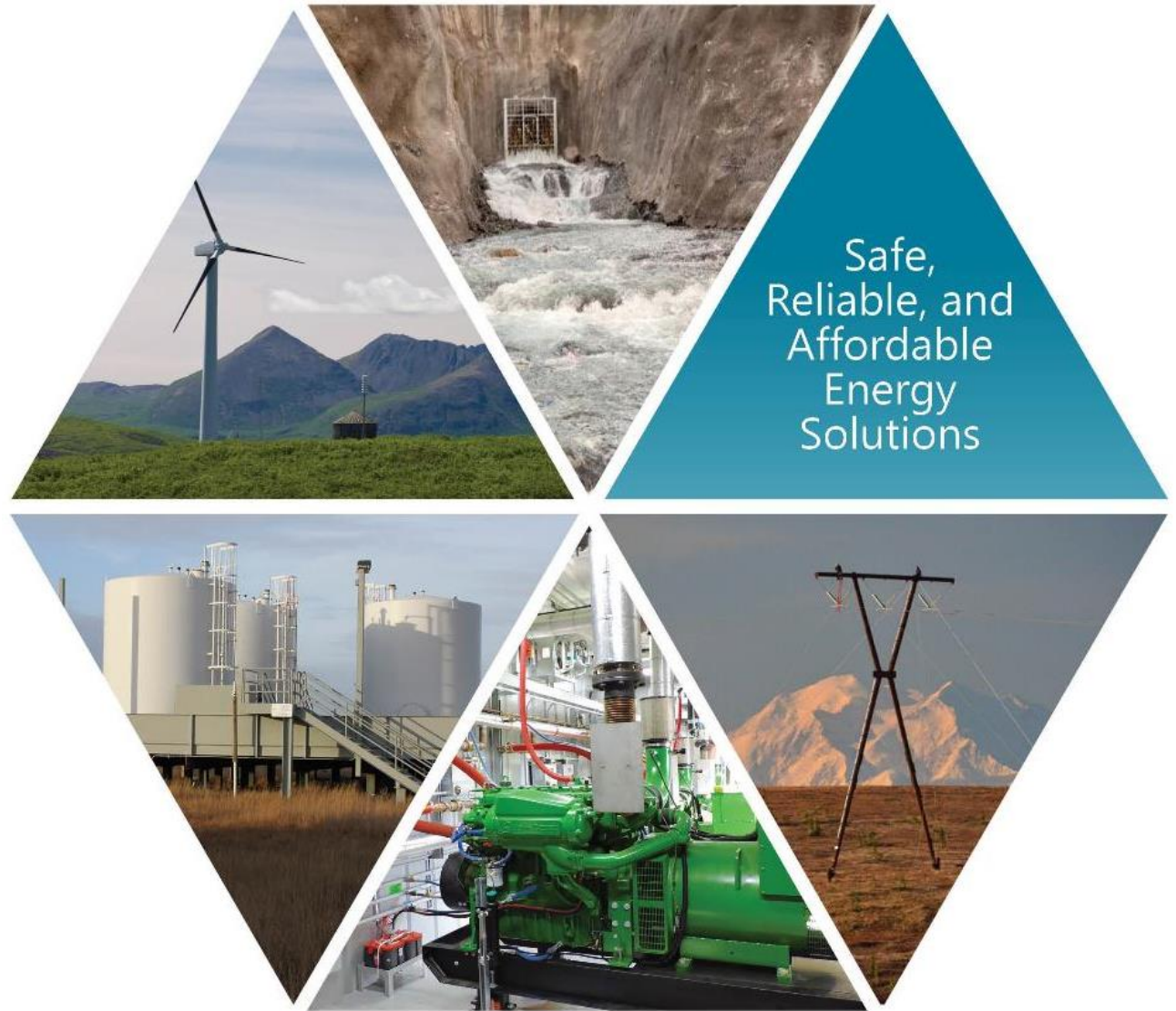


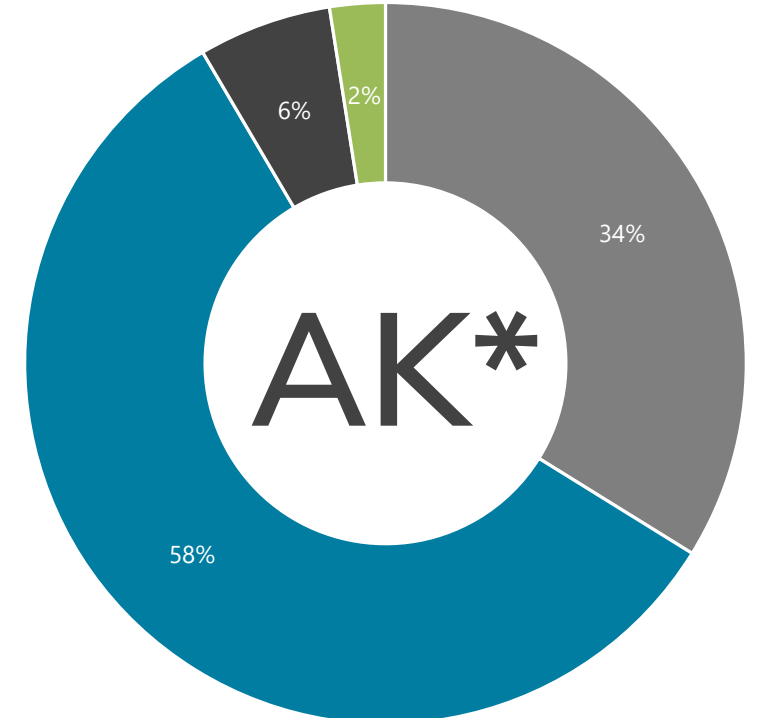
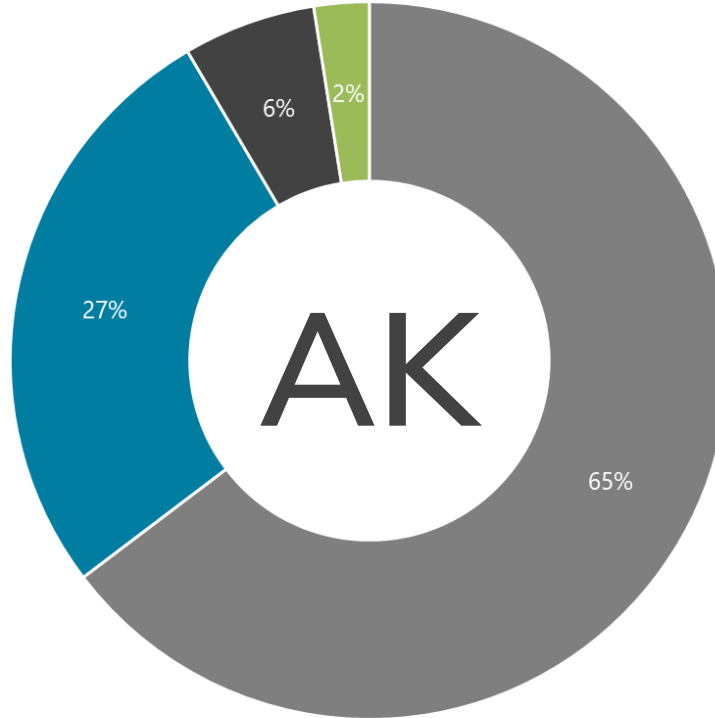
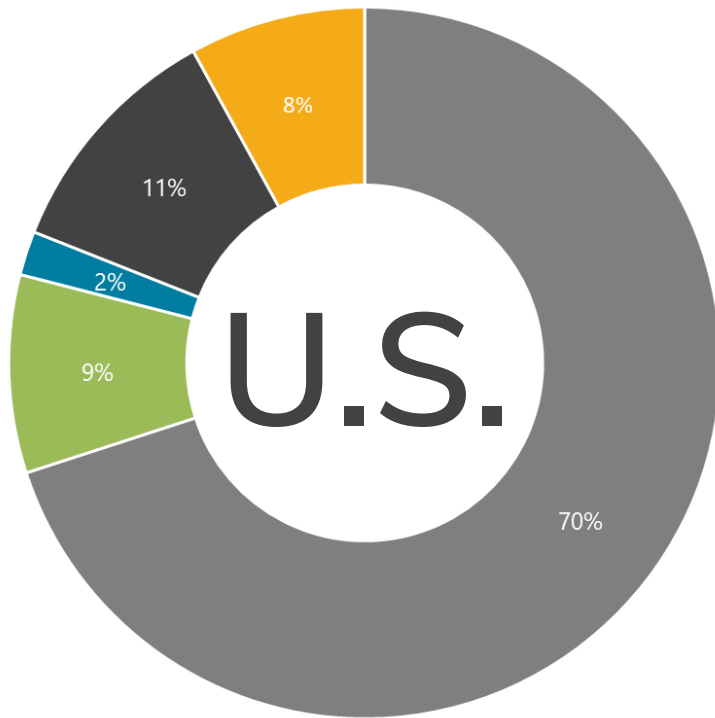
# SUSITNA-WATANA HYDROELECTRIC PROJECT

Curtis W. Thayer, Executive Director  
Bryan Carey, Owned Assets/  
Hydro Group Manager

Senate Resources Committee  
April 23, 2021

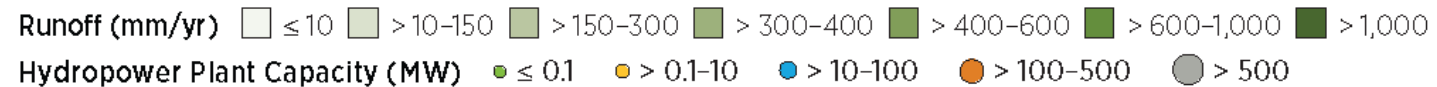
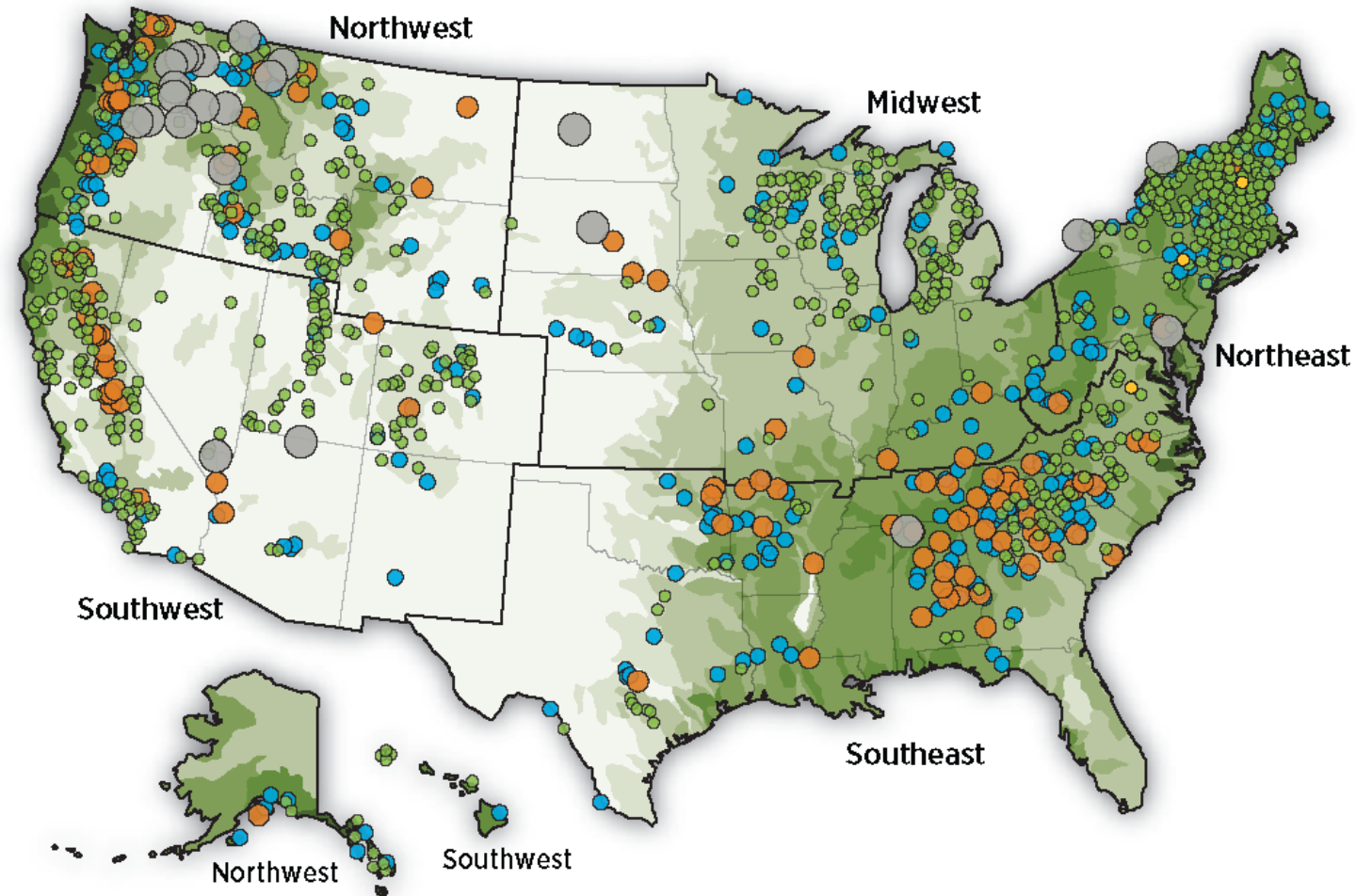


# U.S. AND ALASKA ENERGY PROFILE (%)



■ Oil and Gas   ■ Coal   ■ Renewable Energy   ■ Hydroelectric   ■ Nuclear Power

# EXISTING U.S. HYDROPOWER FACILITIES







# SUSITNA-WATANA HYDRO

*Clean, reliable energy for the next 100 years.*



# PROJECT STATUS

2014

In 2014,  
Administrative Order  
(AO) 271 placed the  
Susitna-Watana  
Hydroelectric Project  
into abeyance

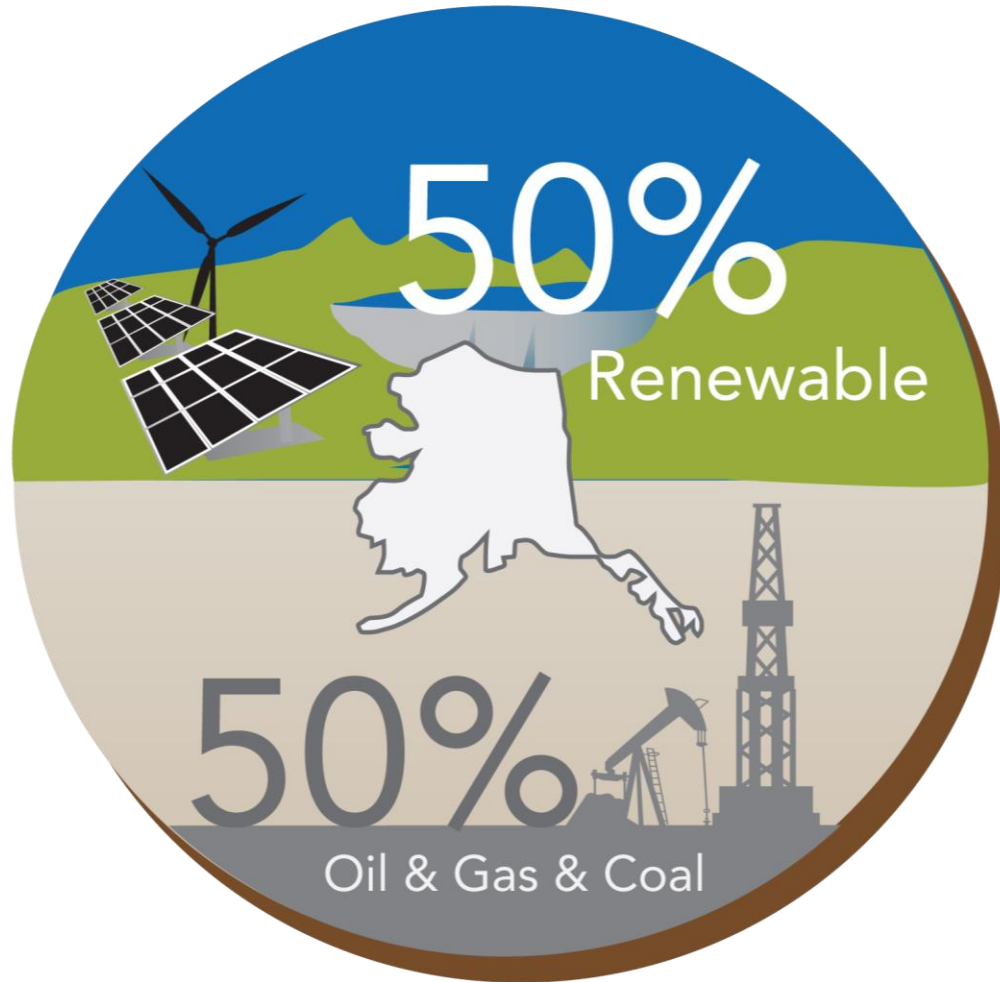
2019

In 2019, through AO  
309 the Governor  
rescinded AO 271

2020

In Fiscal Year 2020,  
no state funds  
were spent

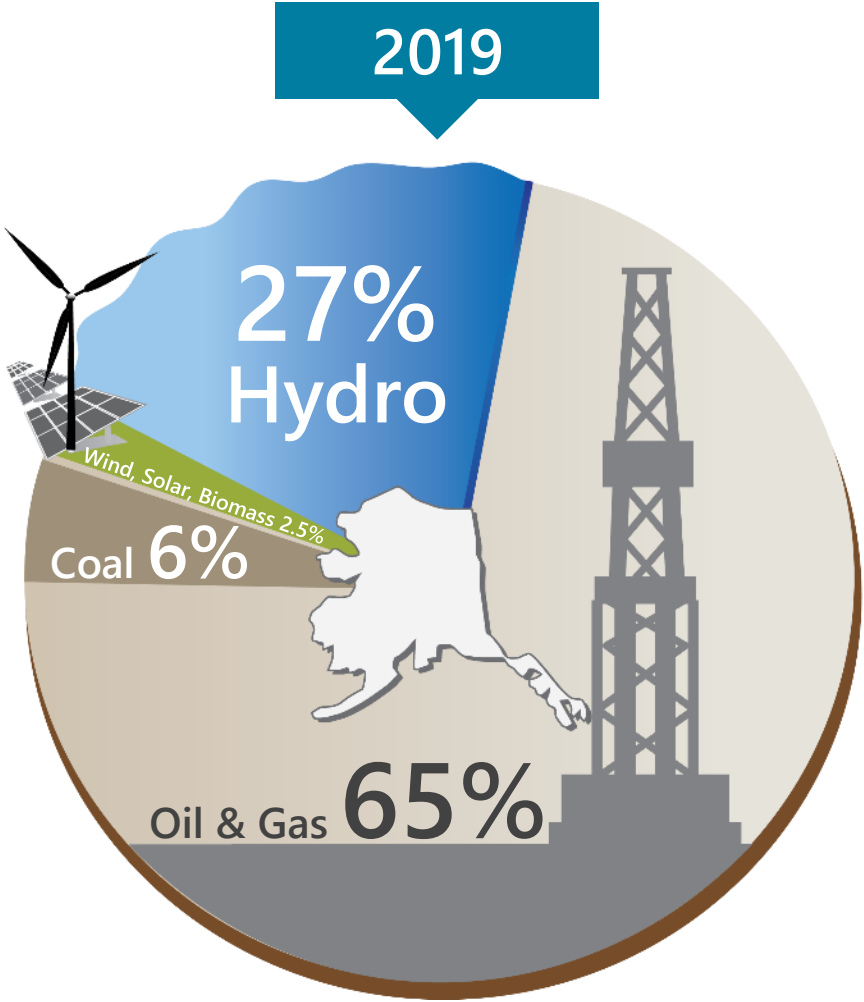
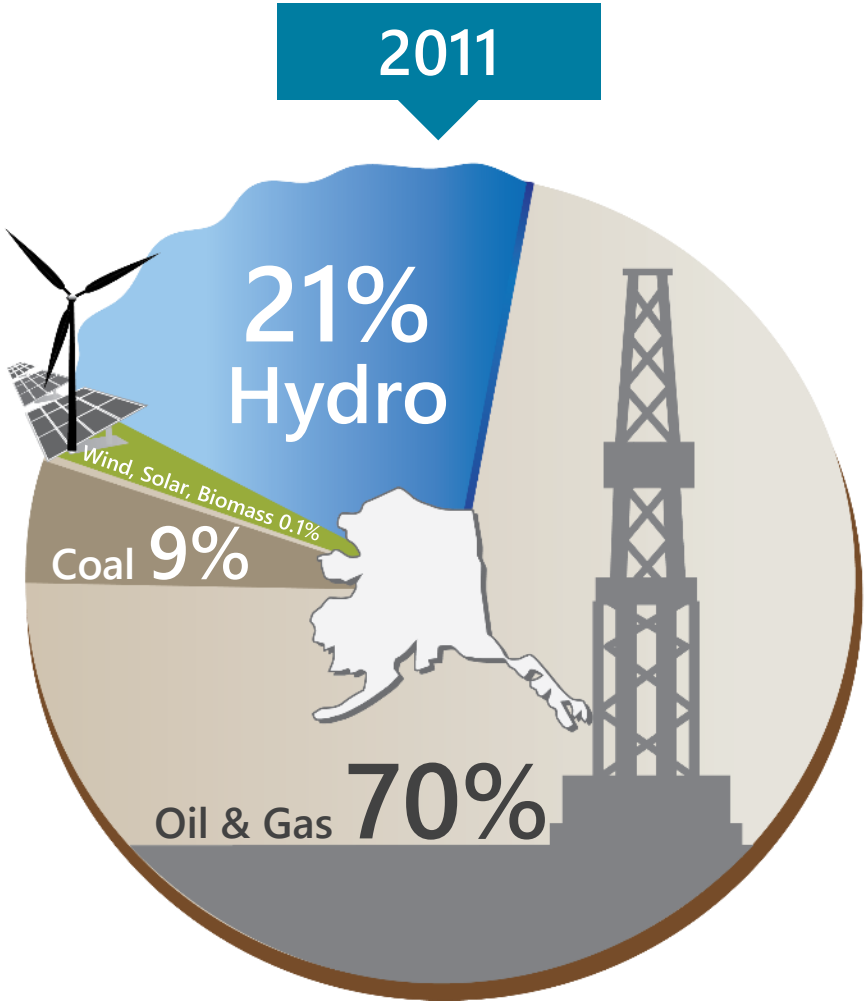




## House Bill 306

In 2010, the Legislature unanimously passed HB 306 , which set an aspirational goal to generate 50 percent of the state's electricity from renewable and alternative energy sources by 2025.

# WHY LARGE HYDRO?



# AS 44.83.080 POWERS OF THE AUTHORITY



- (18) to acquire a Susitna River power project, whether by construction, purchase, gift, or lease, including the acquisition of property rights and interests by eminent domain under AS 09;
- (19) to perform feasibility studies and engineering and design with respect to power projects.



# WHY SUSITNA-WATANA?

50  
percent

estimated supply  
of current Railbelt  
energy demand

100+  
years

is the project life  
providing long-  
term, stable rates

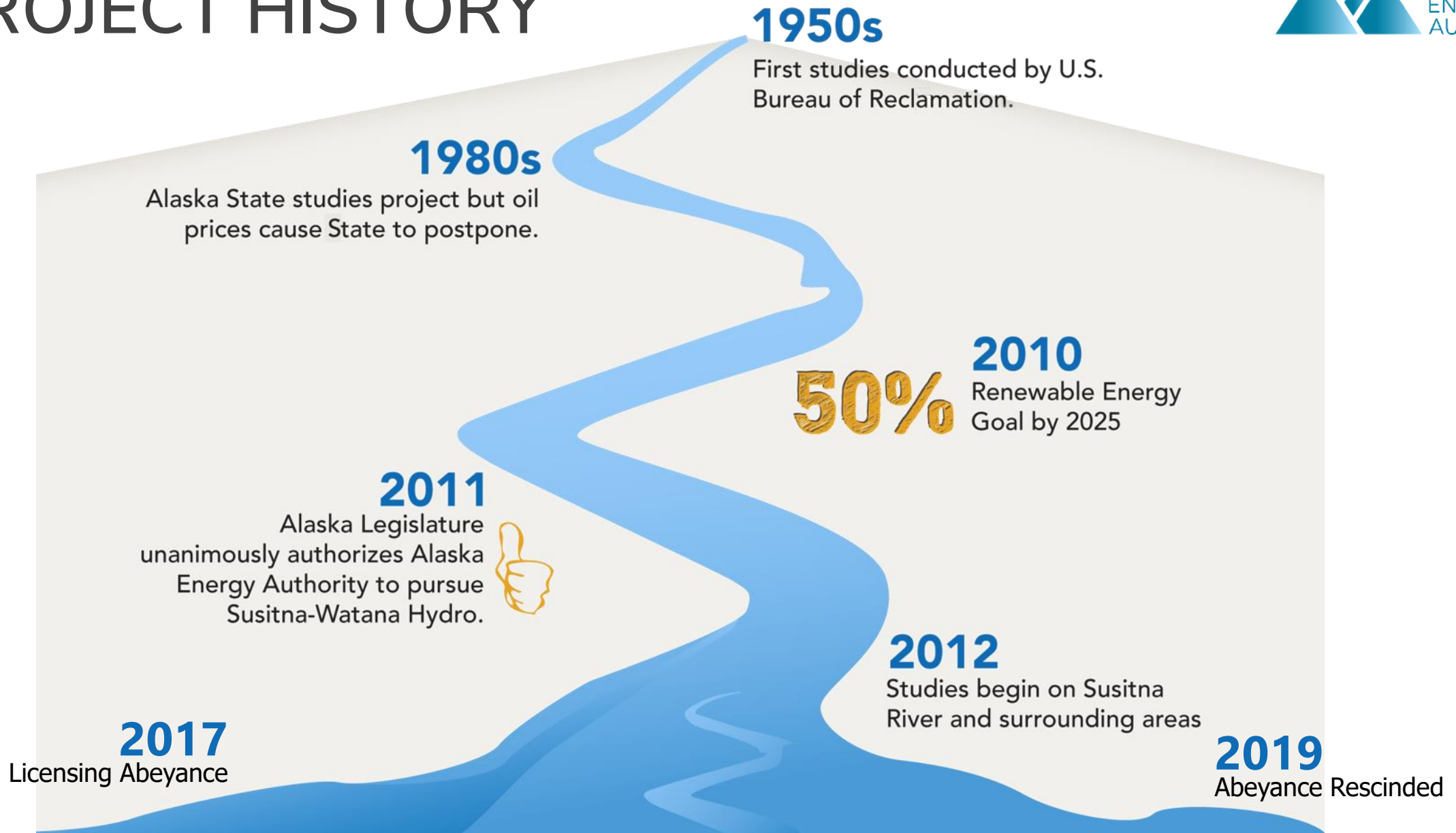
\$11.2  
billion

estimated energy cost  
savings (\$2014) over  
first 50 years



The reduction of carbon dioxide emissions from displaced coal and natural gas-fired generation would amount to 1.3 million tons a year, which equates to removing approximately 250,000 cars from the road.

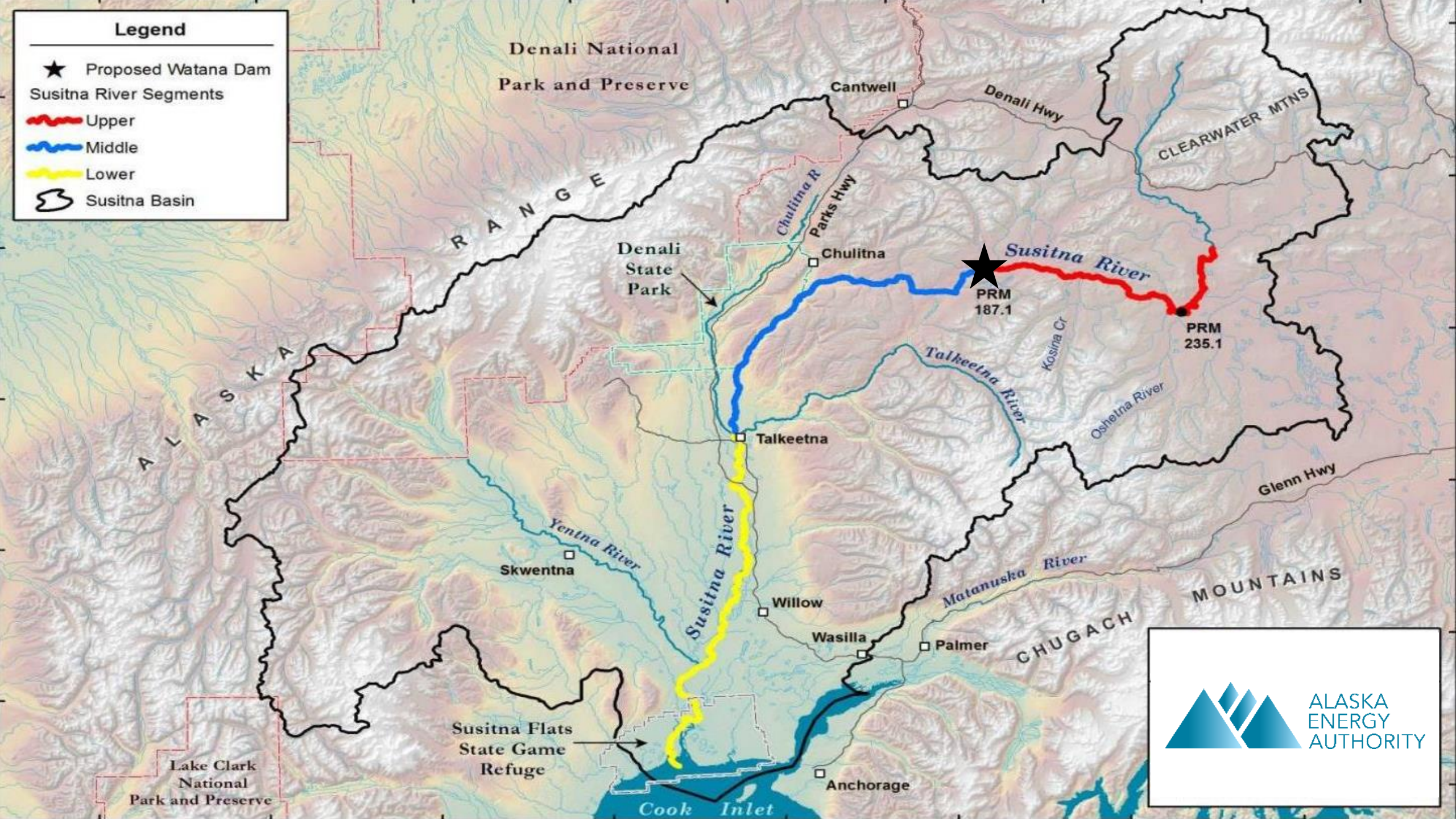
# PROJECT HISTORY





## Legend

- ★ Proposed Watana Dam
- Susitna River Segments
  - Upper
  - Middle
  - Lower
- Susitna Basin





# PROJECT AT-A-GLANCE

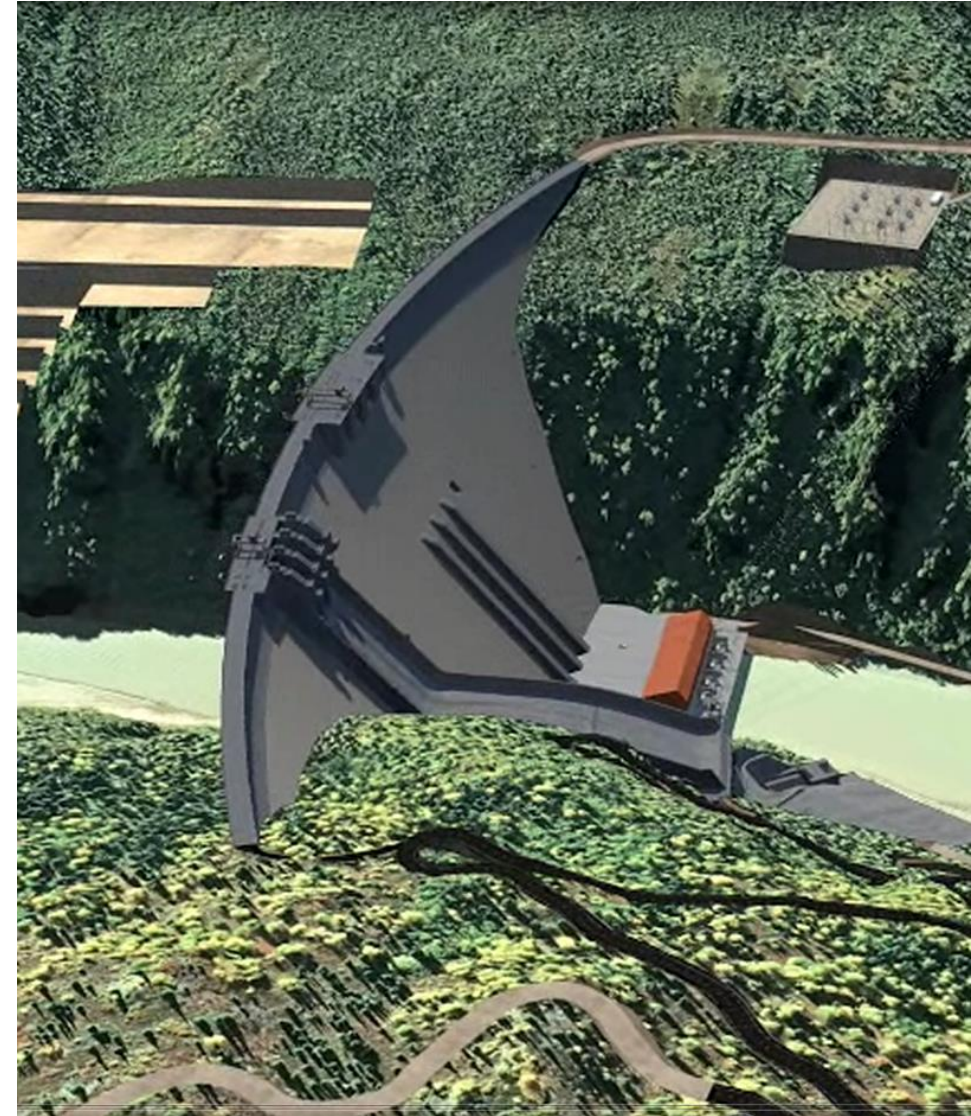


- Dam Height – 705 feet
- Dam Elevation – 2,065 Feet
- Reservoir Length – ~42 miles
- Reservoir Width – ~1.25 miles
- Installed Capacity – 618 MW
- Annual Energy – 2,800,000 MWh
- Cost – ~\$5.6 billion (2014\$)



# ENGINEERING

- Size and generation optimized
- Design reviewed by International Board of Consultants
- Designed to withstand:
  - 10,000-year flood
  - Maximum credible earthquake of a magnitude 8.0
- 2014 Engineering Feasibility Report





- Benefit-Cost and Economic Impact Analyses completed in 2015
  - Based on 2014 projection of natural gas prices:
    - Benefit-cost ratio of 2.39 from energy savings alone
    - \$11.2 billion (2014\$) in energy savings over first 50 years
    - \$4.7 billion (2014\$) in capital and O&M costs over first 50 years



# EMPLOYMENT OPPORTUNITIES

## 32,308 Total Jobs

17,028 Direct jobs

15,280 Indirect jobs



### Pre-Construction Employment

~5,000 direct jobs  
~3,870 indirect jobs



### Construction Employment

~12,000 direct jobs  
~11,305 indirect jobs



### Operations Employment

(Life of Project)  
~24-28 direct jobs  
~105 indirect jobs



# LICENSING STATUS



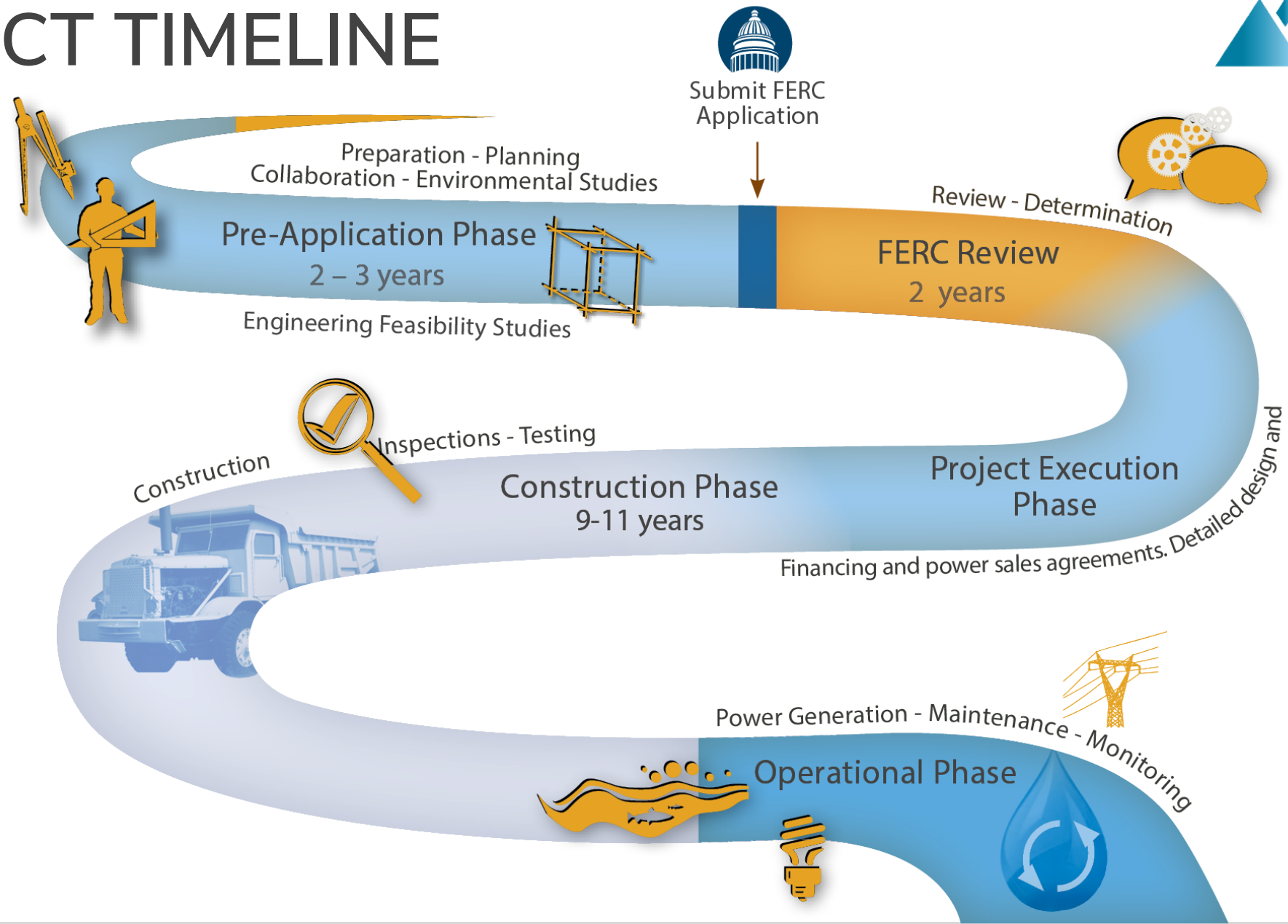
- Integrated Licensing Process
- 2/3 of the way done
- 58 FERC-approved studies:
  - Implemented 2012-2017
  - 19 studies completed
  - 39 significant progress made
- Initial Study Report filed with FERC



# FERC STUDY PLAN DETERMINATION OUTCOME

- Confirmed adequacy of environmental studies
- Validated quality of work completed to date
- Rejected nearly all study modification requests
- Rejected requests for additional years of study
- Confirmed data gathered thus far is representative of baselines
- Rejected requests for additional studies
- Licensing activity currently in abeyance

# PROJECT TIMELINE

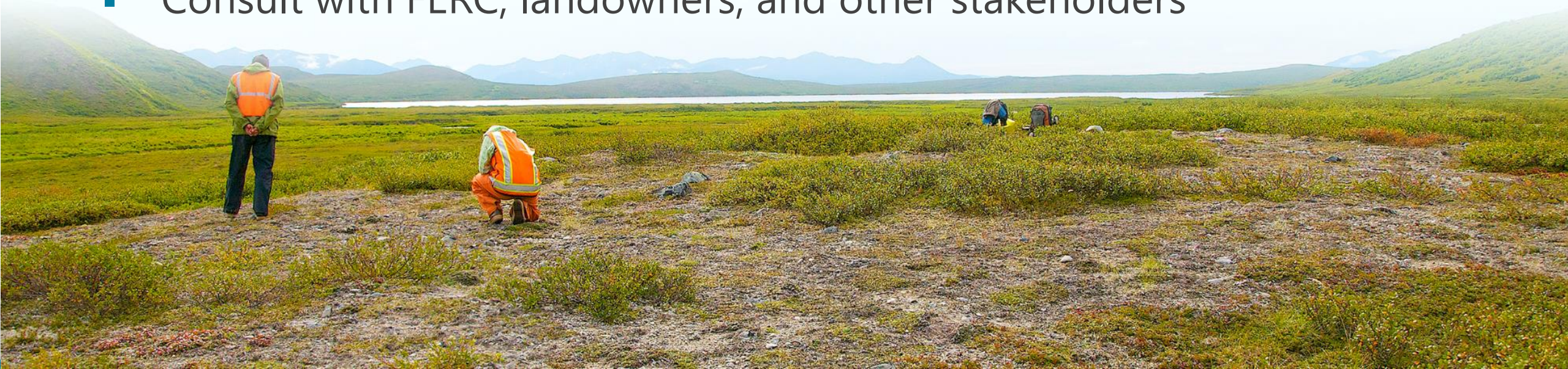




# GOVERNOR AND LEGISLATURE DECIDE NEXT STEPS

If greenlighted...

- Determine licensing status
- Update cost estimate to obtain license
- Update benefit-cost and economic impact analyses
- Review data to assure it remains reflective of current conditions
- Consult with FERC, landowners, and other stakeholders







# ADDENDUM



# SUSITNA-WATANA PROJECT ANIMATION



AEA provides  
**energy solutions**  
to meet the  
unique needs and  
opportunities of  
Alaska's rural  
and urban  
communities.

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[akenergyauthority.org](http://akenergyauthority.org)

