

# **Kodiak Electric Association, Inc.**

**Darron Scott, President/CEO**

# Kodiak, Alaska





# Kodiak Electric Association, Inc.

- ▶ **Locally-Owned & Operated Electric Cooperative**
- ▶ **Provides electricity to 6,000 meters**
- ▶ **Isolated Micro Grid**
- ▶ **Peak Load – 28 MW**
- ▶ **Minimum Load – 11 MW**



# Back in 2000

- ▶ **59% Diesel**
- ▶ **41% Hydro**
- ▶ **Set for all load growth by diesel generation**
- ▶ **Hydroelectric power plant was owned by a third party**



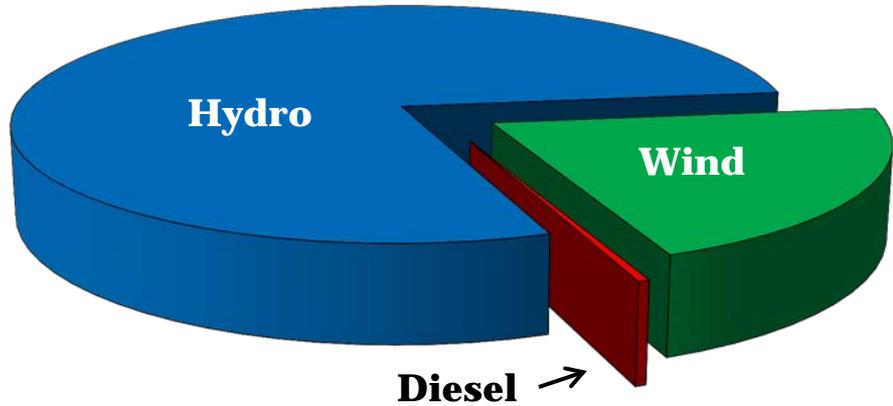


# Vision Statement

▶ **February 23, 2007**

**“Kodiak Electric Association, Inc. shall endeavor to produce 95% of energy sales with cost effective renewable power solutions by the year 2020”**

# KEA in 2016



**Rates are 3.8 % lower than they were in 2000.**

# Project Timeline

**Hydroelectric**

**Governor  
Upgrade**



**3 - 1.5 MW  
Wind Turbines**



**2 - 1.5 MW  
BESS**



**1 - 10 MW  
Hydroelectric  
Turbine**



2007

2008

2009

2010

2011

2012

2013

2014

2015



**System Power  
Factor Upgrade**



**3 - 1.5 MW  
Wind Turbines**

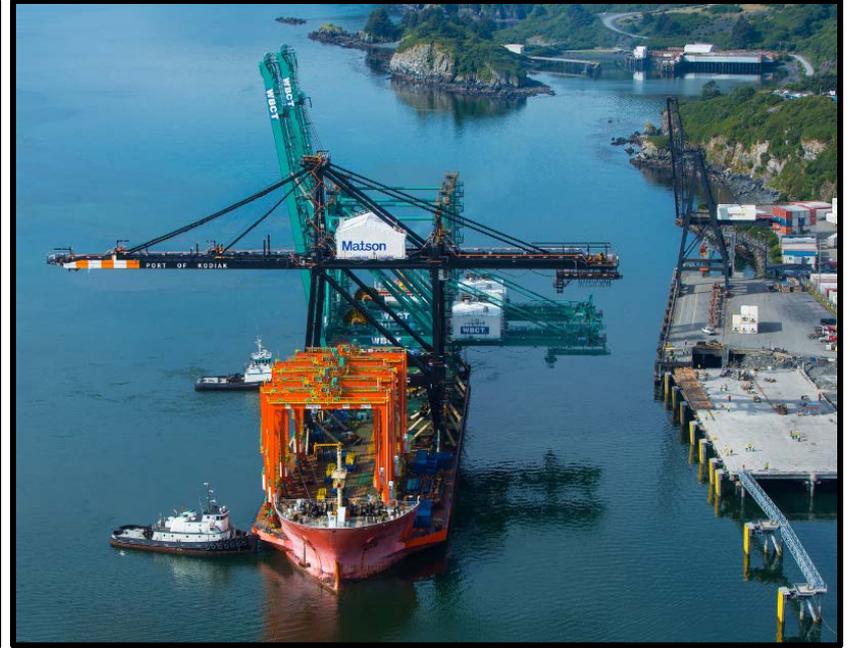


**2 - 1.0  
MW  
FESS**

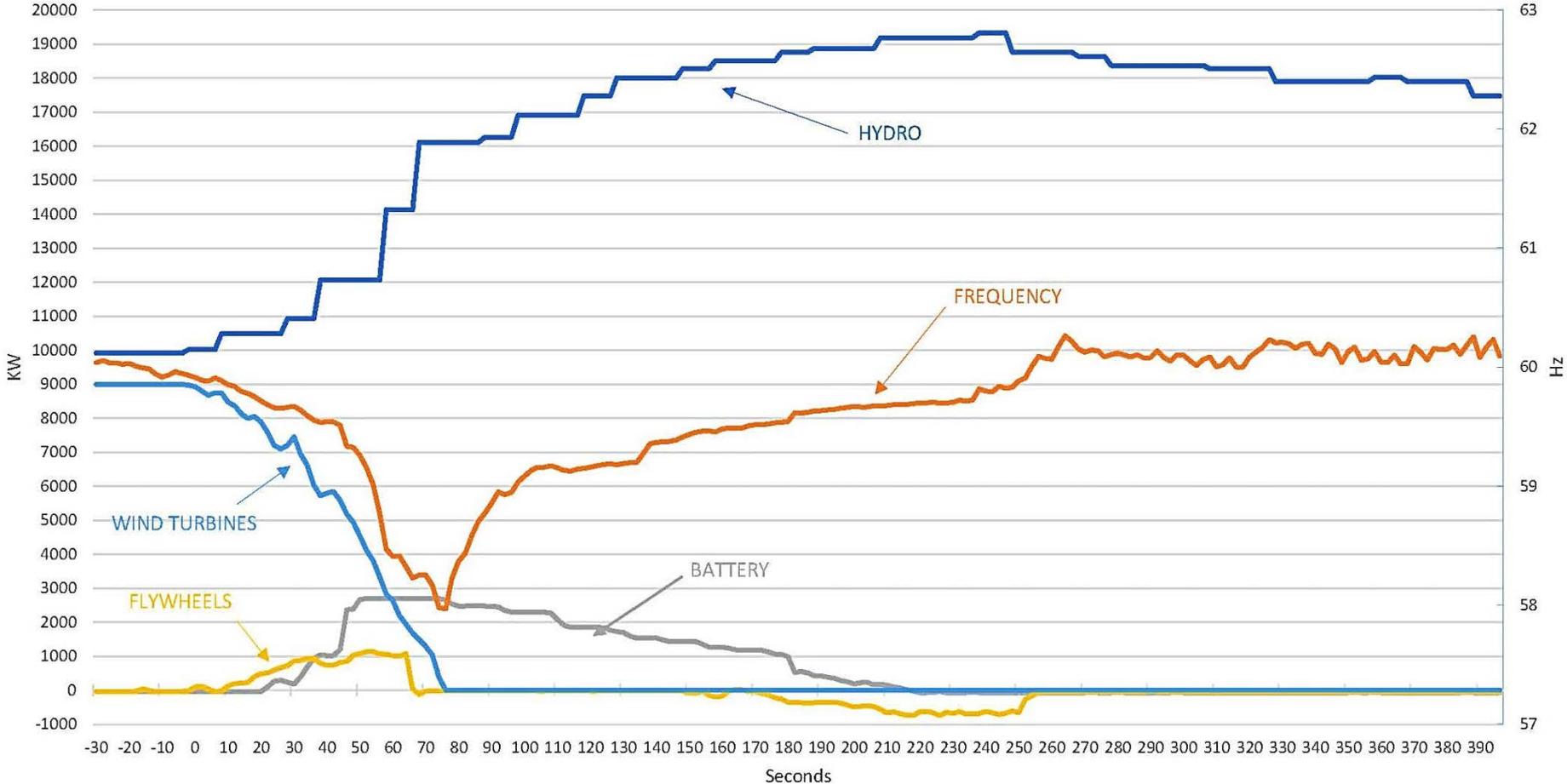
# Battery Energy Storage System



# Flywheel Energy Storage System



SYSTEM RESPONSE TO WIND EVENT 11/11/2015 12:53 PM



# Battery Energy Storage System





# Vision Statement

▶ **Revised April 23, 2015**

**“Kodiak Electric Association, Inc. shall endeavor to maintain 95% of energy sales with cost effective renewable power solutions for the future of our members and the community”**