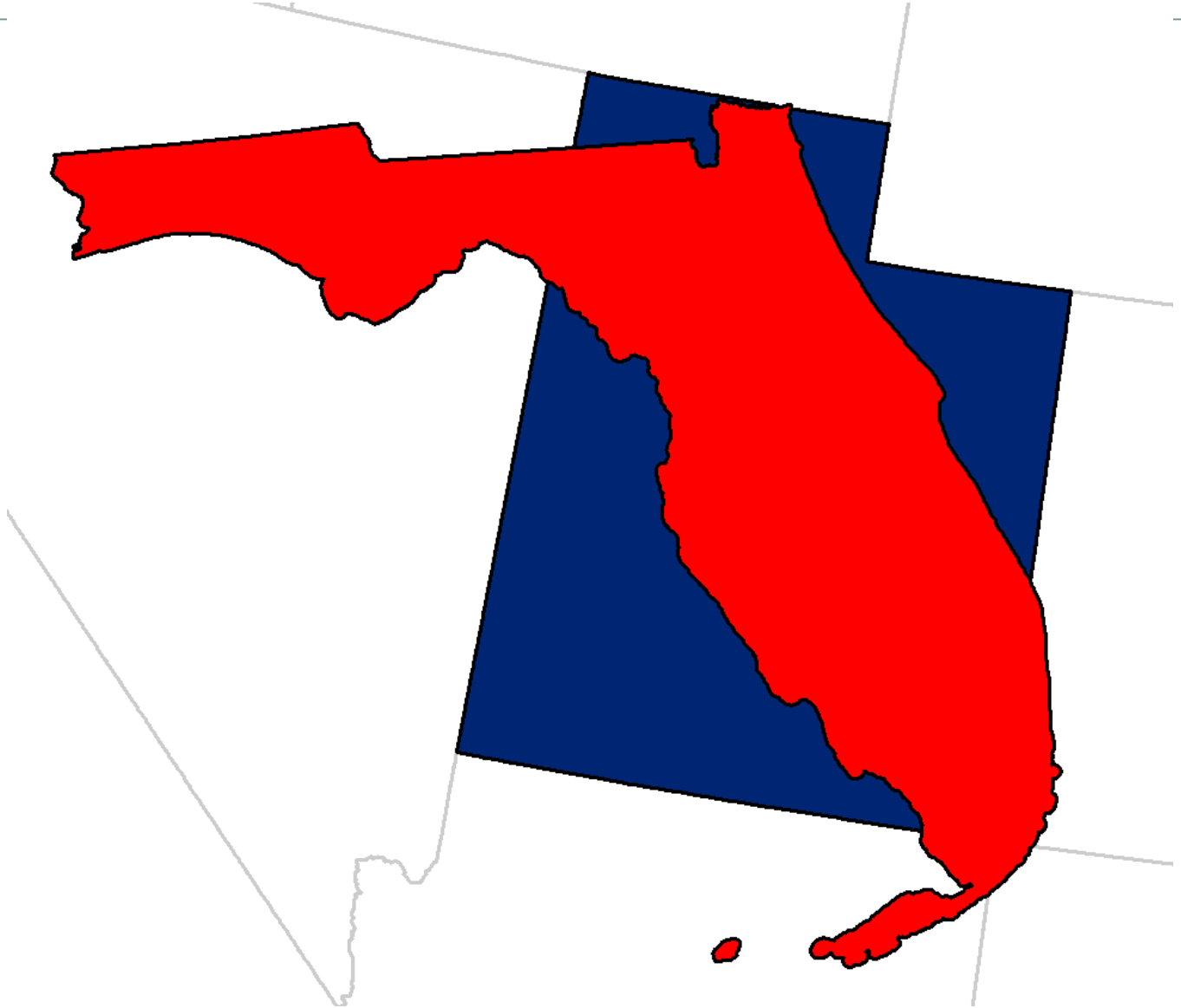
Source: EIA, Office of Natural Resource Revenue

New Leases are Down



New Drilling Permits are Down





Projected Coordinate System: USA_Contiguous_Albers_Equal_Area_Conic_USGS_version

SUMMARY

1) Responsible Energy Development is a Top Priority for the Herbert Administration

2) Utah will Continue to Pursue an All of the Above Approach to Energy Production

3) We will Actively Combat Myths and Promote Energy Education and Energy Realism

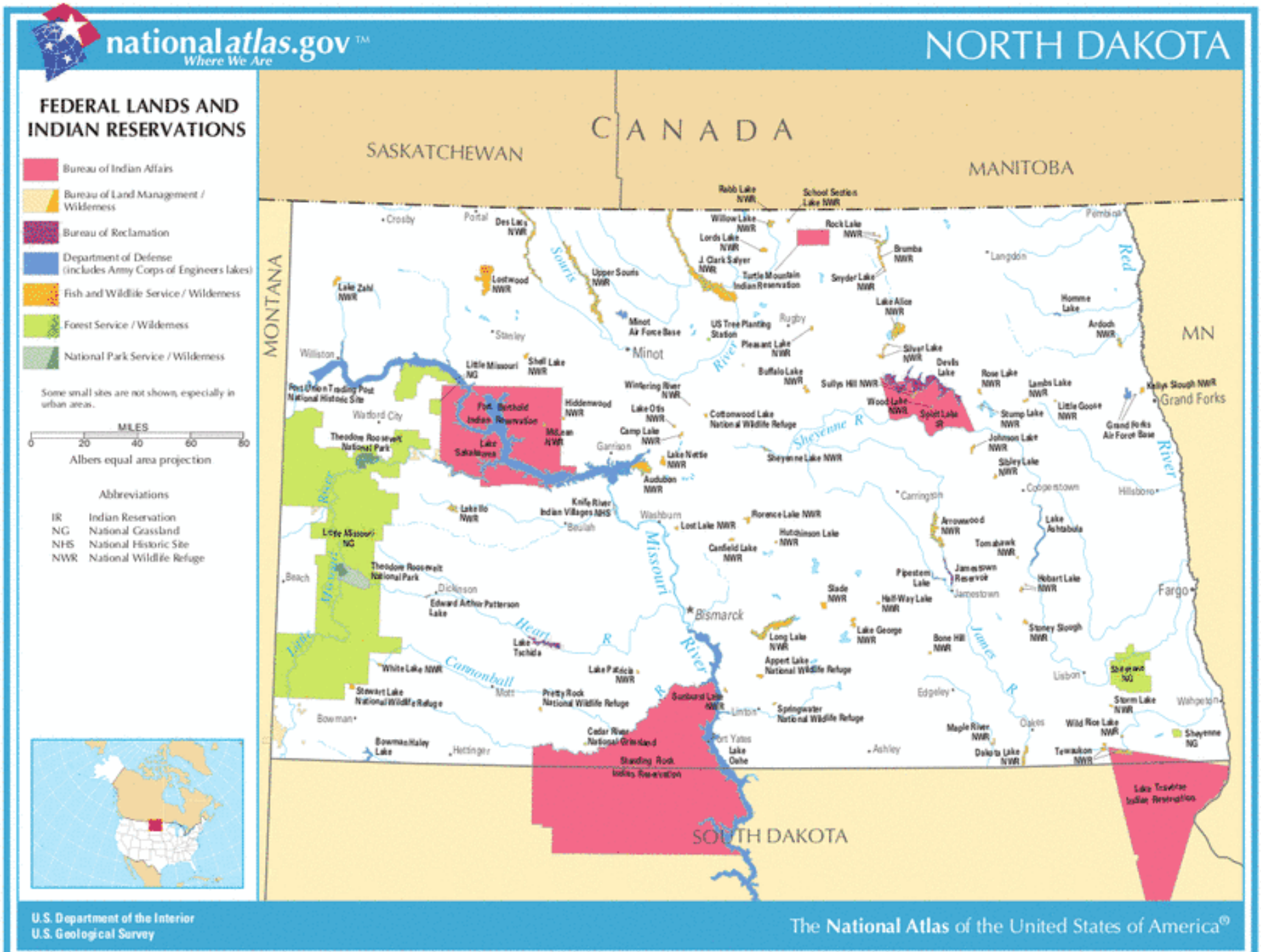
4) The Governor Believes Utahn's should have Greater Control over Utah's Lands and Resources

Three Truths About Energy in Utah

- Energy is Abundant

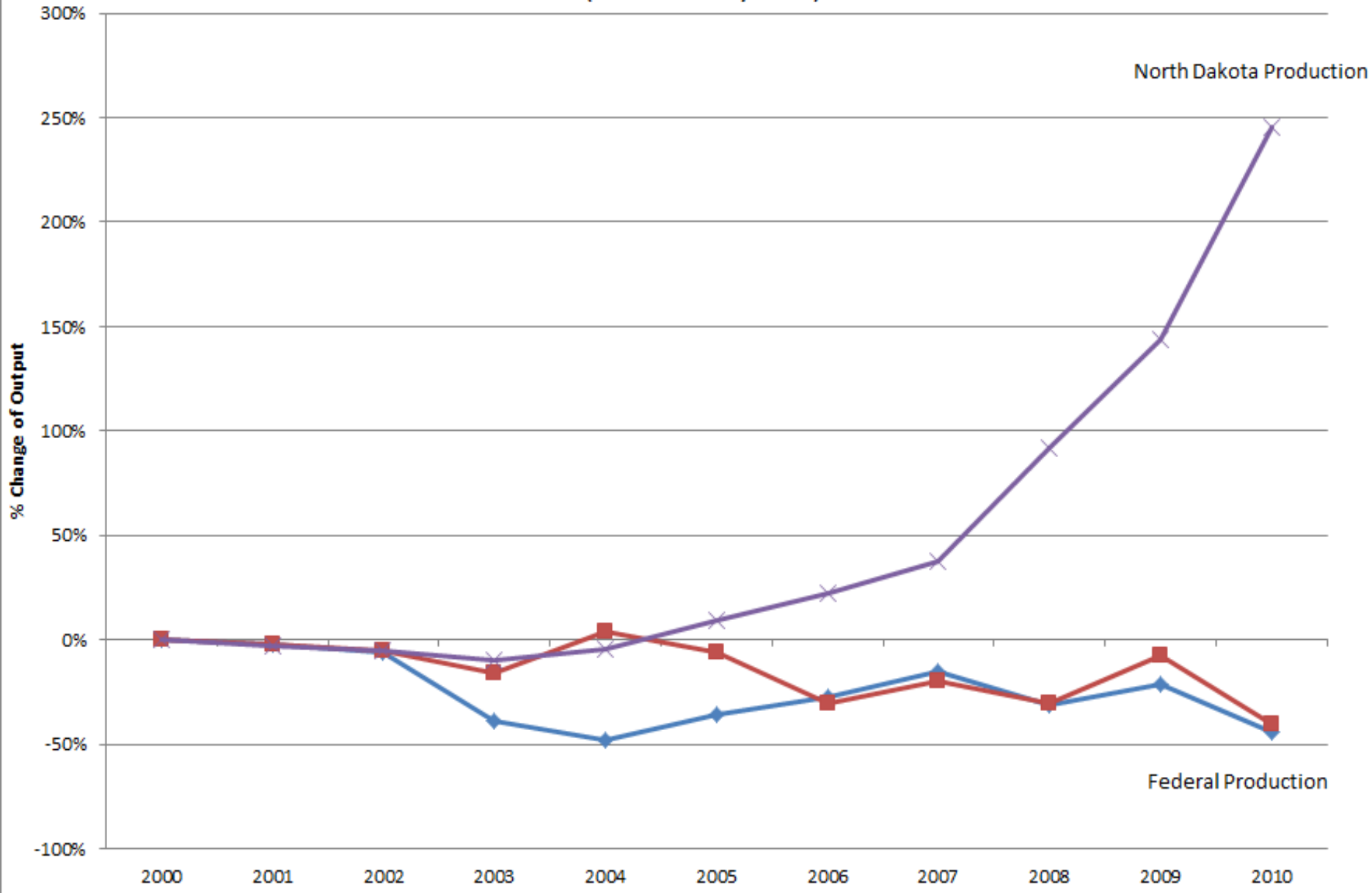
- Utah's Energy Policy is Fundamentally Determined by Federal Public Lands and Environmental Policy

- We are Not North Dakota


nationalatlas.gov™
Where We Are
NORTH DAKOTA
FEDERAL LANDS AND INDIAN RESERVATIONS
Bureau of Indian Affairs
Bureau of Land Management / Wilderness
Bureau of Reclamation
Department of Defense (includes Army Corps of Engineers lakes)
Fish and Wildlife Service / Wilderness
Forest Service / Wilderness
National Park Service / Wilderness
Some small sites are not shown, especially in urban areas.
MILES
0 20 40 60 80
Albers equal area projection
Abbreviations
IR Indian Reservation
NG National Grassland
NHS National Historic Site
NWR National Wildlife Refuge
CANADA
SASKATCHEWAN
MANITOBA
MONTANA
MN
SOUTH DAKOTA
Crosby
Portal
Des Lacs NWR
Lostwood NWR
Lake Zahl NWR
Stanley
Williston
Watford City
Theodore Roosevelt National Park
Little Missouri NG
Fort Union Trading Post National Historic Site
Fort Berthold Indian Reservation
Lake Sakakawea
Shell Lake NWR
Little Missouri NG
Hiddenwood NWR
McLean NWR
Garrison
Lake Ilo NWR
Knife River Indian Villages NHS
Beulah
Dickinson
Edward Arthur Patterson Lake
Beach
Little Missouri
Heart R
Lake Tschida
Cannonball
White Lake NWR
Stewart Lake National Wildlife Refuge
Mott
Bowman
Bowman Haley Lake
Hettinger
Pretty Rock National Wildlife Refuge
Lake Patricia NWR
Cedar River National Grassland
Shadding Rock Indian Reservation
Sunburst Lake NWR
Linton
Port Yates
Lake Oahe
Missouri River
Bismarck
Washburn
Lost Lake NWR
Canfield Lake NWR
Florence Lake NWR
Hutchinson Lake NWR
Sheyenne Lake NWR
Sheyenne R
Minot
Minot Air Force Base
Upper Souris NWR
Souris
Rabb Lake NWR
School Section Lake NWR
Willow Lake NWR
Lords Lake NWR
J. Clark Salyer NWR
Turtle Mountain Indian Reservation
Rock Lake NWR
Brumba NWR
Snyder Lake NWR
Rugby
US Tree Planting Station
Pleasant Lake NWR
Buffalo Lake NWR
Wintering River NWR
Lake Otis NWR
Camp Lake NWR
Lake Nettie NWR
Audubon NWR
Cottonwood Lake National Wildlife Refuge
Sullys Hill NWR
Wood Lake NWR
Spirit Lake IR
Silver Lake NWR
Devils Lake
Lake Alice NWR
Rose Lake NWR
Lambs Lake NWR
Little Goose NWR
Stump Lake NWR
Johnson Lake NWR
Sibley Lake NWR
Kellys Slough NWR
Grand Forks
Grand Forks Air Force Base
Red River
Pembina
Langdon
Homme Lake
Ardoch NWR
Carrington
Cooperstown
Hillsboro
Arrowwood NWR
Tomahawk NWR
Lake Ashtabula
Jamestown Reservoir
Jamestown
Pipestem Lake
Hobart Lake NWR
Fargo
Slade NWR
Half-Way Lake NWR
Lake George NWR
Long Lake NWR
Appert Lake National Wildlife Refuge
Bone Hill NWR
Stoney Slough NWR
James R
Lisbon
Sheyenne NG
Edgeley
Storm Lake NWR
Wahpeton
Springwater National Wildlife Refuge
Maple River NWR
Oakes
Wild Rice Lake NWR
Sheyenne NG
Ashley
Dakota Lake NWR
Tewaukon NWR
Lake Traverse Indian Reservation
U.S. Department of the Interior
U.S. Geological Survey
The National Atlas of the United States of America®

Federal Energy Production vs. North Dakota Oil Production

(ND is 4% Federally owned)



www.eia.gov
AER2010

Crude Oil (BTU)
Natural Gas (BTU)
North Dakota Oil (Barrels)

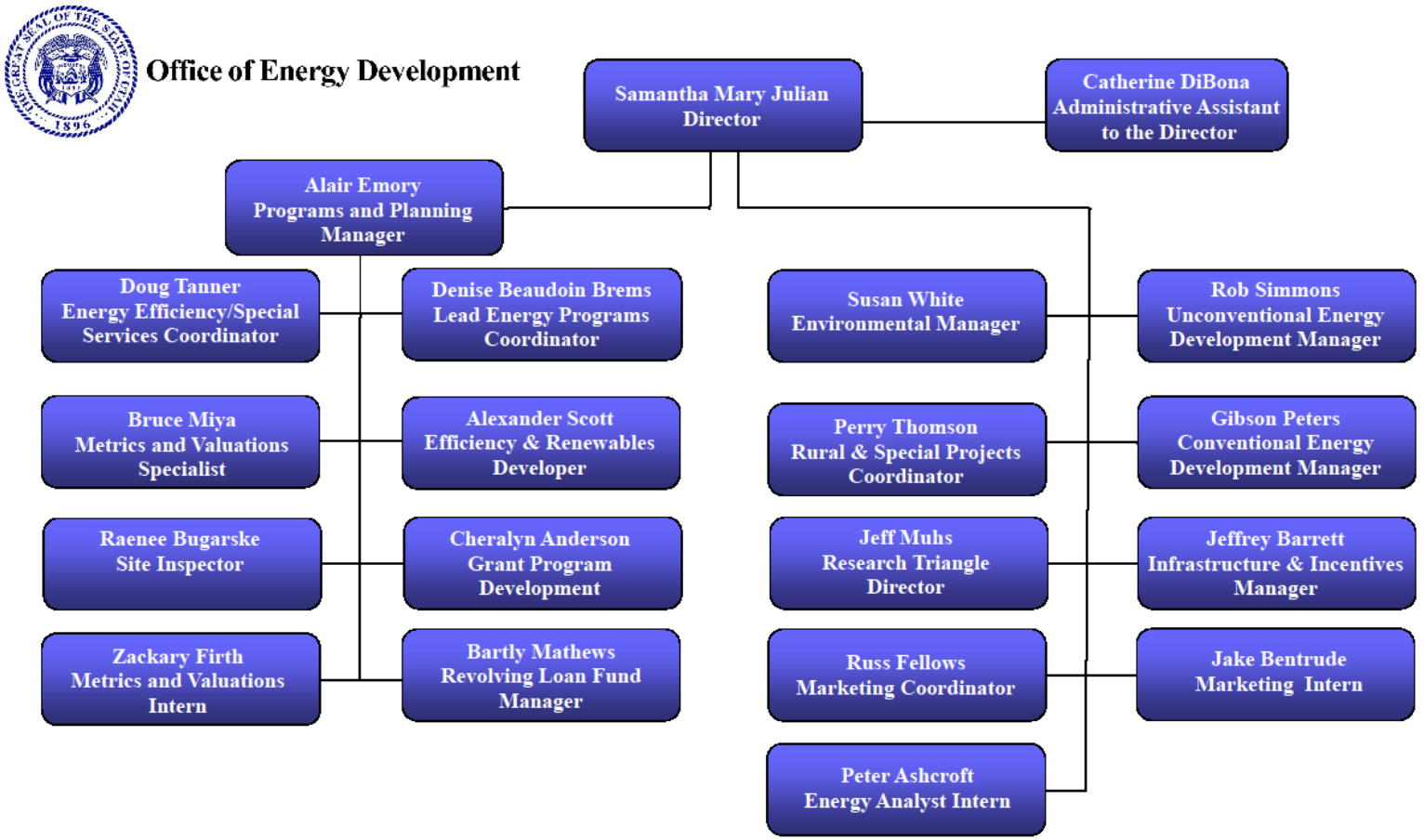
IER INSTITUTE FOR ENERGY RESEARCH

Office of Energy Development Update

Office of Energy Development

- **Vision**
  - To serve as the primary resource for advancing energy development in Utah.
- **Mission**
  - To provide leadership in the balanced development of Utah's abundant energy resources through public and private partnerships for economic prosperity, energy independence and a reliable, affordable energy supply.
    1. **Create & Implement Policy**
    2. **Provide Industry Assistance**
    3. **Build Relationships**
    4. **Seek Funding Opportunities**
    5. **Support Energy Education**

OED Organizational Chart



Year 1

- **Basic Operations**
  - Stood Up Office
- **Policy/Economic Development**
  - Legislative Session, Boards
- **Understanding Allies**
  - Con, Unconv, SEP, ARRA, EECBG

Basic Operations

- **Stood Office Up**
- **MOUs – USTAR, SLCC, DEQ, USU, GOED**
- **Staffing, Relocation to WTC**
- **Governor's Energy Development Summit**
- **Website, Governor's Energy Blog, Tlk Pts**
- **Strategic Objectives' Metrics**
- **UPM, Job Descriptions**

Policy/Economic Development

- **Governor's Energy Plan Recommendations**
- **HB 137, SB 65 + Rule Making**
- **SB 12**
- **U.S. Congressional Testimony**
- **RGA, NGA**
- **Industry Surveys**
- **4 Energy Sector Strategies**

Policy/Economic Development (cont.)

- **Governor's Energy Task Force**
- **Energy Coordinating Council**
- **Western Governor's Association**
- **Sage Grouse Working Group**
- **UU Energy Commercialization Center**
- **UCAIR**

Understanding Allies

- **SEP ARRA $45.5M**
  - EECBG, SEP, ARRA
- **DOE Visits**
- **Dual Audits**
- **Grant Applications**
- **The Big Shake Out**
- **Inspections**
- **Closeouts**

Year 1 Successes

- **Military Installation Energy Collaborative**
  - Coordinate and facilitate with Energy Initiatives Task Force (EITF)
- **Conduct Industry Surveys for Oil & Gas Producers and E Efficiency Companies**
  - Surveys aimed at assessing impediments to resource development
- **Funded UGS Geothermal Exploration that Led to Significant Resource Discoveries**
  - Helped Fund Black Rock Desert Basin Exploration - Potential MW's
- **Created U-Save Revolving Loan Fund Program**
  - Efficiency and distributed generation projects for muni's and schools

ARRA Energy Program

- **Energy Efficiency & Conservation Block Grant (closed)**
  - Funding: $9.35M, 4 Counties and 46 Cities
    - UAMPS Smart Energy Initiative upgraded streetlights for muni's w/ LED lamps
      - Energy savings of 58 % per lamp have been achieved
  - Beaver County Public Safety Facility Rec'd a Complete E Upgrade
    - Included a solar thermal hot water system that offsets 50% of the water heating needs for 450 inmates
- **Appliance Rebate Program (closed)**
  - Funding : $2.6M
    - Issued over 14,000 energy efficiency appliance rebates
      - 8,000 Energy Star clothes washers
      - Over 5,000 high-efficiency furnaces

Year 2

- **External Communication**
  - Internal Promotion
- **Internal Evaluation**
  - Goal Setting

External Communication

- **Execute on 4 Energy Sector Strategies**
  - 90 Day Plan, Newsletters, Mtgs, Site Visits
- **Promote & Approve Incentives/Programs**
  - Alt Energy Dev, Energy Infrastructure Authority
  - SEP 3.0
- **GEDS II**
- **Tools**
  - Website, Salesforce
- **Streamline Processes**

Internal Evaluation

- **Grant Strategy**
  - SEP, DOE, DOD, USDA
- **MIEC – The next level**
- **Individual Training & Growth Opportunities**
- **Balanced Scorecard**
- **Green Team Leader**
- **Studies**
- **Track Data**

Year 2 Developments

- **Helped Craft Governor Herbert's Agenda as WGA Chair**
  - Worked with Alan Matheson, Cody Stewart, and WGA staff
- **Created Alt. Fuels and Transportation Advocacy Group**
  - Pursuing opportunities to expand its role in transportation diversification
- **Initiated Quarterly Resource Newsletters**
  - Conventional, Unconventional, Renewable, and Energy Efficiency resources
- **Communicate with Stakeholders through Online Presence**
  - Adding online application submission, resource information and mapping
- **Adopt Contact Management System Software**
  - Track metrics, manage relationships, assure efficient use of staff time
- **Siting and Permitting Electric Transmission Lines in Utah**
  - Regulatory processes guide for routing and permitting transmission facilities

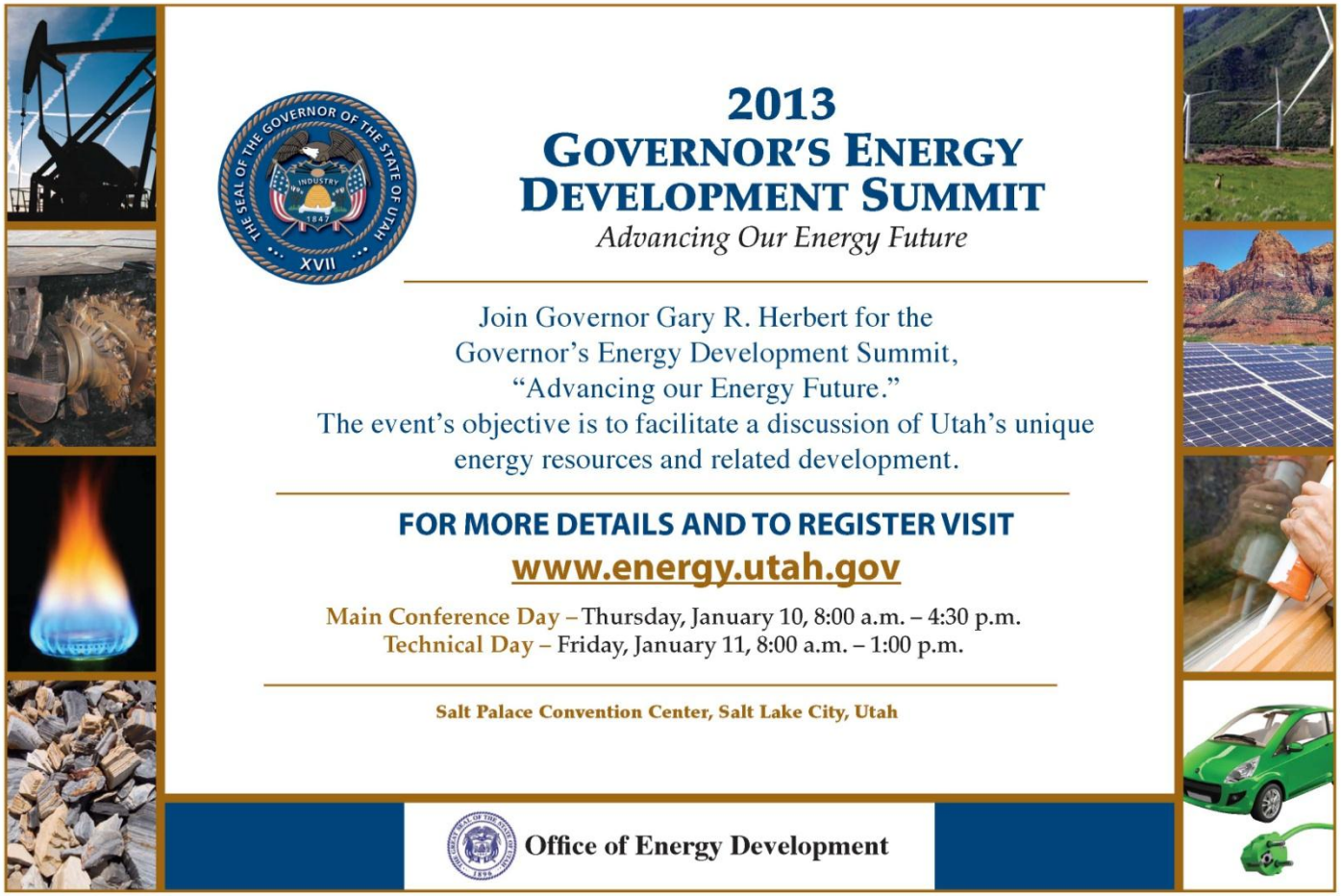
Year 2 Developments (cont.)

- **Utah Energy Infrastructure Authority H.B. 137**
  - Met with leaders of other states' infrastructure authorities
  - Reorganizing Board according to new structure
    - Recommendations for new Board members ready to be submitted
    - First meeting of new Board scheduled for early mid-December
- **Alternative Energy Development Incentive S.B. 65**
  - Met with industry to develop project qualification standards
  - Drafted new rule to the Division of Administrative Rules
    - Underwent mandatory public comment and response periods
  - Finalizing application, policies and submission processes

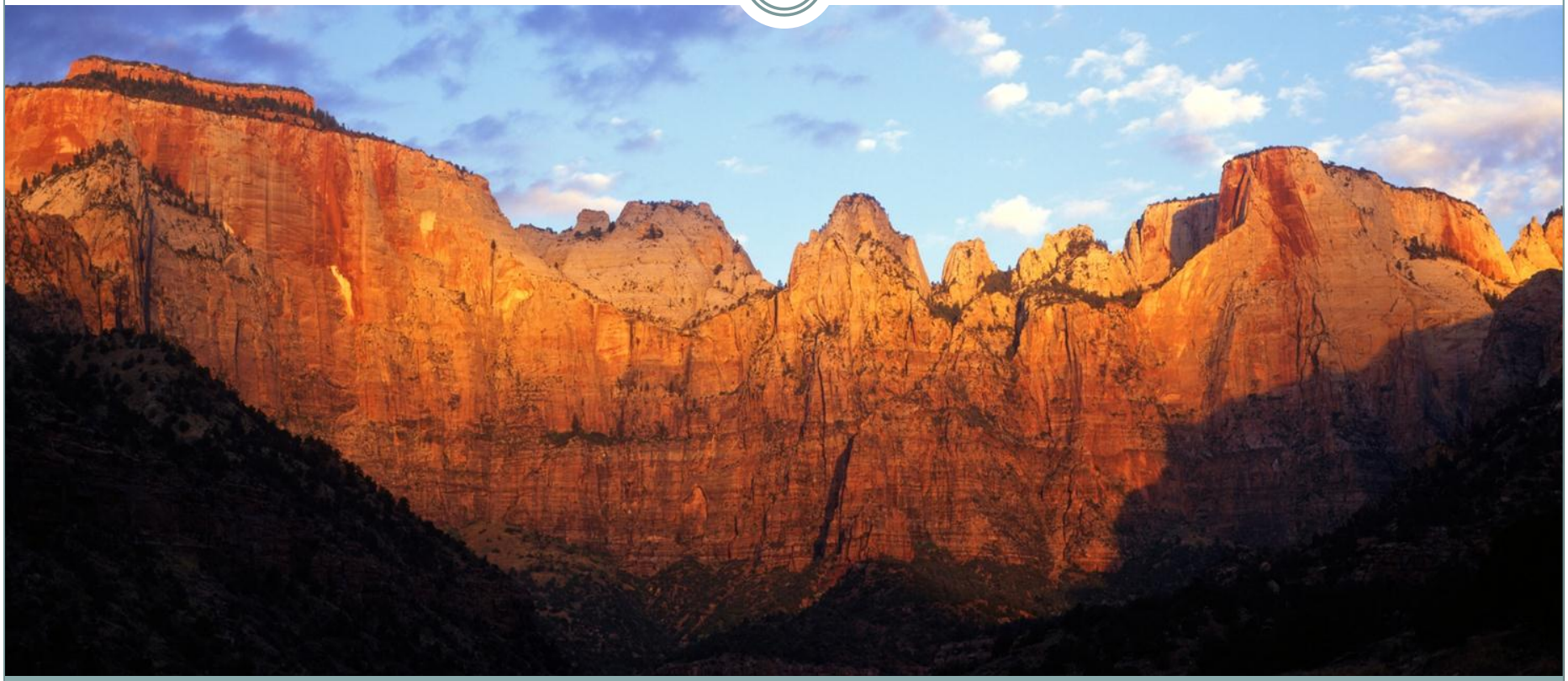
ARRA Energy Program

- **State Energy Program (closes April 2013)**
  - Funding: $35.3 M
    - DFCM received $10.5 M in state buildings energy improvement funds
      - Upgraded facilities including at UU, WSU, the School/Deaf & Blind
    - OED's Home Performance Prog., 2012 Energy Star Partner of the Year
      - 1,278 homes rec'd energy retrofits, 25% avg energy savings realized
    - Solar for Schools on 83 K-12, charter schools, curriculum received
- **E Emergency Management (closes August 2013)**
  - Funding: $450,000
    - Provided three years of staff support, UT Office of Homeland Security

Invitation


2013
GOVERNOR'S ENERGY DEVELOPMENT SUMMIT
Advancing Our Energy Future
Join Governor Gary R. Herbert for the
Governor's Energy Development Summit,
"Advancing our Energy Future."
The event's objective is to facilitate a discussion of Utah's unique
energy resources and related development.
FOR MORE DETAILS AND TO REGISTER VISIT
www.energy.utah.gov
Main Conference Day – Thursday, January 10, 8:00 a.m. – 4:30 p.m.
Technical Day – Friday, January 11, 8:00 a.m. – 1:00 p.m.
Salt Palace Convention Center, Salt Lake City, Utah
Office of Energy Development

Recommended Policy Actions



Policy Supporting Energy

- **Energy Delivery Infrastructure**
  - **Transmission Infrastructure Siting**
  - **Seep Ridge Road & US 40**
- **Alt Transportation & Fuels**
  - **Air Quality – UCAIR**
- **Species Impact on Energy – Sage Grouse**
- **EE Incentives**

Final Note

"…over the long run, societies that expand and improve their energy supplies overwhelm those that don't. The paramount objective of U.S. energy policy should be to promote abundant supplies of cheap energy and to facilitate their distribution and consumption."

Peter Huber and Mark Mills, 2005

Questions?

Thank You!

Cody B. Stewart
codystewart@utah.gov

Samantha Mary Julian
sjulian@utah.gov