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INSIDE PASSAGE ELECTRIC COOPERATIVE

Presentation to the House Energy Committee, March 9, 2017

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Chief Executive Officer &
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Introduction to IPEC

Inside Passage Electric Co-op, or IPEC, is a non-profit, consumer-owned and governed electric utility serving 1,368 members in the southeast Alaska villages of Angoon, Hoonah, Kake, Klukwan, and the Chilkat Valley. The only way to get to the villages from the Auke Bay headquarters is by boat or airplane. Logistics are always a challenge. IPEC is 72% dependent on diesel. We own two hydro projects with the potential for two more in the next decade if funding becomes available

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Outline

- Challenges of Providing Electricity in Rural Southeast Alaska
- Small local hydro best solution for IPEC communities
- Regulatory Considerations

Challenges of Providing Electricity in Rural Southeast Alaska

- Dependence on diesel-electric generation
- Volatile diesel prices lead to volatile rates
- Low economies of scale
- Inability to attract large power consumers
- High transportation costs; logistics challenges
- Weakened and struggling village economies due to lack of industry and jobs
- High costs of alternative energy technologies
- High costs of compliance with regulatory and environmental policies (e.g. RCA, EPA, FERC)
- Concern over costs of compliance with new policies

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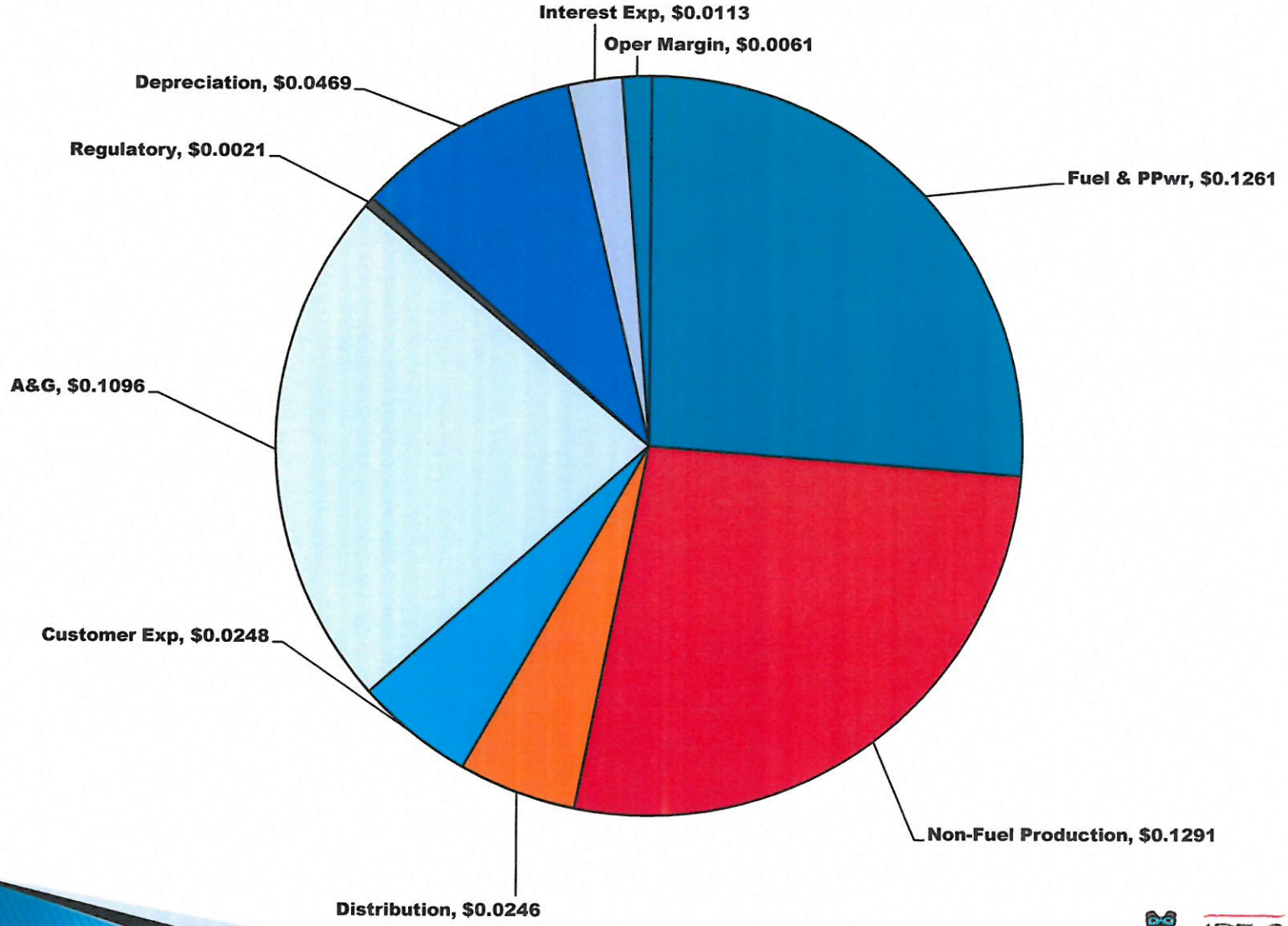
2016 Aver Cost per kWh Sold= $.4806



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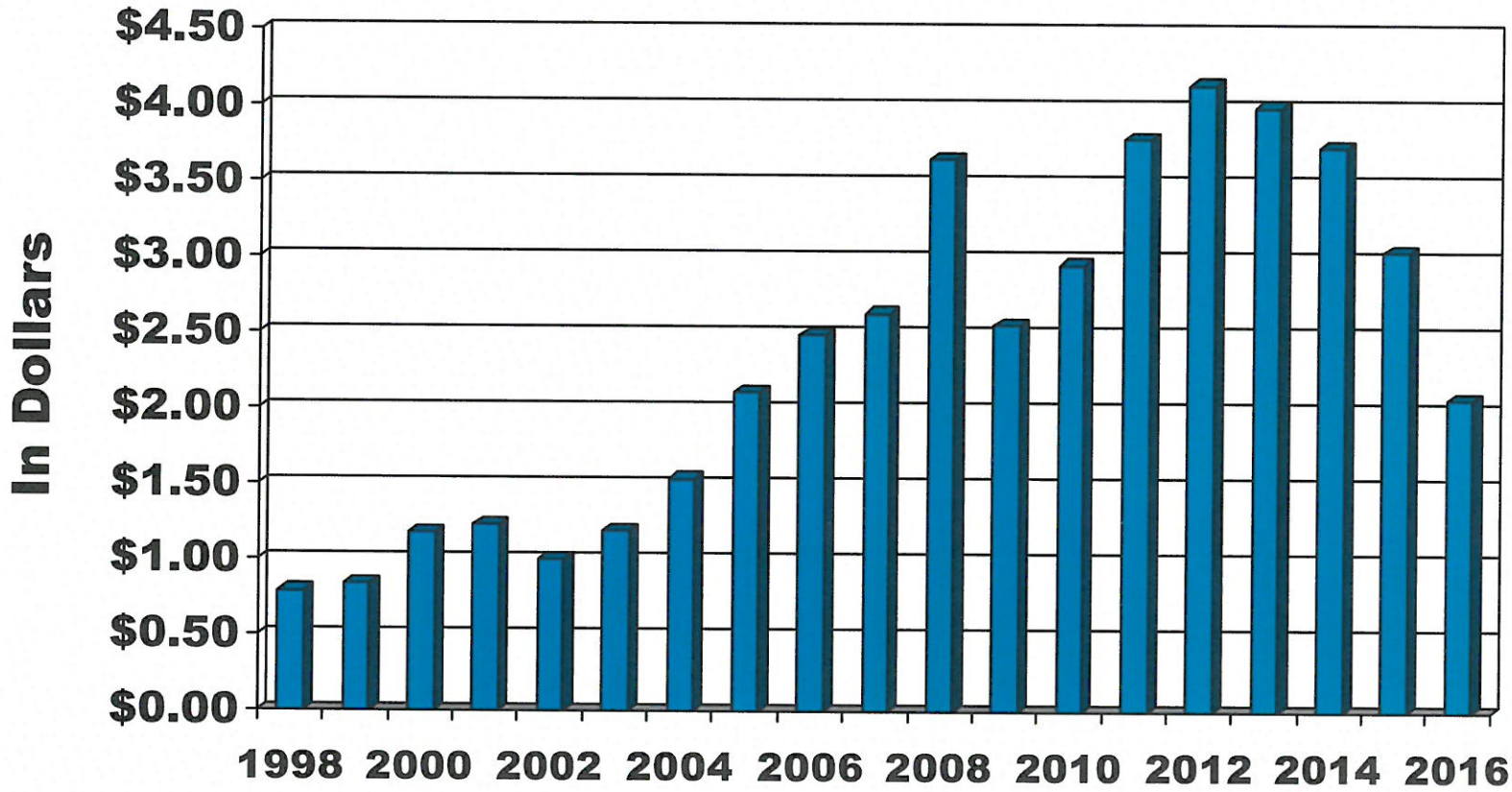
Average Cost of Fuel per Gallon



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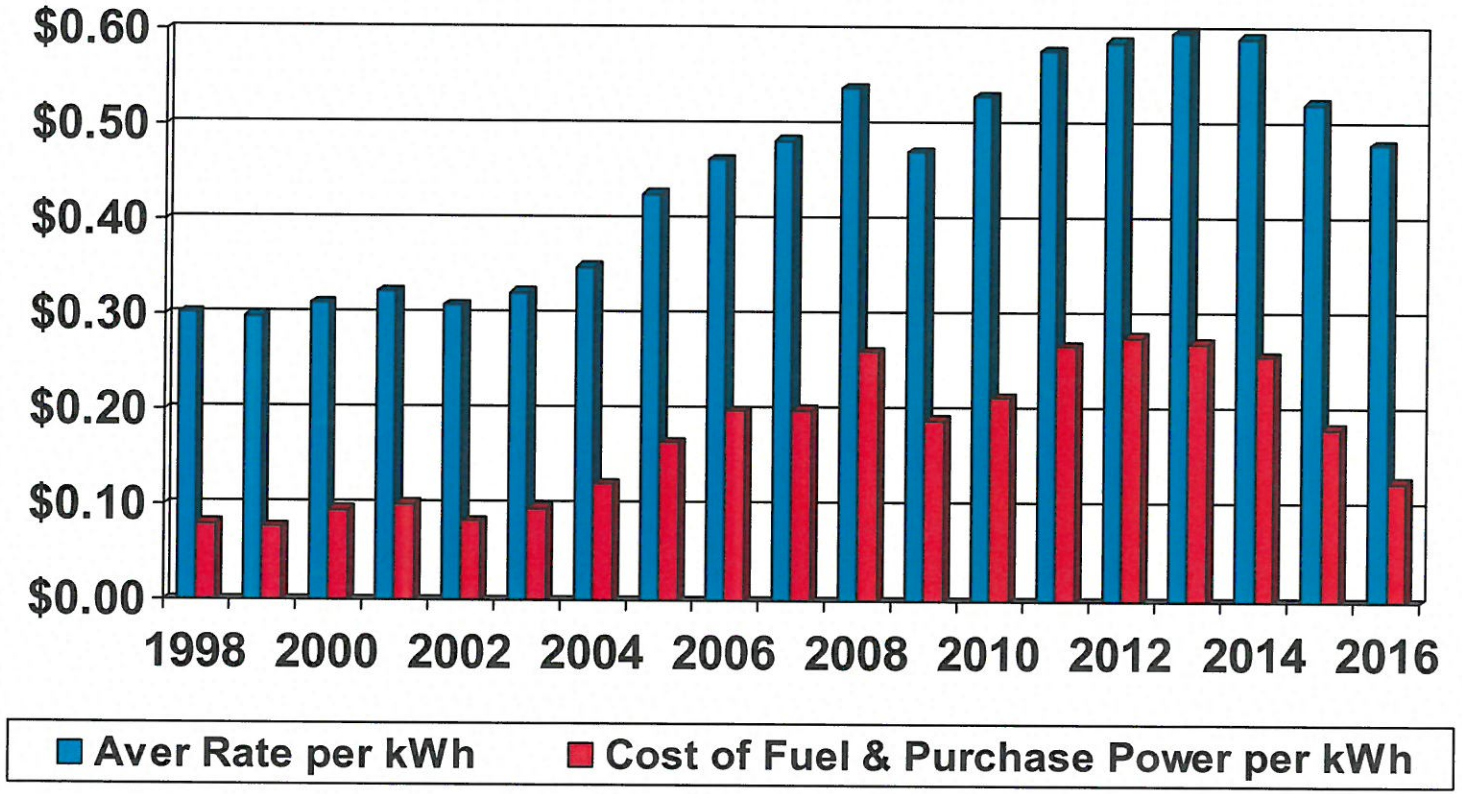
As fuel prices rise, rates rise



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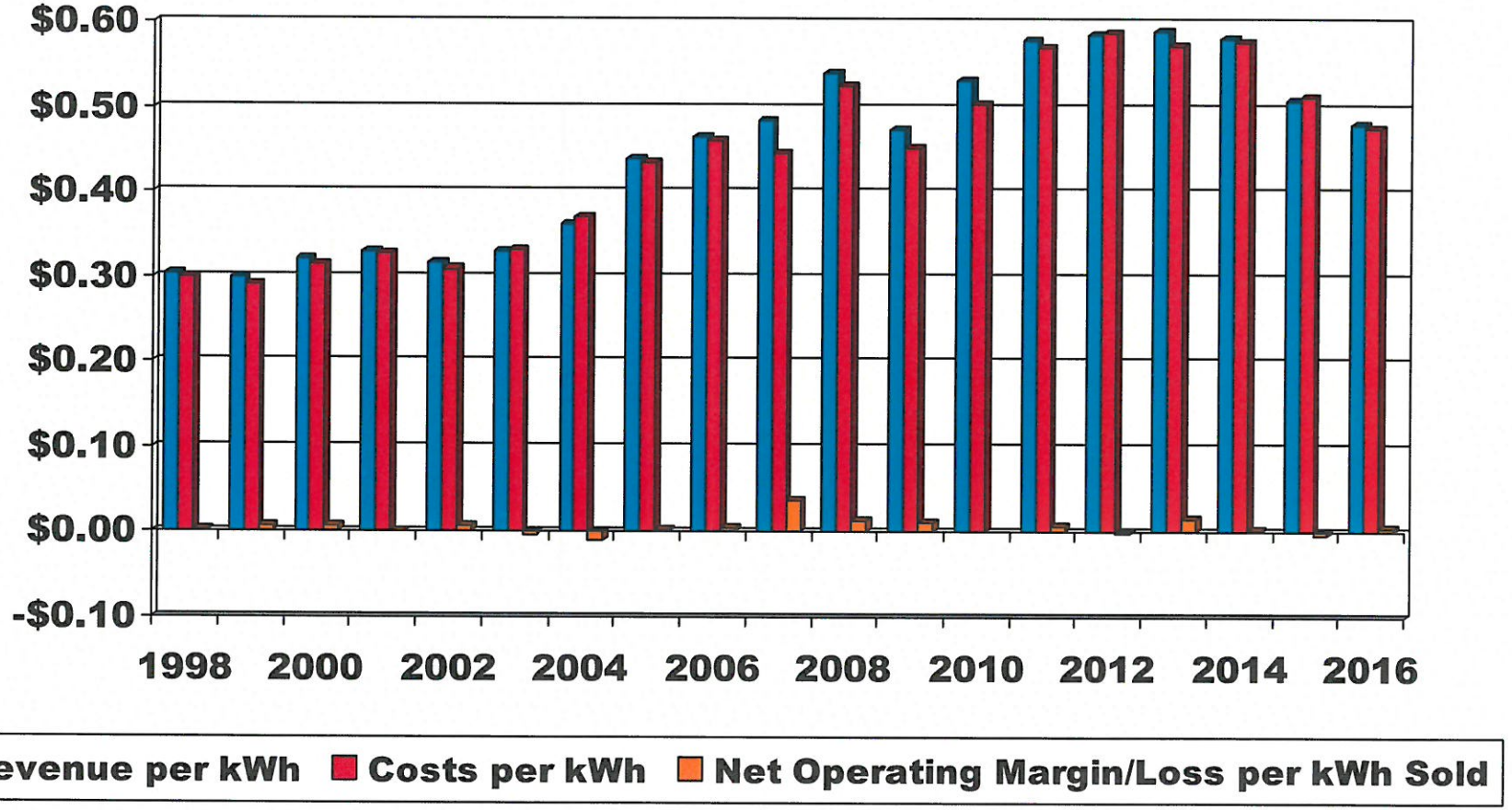
As a non-profit electric cooperative, IPEC charges slightly more than what it costs to serve its customers.



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What are we doing to help reduce energy costs for our members?

- In 2009, IPEC's board and management team created an energy plan to become diesel independent
- At first we chased interties between communities, but they proved to be too expensive
- We have a great resource in Southeast Alaska - RAIN
- With the help of the State's Renewable Energy Fund we built the Gartina Falls Hydro project in Hoonah
- Another REF grant helped us identify the Gunnuk Creek Hydro project for Kake
- We identified an additional hydro project in Hoonah
- Kootznoowoo is developing Thayer Creek hydro for Angoon
- IPEC and Kootznoowoo need grants to reduce rates
- Hydro projects last for at least 50 years!
- IPEC has only 11 full-time employees to run four separate micro-grids, but employs several part-time employees

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IPEC identified Gartina Falls Hydro as the "best" project for Hoonah

- The project is a small 450kW run-of-the-river project, but displaced 32% of IPEC's current fuel consumption at Hoonah
- IPEC worked with community leaders to get buy-in, and to obtain site control (City of Hoonah, Hoonah Indian Association, Huna Totem Corporation & Sealaska Corporation)
- IPEC was able to obtain nearly $8 million in grant funding for the $10 million project ($7.544m from State of Alaska REF, and $450K from DOE)
- IPEC is looking at another small hydro project for Hoonah, which will use the same 4.5 mile transmission line
- Gartina Falls Hydro had to be FERC licensed, adding to costs
- A public dedication was held in Hoonah on August 21, 2015
- IPEC's diesels run very efficiently with the hydro

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The 450KW Gartina Falls hydro in Hoonah required a FERC permit at a cost of at least $1.5m of the $9.7m total cost. The project has saved 135,000 gallons or $298,070 as of Feb 2017 (less than 18 full months)

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IPEC is now focused on building a 500KW hydro project at Gunnuk Creek in downtown Kake. There's already a dam there! It will produce about 50% of Kake's current electric load. Estimated cost is $6m

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Small local hydro can reduce IPEC's rates, demands on the PCE program for decades to come

- Gold Creek hydro in Juneau has been producing power for over 100 years and counting
- There is a second potential hydro project in Hoonah near the first one. It is about the same size as Gartina, and will use the same transmission line
- IPEC supports the Thayer Creek Hydro project for Angoon, which is estimated to provide 100% of its current electric load
- If all three of these projects came online IPEC would be about 2/3 renewable! And there may be other local projects we haven't found yet…
- We are fortunate to have hydro as a renewable resource – rain water is free!
- Diesel emits 22.4 lbs of CO2 emissions per gallon – we want to preserve our pristine Alaska air!

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A little about IPEC's Regulatory Concerns:

- IPEC is regulated by the RCA (Regulatory Commission of Alaska). We use the semi-annual Simplified Rate Filing procedure
- IPEC is also regulated with respect to PCE. IPEC files annual reports and bills the PCE program monthly.
- IPEC is required to commission depreciation studies, which can be expensive and time-consuming
- IPEC files quarterly Cost of Power Adjustments (COPA) to adjust for changes in fuel costs
- PCE goes up or down with rates and costs - residential customers don't notice the change in rates but businesses do
- IPEC files and pays for air quality permits
- IPEC will have to re-license the Gartina Falls project every 50 years. We don't believe Gunnuk will be under FERC jurisdiction

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Here's a picture of the second hydro in Hoonah – Water Supply Creek. IPEC's engineers and construction team looked at it while building Gartina. We believe it will be similar in size and output as Gartina. Once it's complete Hoonah will be about 2/3 renewable