

# **Governor's Energy Advisor & Office of Energy Development**

*FY17 Annual Report to the **Natural  
Resources, Agriculture & Environment**  
Interim Committee*

*Dr. Laura Nelson, Energy Advisor and Executive Director  
Rob Simmons, Esq., Deputy Director*

**June 21, 2017**

# Energy Advisor Update

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- ▶ **Governor's energy advisor (63M-4-201)**
  - ▶ Advise the governor; update policy; promote resource development; promote education and conservation
  - ▶ Coordinate among state agencies to: streamline regulation; prepare for emergencies; promote access; retain and share energy information, etc.
  - ▶ May testify on behalf of governor before Public Service Commission
  - ▶ Reports annually to NRAE Interim Committee



# The Governor's Office of Energy Development

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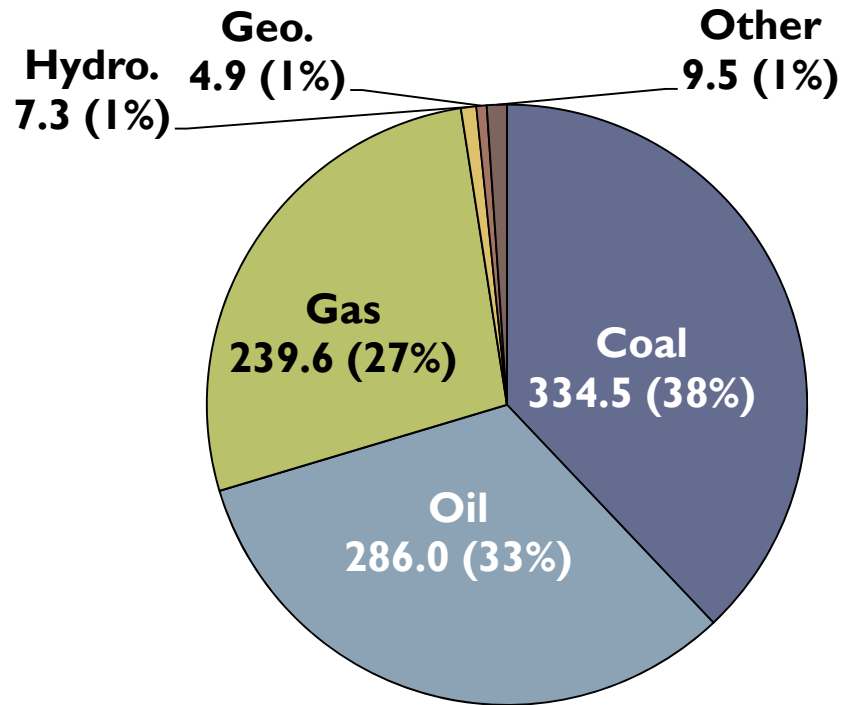
- ▶ OED's role per 63M-4-401
  - ▶ **A)** Serve as resource for advancing energy and mineral development in the state; **B)** implement state energy policy and governor's energy and mineral goals; **C)** advance energy education, outreach, and research; **D)** promote energy and mineral development workforce initiatives
- ▶ State Energy Policy per 63M-4-301
  - ▶ Utah shall have/promote adequate, reliable, affordable, sustainable and clean energy resources;
  - ▶ Will promote all-of-the-above development;
  - ▶ Will be conservative in use of incentives;
  - ▶ Will promote infrastructure deployment, conservation, education



# Utah Energy Consumption

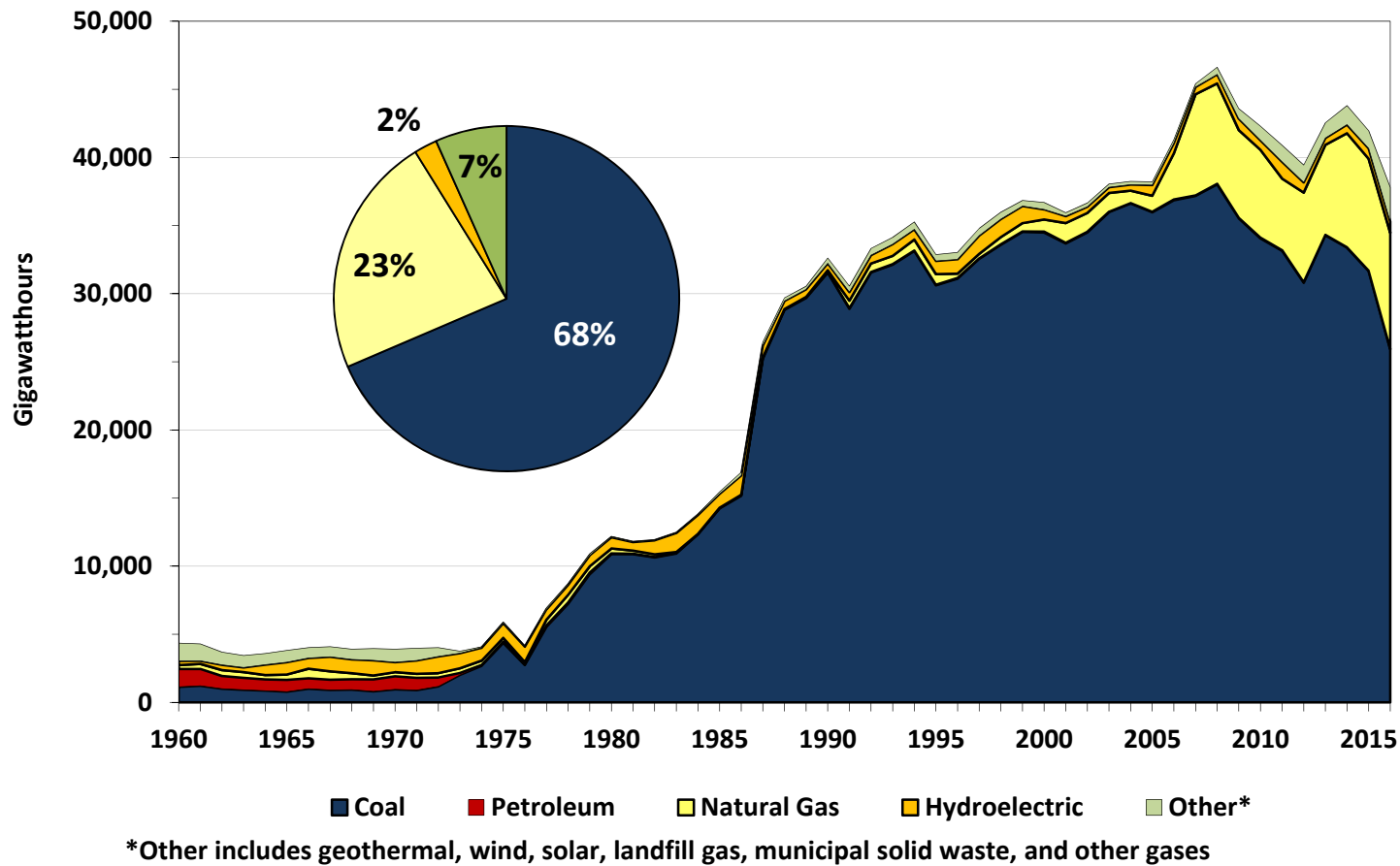
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**Utah Energy Consumption by Source  
(Trillion BTU 2015)**



# Utah Energy Mix: Electricity

## Utah Electricity Generation 1960 - 2016



# State of Energy Development in Utah in 2016: Oil and Gas Products



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## ▶ Oil & Gas

- ▶ Oil production in '14 was ~41M bbls, in '15 was ~37M bbls, and 2016 was ~31 million bbls, i.e. back to 2012 levels.
- ▶ Gas production has declined since '12, when it peaked at 490 million MCF. 2016 production was about 365 million MCF

## ▶ Oil Shale and Sands

- ▶ **US Oil Sands** project is complete and in the midst of staged start-up, with an expected processing start-up Q2 2017
- ▶ **Enefit America Oil** anticipates completion of its utility corridor EIS later this year



# State of Energy Development in Utah

## 2016: Coal

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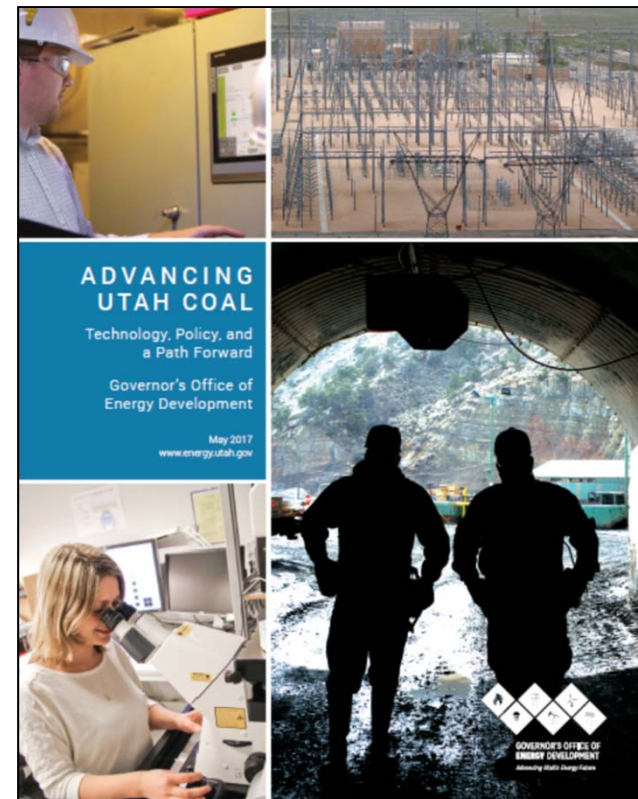
- ▶ According to the U.S. EIA, Utah's coal production has declined ~31% since 2006; 2016 production was below 15,000 short tons for the year
- ▶ Advanced Coal projects and R&D continue to drive opportunities for coal in Utah
  - ▶ **Revolution Fuels**, a coal-to-liquids project was issued a DAQ Approval Order in 2016
  - ▶ Utah has secured a number of DOE grants for carbon capture and sequestration and other advanced coal technologies



# Coal Innovation:

## OED 2017 Coal report

- Advanced Combustion
- Carbon Management and Utilization
- Hybrid Systems and Retrofit Options
- New or Alternative Product Development





# State of Energy Development in Utah 2016: Renewables and Energy Efficiency

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## ▶ Renewables

- ▶ **172 MWs** of new solar came online in '15, with another **670 MWs** in '16; all new projects concentrated in Millard, Iron, Beaver
- ▶ **60 MWs** of wind was constructed in San Juan in '16
- ▶ Exponential growth in rooftop solar: more capacity to come online in '16 than all previous years combined ( **about 145 MW today**).

## ▶ Energy Efficiency & Conservation

- ▶ **PacifiCorp** expects to serve over **88%** of its load growth over the next 10 years with energy efficiency investments; remaining growth to be served with Front Office Transactions (FOTs)
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- ▶

# Principles for Policy and Project Guidance

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- ▶ Continued robust coordination among state agencies for commenting on federal actions
  - ▶ Facilitate infrastructure investments and technological innovations to reduce regulatory pressures
  - ▶ Enhanced coordination among energy producing states and regional groups
  - ▶ Energy education promoting value of all-of-the-above approach, including community and workforce opportunities
  - ▶ Facilitating access to expanded/international markets
  - ▶ Investing in innovative, new uses for coal, as well as CCS
  - ▶ Continuing investment and innovation in energy efficiency across all sectors—residential, commercial, industrial, and transportation
  - ▶ Retaining access to coal, natural gas, and oil reserves for the future
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## Energy Advisor and OED's Regulatory/Policy Activities & Successes 2017

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- ▶ **Federal**
  - ▶ Clean Power Plan
  - ▶ Ozone Standards
  - ▶ Coal Moratorium
  - ▶ Regional Haze
  - ▶ WOTUS
  - ▶ Helium Program
- ▶ **Regional**
  - ▶ Regional leadership on Western Transmission Operations discussions
  - ▶ Coal Technology
  - ▶ Electric Vehicles and charging infrastructure
- ▶ **State**
  - ▶ Commercial Property Assessed Clean Energy (C-PACE)
  - ▶ Renewable Energy Systems Tax Credit (RESTC)
  - ▶ Facilitation of net metering discussions
  - ▶ Tier 3 fuels





## OED Activities 2017

### Inter-agency Cooperation

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- ▶ **Utah's Public Lands Policy Coordinating Office (PLPCO)**
  - ▶ The OED team has helped review the energy and mineral sections of county plans in partnership with PLPCO.
- ▶ **Utah Division of Oil Gas and Mining**
  - ▶ Regular collaboration and support, including taking an active role in helping the Division delivering the annual Waxy Crude Conference in Duchesne, UT.
- ▶ **Utah School and Institutional Trust Lands Administration (SITLA)**
  - ▶ Regular coordination on energy education and energy and minerals development on Trust Lands
- ▶ **Utah Division of Forestry, Fire and State Lands**
  - ▶ Creating industry led partnerships to utilize invasive biomass on public lands for energy purposes.



# OED's Industry Assistance Activities & Successes

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- ▶ **Advancing Utah Coal opportunities**
  - ▶ Coal Technologies
    - ▶ 5 projects funded at about \$5 million and covering CCS, new combustion technology, and innovation in coal use (carbon fibers)
  - ▶ Support of ongoing leasing activities at SUFCO & Coal Hollow mines
  - ▶ Coal Resource Group
  - ▶ STEP program initiatives
- ▶ **Implementing HCITC**
  - ▶ Creation of incentive for infrastructure/rural development
  - ▶ 3 Application reviewed by the board in FY 17 and recommended for a tax credit
    - ▶ Projects have represent just under \$2 billion in investment and over 450 rural jobs
    - ▶ Tax credit just over \$100 million over 20 years and is post-performance and non-refundable\*

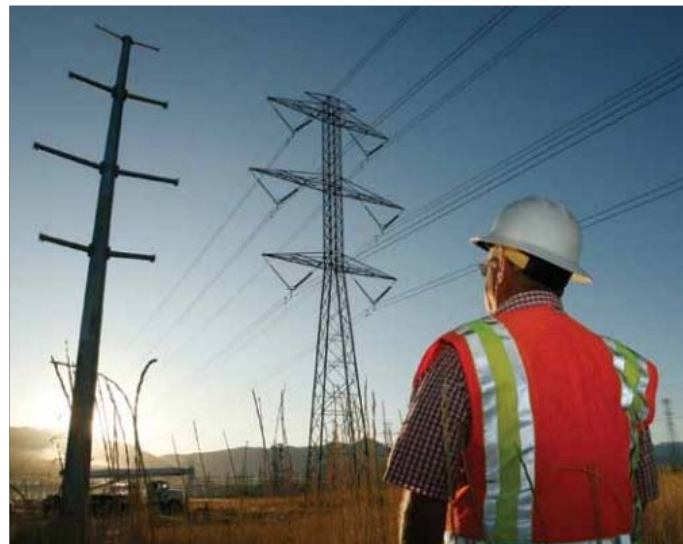




# High Cost Infrastructure Tax Credit Program: *Qualifying Infrastructure*



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# OED's Industry Assistance Activities & Successes, Cont'd

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- ▶ **Alternative Transportation**
  - ▶ EV and EV infrastructure (e.g. \$75k OED supported \$187k in level 3 charging station deployment)
- ▶ **Administering other energy incentives**
  - ▶ RESTC
  - ▶ Production tax credit facilitating alternative energy development in rural communities
- ▶ **Update to Commercial “PACE” program to provide streamlined options for financing tools**
  - ▶ To date \$1.5 million project has been developed and cash flow positive on day one (2015); updated program positions UT to advance new projects
  - ▶ Promotes EE investments across the state and enhances energy affordability and environmental outcomes

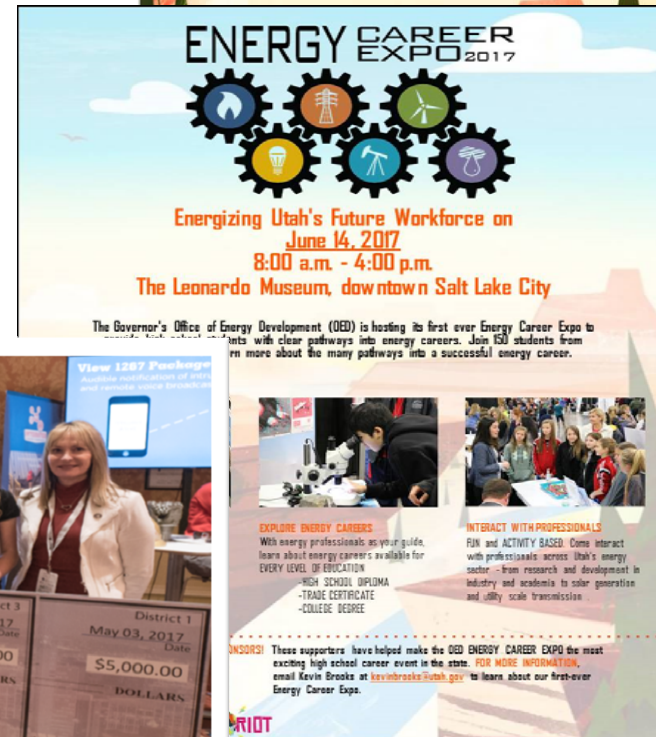
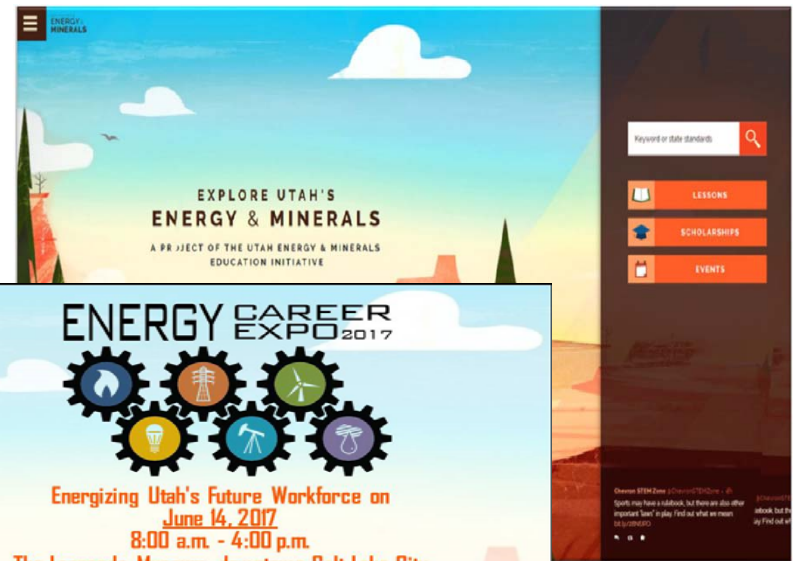




# OED's Outreach/Education Activities & Successes



- ▶ **Governor's Energy Summit 2017**
  - ▶ Approximately 1100 attendees, 80 speakers, 20 states, and 6 countries,
- ▶ Launched [Utenergyed.org](http://Utenergyed.org)
- ▶ Career Expos
- ▶ Energy and Minerals Scholarship Program
- ▶ OED-SITLA Education Initiative





# Education Videos



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*Advancing Utah's Energy Future*



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**2016 Governor's Energy Development Summit**  
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**Energy Success Stories: Fueling Our Transportation Future**  
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**Energy Success Stories New Coal: Innovations for Utah's**  
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**Things I Have Learned About Energy: Politics, Policy and**  
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**2015 Governor's Energy Development Summit: Breakfast**  
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**2015 Governor's Energy Development Summit: Lunch**  
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# OED's Continuing Leadership

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- ▶ Small, highly qualified staff delivering unique value to the State
    - ▶ Working to support and enhance a \$15 billion energy economy
  - ▶ OED's has delivered quantifiable value in tax credits, other direct assistance
    - ▶ More challenging to demonstrate value of regulatory engagement, policy initiatives, planning, outreach & education, etc.
    - ▶ Numerous new development opportunities, across all resources, are in the queue
      - ▶ OED is coordinating partners to help realize the value of innovation to Utah's energy and minerals economy
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# Natural Resources, Agriculture & Environmental Quality Interim Committee

*June 21, 2017*

## **Questions**



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# ADDITIONAL INFORMATION

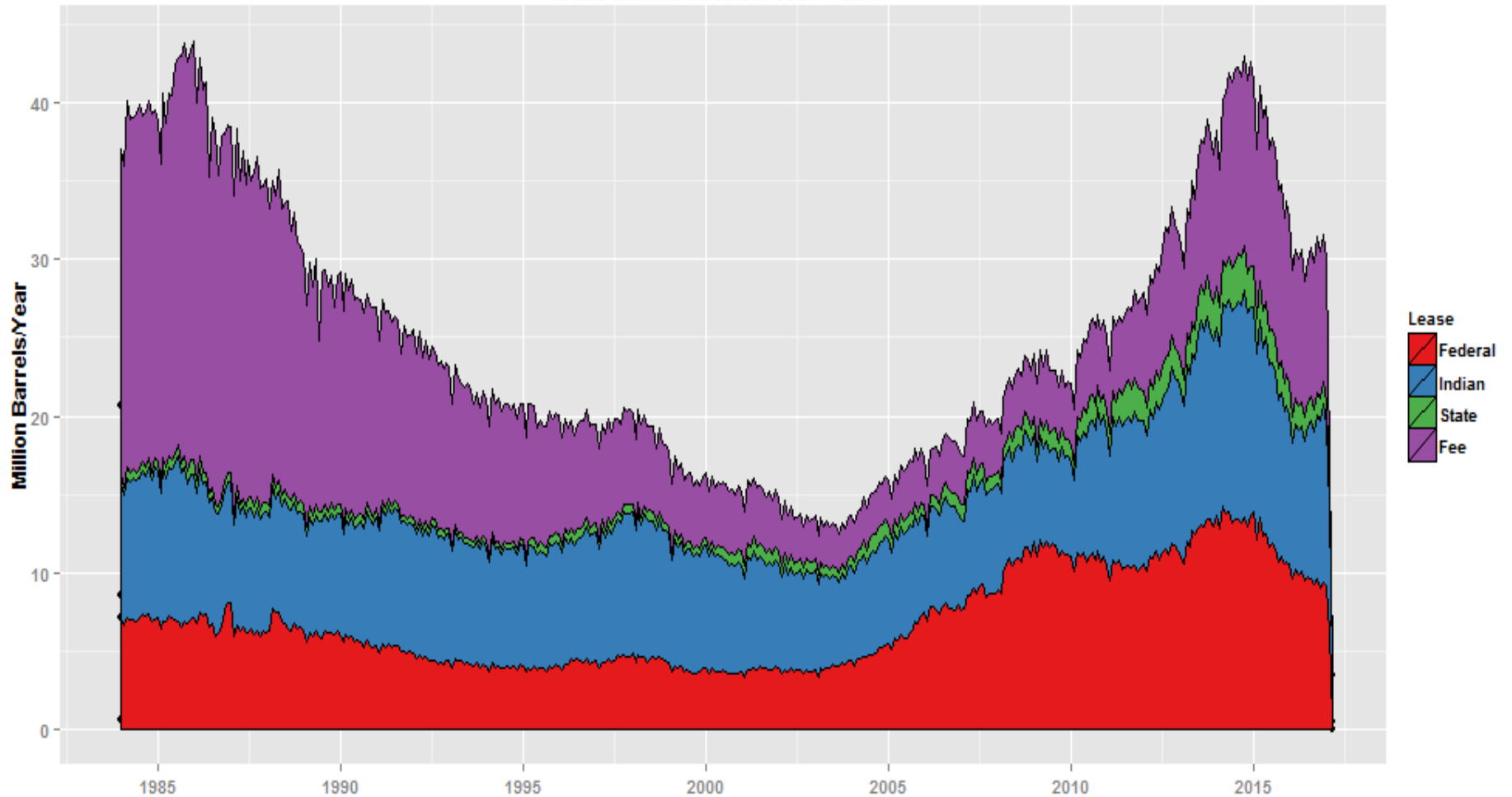


# Utah Oil Production



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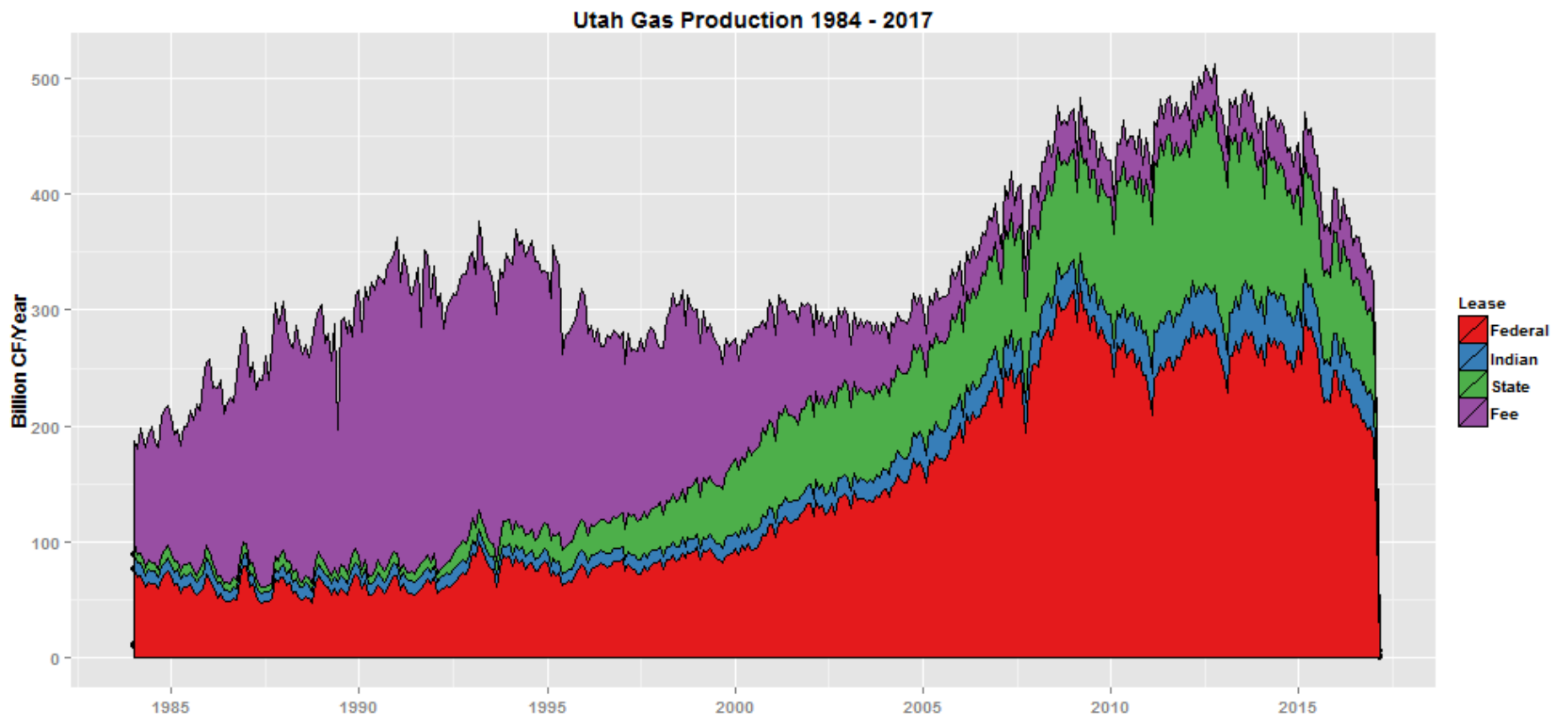
Utah Oil Production 1984 - 2017



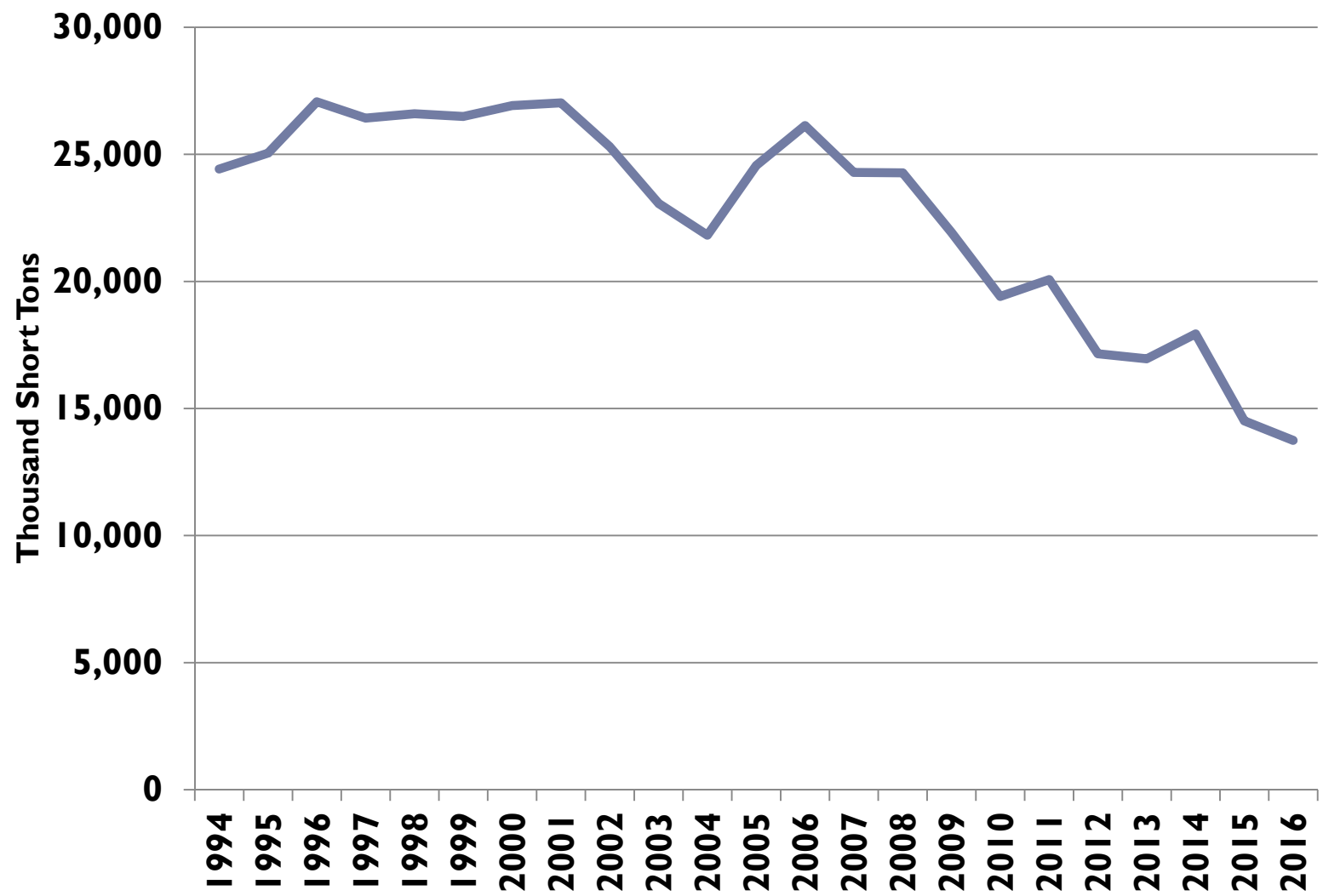
# Utah Gas Production



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# Utah Coal Production





# Federal Helium Leasing Program: H.R. 11

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- ▶ Under existing BLM Oil and Gas leasing rules helium is specifically excluded as an extractible resource without a supplemental agreement with the Federal Helium Program Administration.\*
  - ▶ This structure creates an issue with respect to developing helium resources on Federal Public Lands from no or low BTU value gas deposits, lease would expire under its terms and furthermore cause any subsequent helium agreement to expire and is a barrier to investment in the development of helium resources.\*\*
- ▶ In order to Proceed H.R. 11 will allow for initial geological and geophysical investment to determine the available helium resources by establishing a “Unit for the Exploration and Production” of Helium and Non-hydrocarbon that independent on oil or natural gas production.
- ▶ Pilot Case Study: An exploration unit is proposed at “Temple Springs” in the Counties of Emery and Wayne Counties
  - ▶ This area contains approximately 30,000 acres of Utah State Lands and 215,000 acres of Federal Public Lands. More than Two thirds of the identified State lands have already been acquired in this process and the State is desirous to participate in the establishment of the proposed Temple Springs Unit.\*\*\*
  - ▶ Pilot & ultimate development will drive investment and jobs in the associated counties, contribute to the School Trust for Utah’s children, and provide for state royalty and other revenues

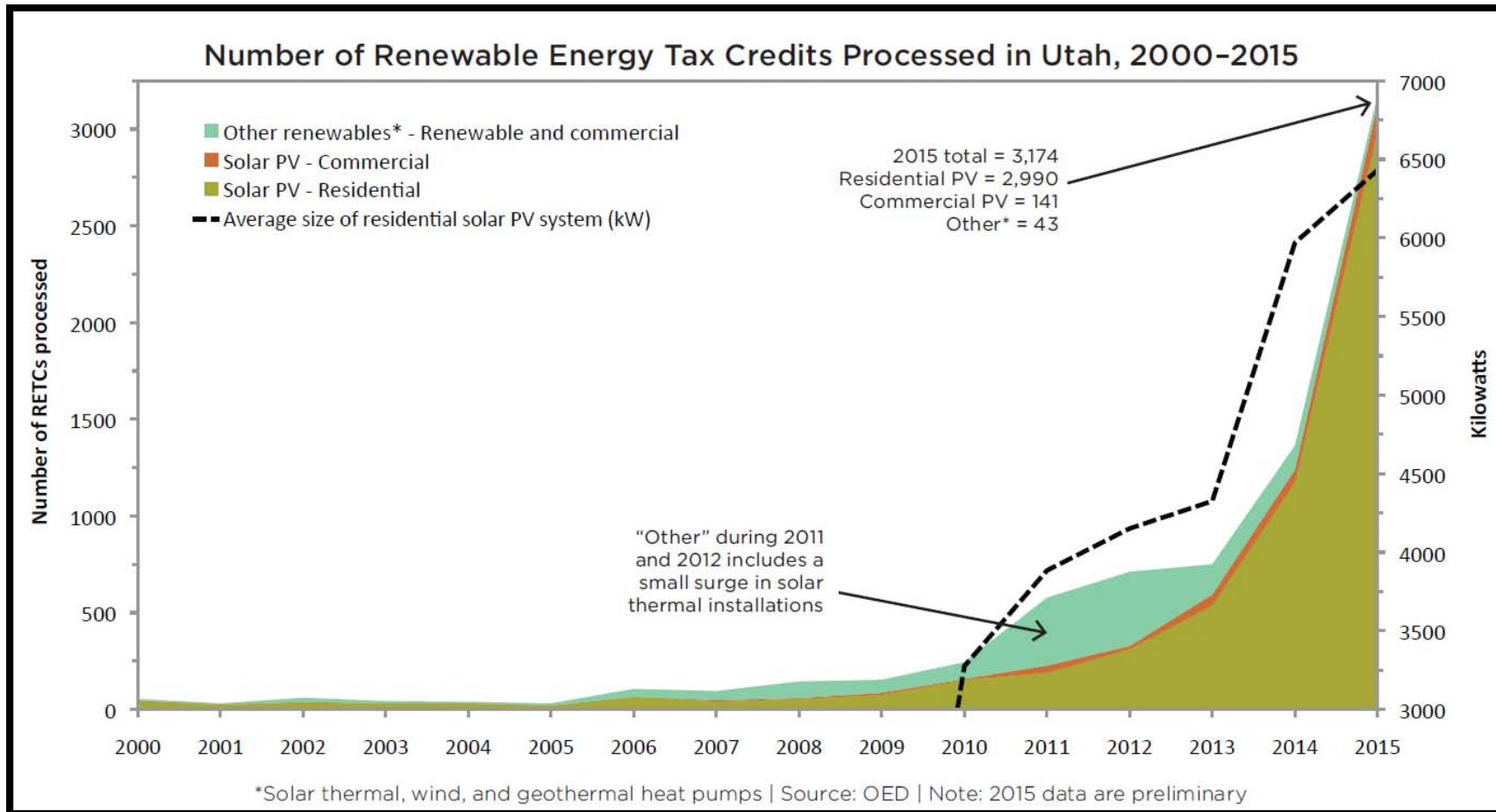






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# Renewable Energy Tax Credits



Vanden Berg, Michael, "Utah's Energy Landscape, 4<sup>th</sup> ed.", UGS, 2016.

# High Cost Infrastructure Tax Credit Program: *How it Works*



- ▶ **Standard eligibility**
  - ▶ Project types: New or expanding industrial, manufacturing, mining & agricultural projects for which infrastructure costs represent >10% of capital expenditure
  - ▶ Qualifying infrastructure: road, rail, transmission, pipeline, water line
  - ▶ Tax Credits: 30% of newly generated state revenue each year for 20 years or until 50% of infrastructure investments are recovered
- ▶ **Refinery/Tier 3 eligibility**
  - ▶ Project types: Fuel standards compliance projects that transition fuel products to Tier 3
  - ▶ Qualifying infrastructure: Equipment necessary to achieve Tier 3
  - ▶ Tax Credits: Up to 30% of state revenue each year for 20 years or until 30% of the infrastructure investments are recovered

