

# Alaska Energy Authority

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

Senate Community & Regional  
Affairs Committee  
February 11, 2020





# SUSITNA-WATANA HYDRO

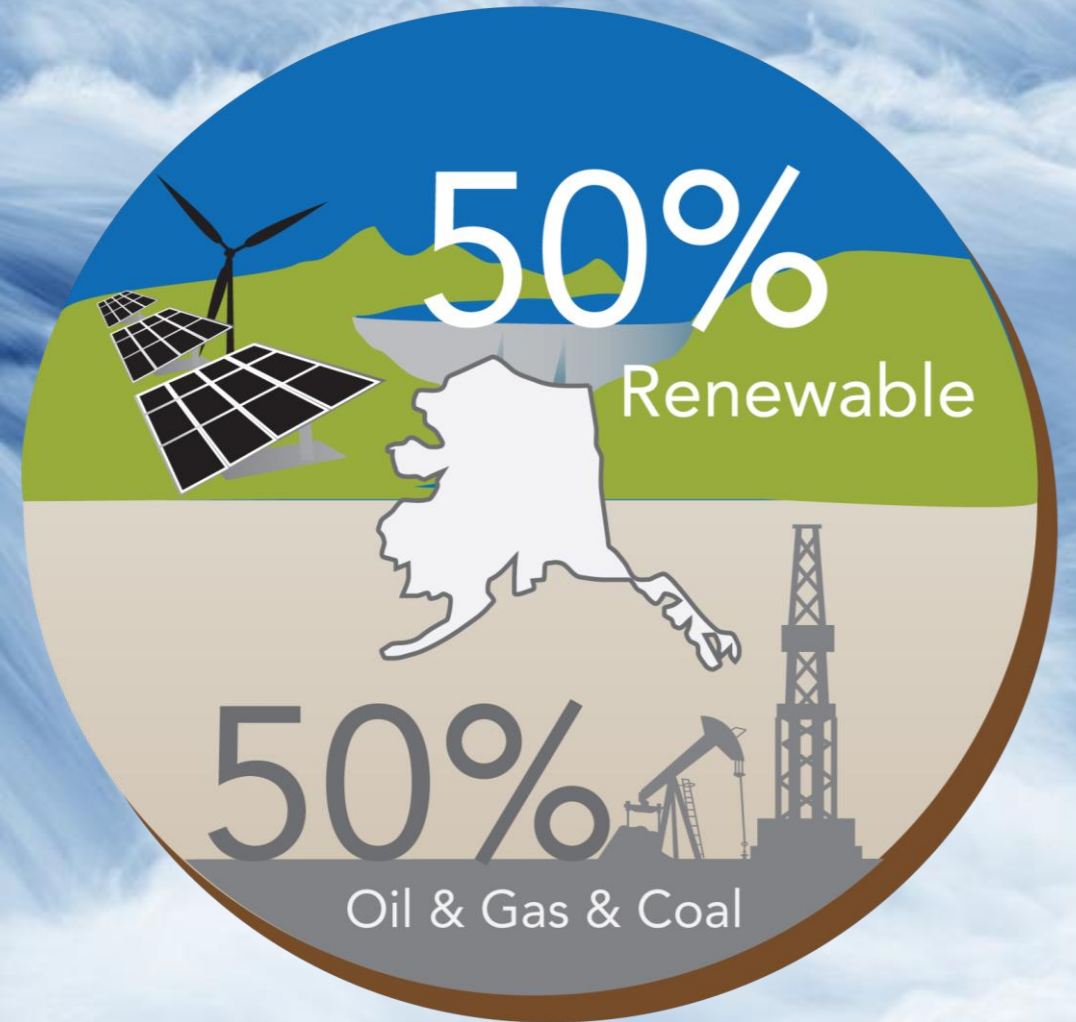
*Clean, reliable energy for the next 100 years.*

# Current Status

- ▶ In 2014, Administrative Order (AO) 271 placed the Susitna-Watana Hydroelectric Project into abeyance
- ▶ In 2019, AO 306 rescinded AO 271
- ▶ No state funds were spent in Fiscal Year 2019

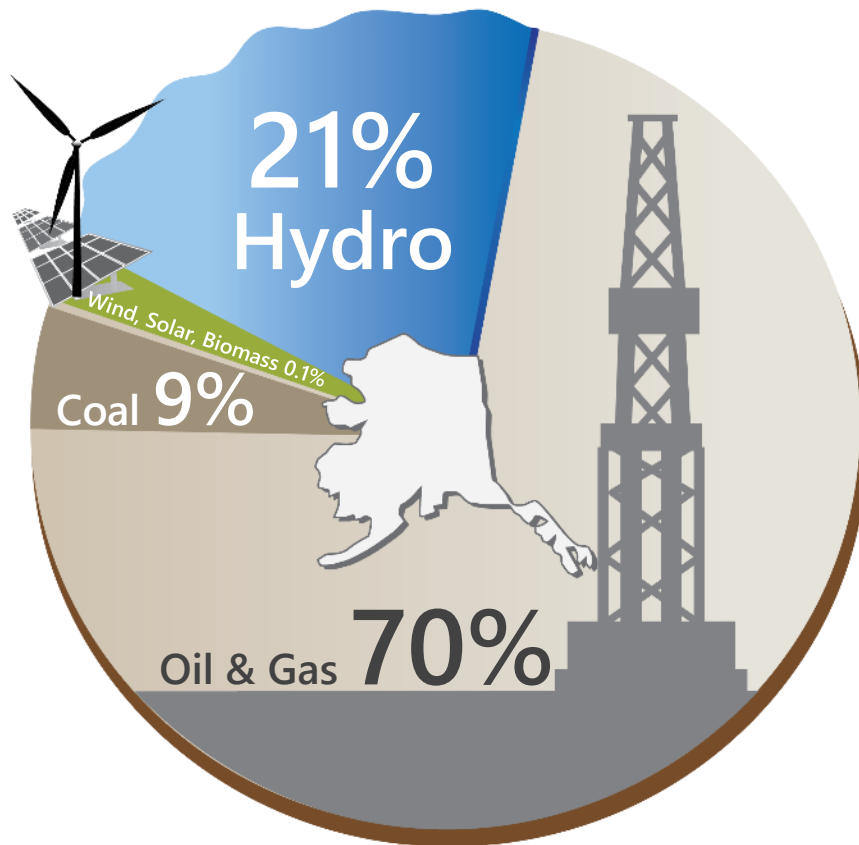
# State Energy Policy

- ▶ In 2010, House Bill 306 was passed and set an aspirational goal to generate 50% of the state's electricity from renewable and alternative energy sources by 2025

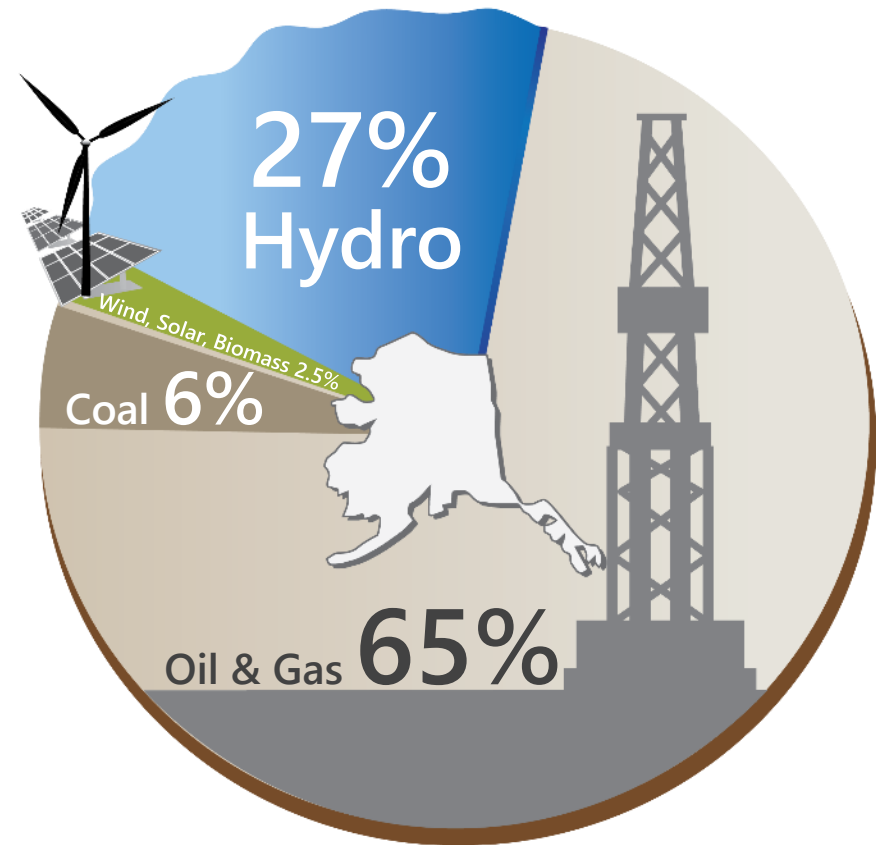


# Why Large Hydro?

2011



2019



# AS 44.83.080 Powers of the Authority

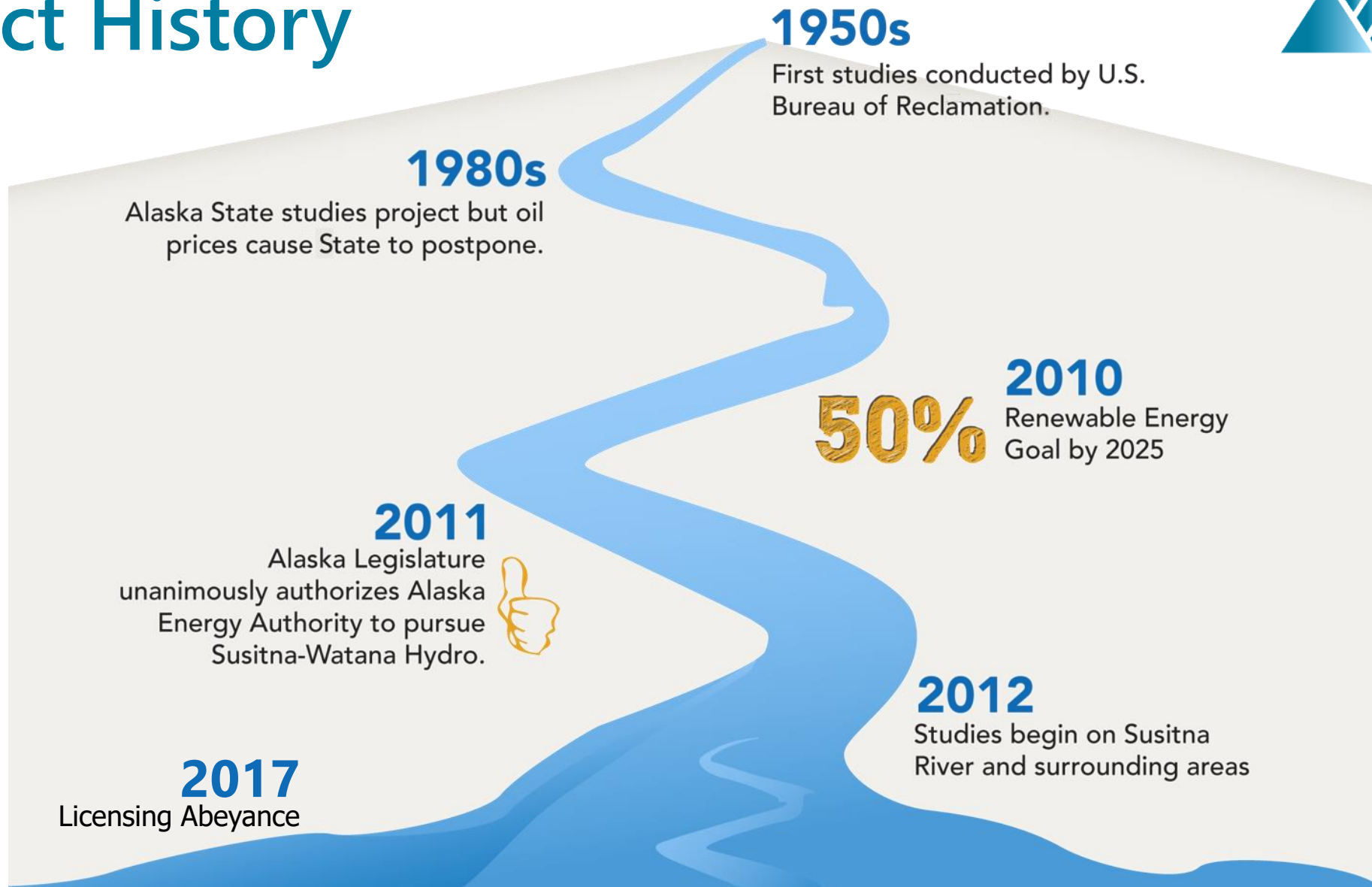
- ▶ (18) to acquire a Susitna River power project, whether by construction, purchase, gift, or lease, including the acquisition of property rights and interests by eminent domain under AS 09;
- ▶ (19) to perform feasibility studies and engineering and design with respect to power projects.

# Why Susitna-Watana?

- ▶ 50% Railbelt energy demand
- ▶ Greater winter storage capacity
- ▶ Lower overall cost to develop
- ▶ Less complex project
- ▶ Fewer long-term operational uncertainties
- ▶ Stable, reliable, clean energy 100+ years

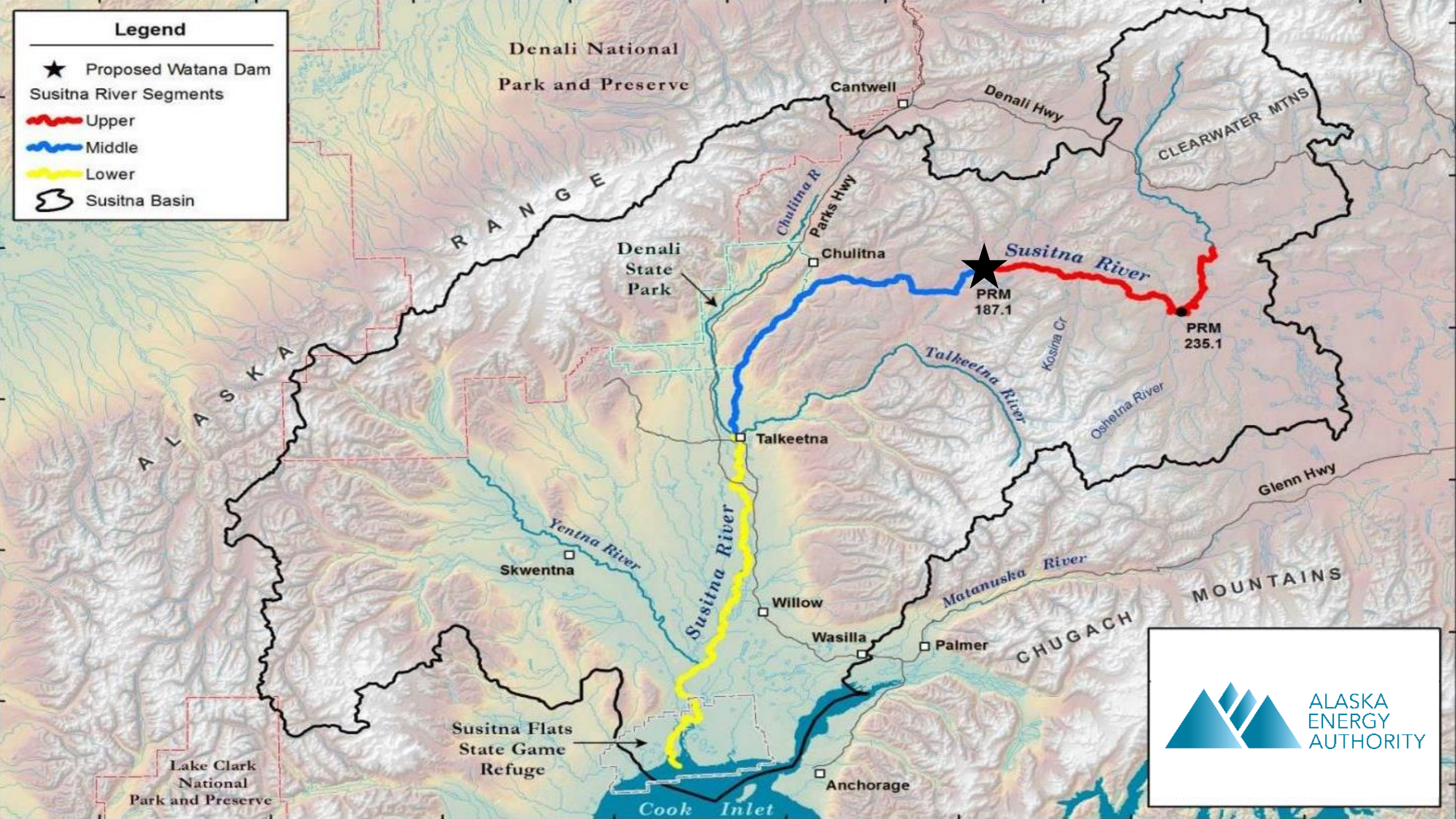


# Project History



## Legend

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



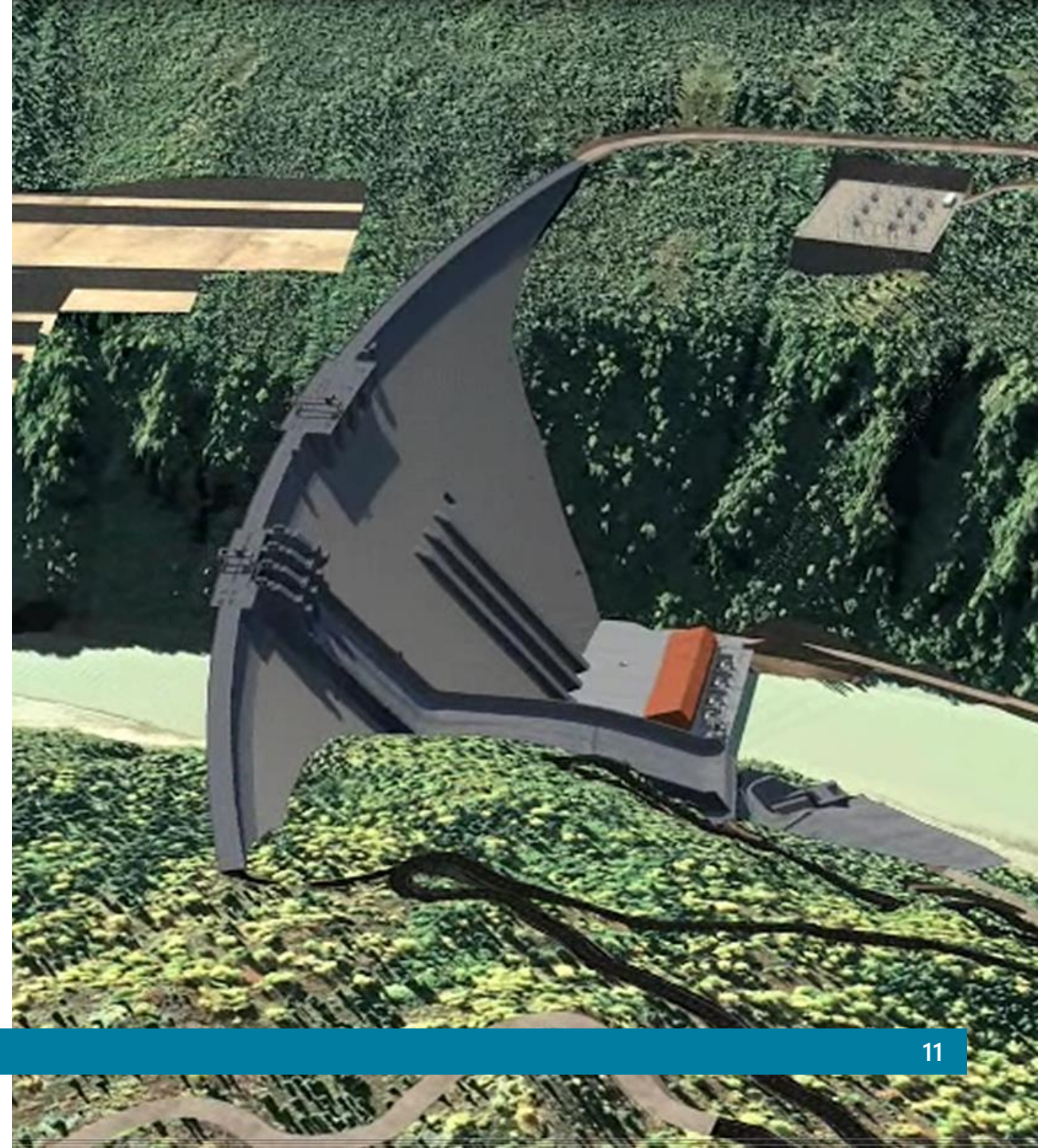
# Project At a Glance

- ▶ **Dam Height:** 705 feet
- ▶ **Dam Elevation:** 2,065 Feet MSL
- ▶ **Reservoir Length:** ~42 miles
- ▶ **Reservoir Width:** ~1.25 miles
- ▶ **Installed Capacity:** 459-619 MW
- ▶ **Annual Energy:** 2,800,000 MWh
- ▶ **Cost:** ~\$5.655 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





# Economics

- ▶ 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

- ▶ Direct jobs:
  - ▷ 5,000 preconstruction and non-construction direct jobs (2010-2028)
  - ▷ 12,000 direct overall construction workforce
- ▶ Local spending and statewide multiplier effects (2014\$):

Project Spending Category	Local Spending (\$)	Multiplier Effects		
		Business Sales (\$)	Jobs	Labor Income (\$)
Spending on Licensing/Design and Other Program Costs	814,148,500	551,245,700	3,870	204,254,400
Construction Spending	2,658,465,300	1,837,133,150	11,305	627,307,200
Operations Spending	\$26,500,000	18,494,000	105	6,435,000



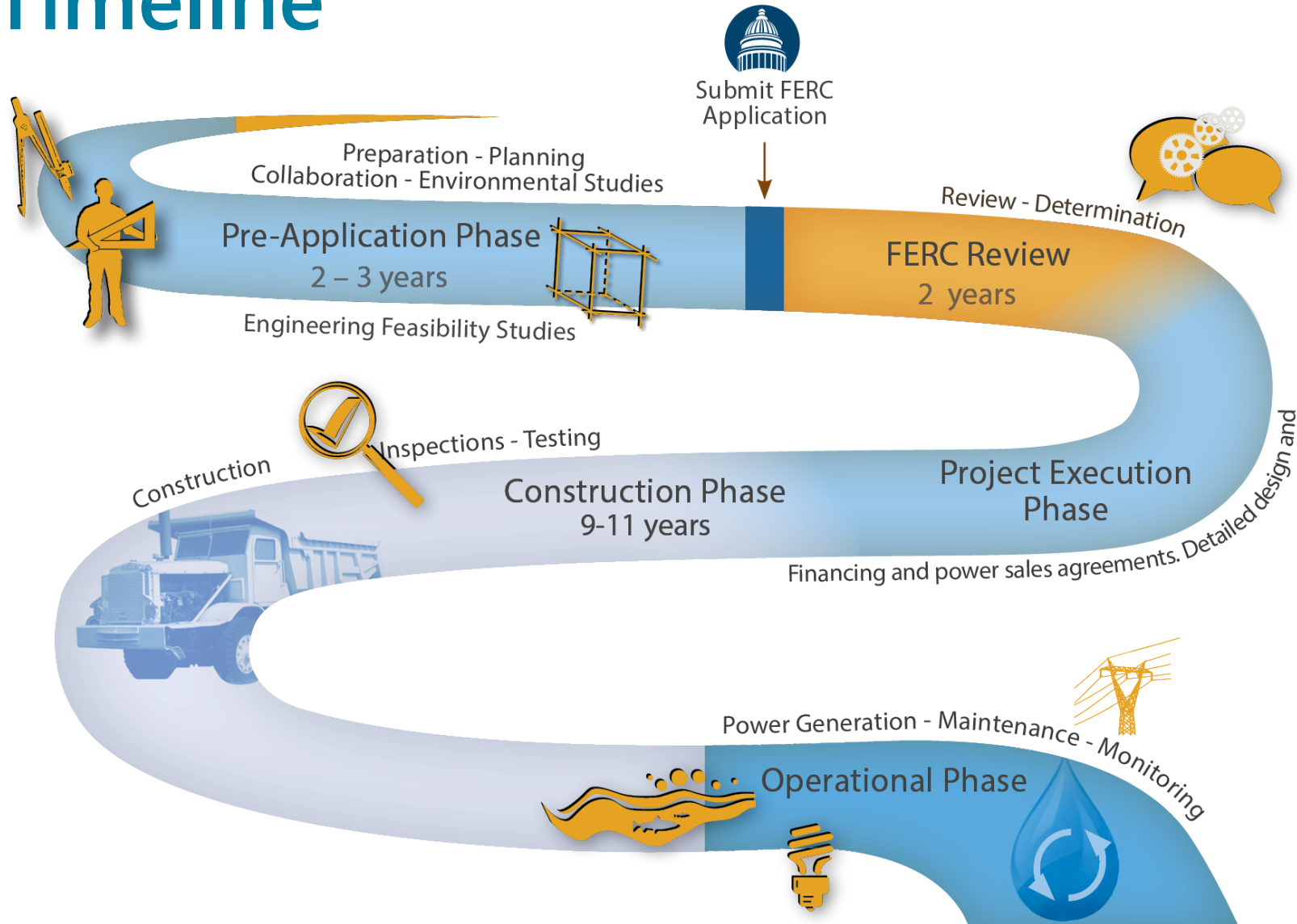
# Licensing Status

- ▶ 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 Determine 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





## ALASKA ENERGY AUTHORITY

813 West Northern Lights Blvd.  
Anchorage, Alaska 99503  
Phone: (907) 771-3000  
Fax: (907) 771-3044  
Toll Free (888) 300-8534

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

For more information, please contact AEA Executive Director Curtis W. Thayer