

# ISOLATED POWER SYSTEMS CONNECT 2022

## Cordova Alaska

July 26-29, 2022

International technology forum  
for power system operators and owners

Four-day technical workshop

Plus, Alaska technology tours

VIP access to a range of Cordova's

Innovative Energy Technology Systems

hosts



**ACEP**  
Alaska Center for Energy and Power



Renewable Energy  
Alaska Project



sponsors



Centre for  
Renewable Energy  
& Power Systems



UNIVERSITY of  
TASMANIA



Denali Commission

Chugach Alaska Corporation

Epcon

# Isolated Power Systems Connect Cordova, Alaska

## Organizing Committee

Isolated Power Systems Connect is convened by an organizing committee, elected to ensure the venue, program and demonstration projects represent the latest in innovation, as relevant to utility and IPP delegates. The 2022 organizing committee includes:

- Chris Rose, Renewable Energy Alaska Project (co-Chair)
- Gwen Holdmann, Alaska Center for Energy and Power (Co-Chair)
- Stephanie Nowers, KIS Consulting
- Amanda Byrd, Alaska Center for Energy and Power
- Clay Koplin, Cordova Electric Cooperative
- Mariko Shirazi, Alaska Center for Energy and Power
- James Hamilton, BayWa r.e.
- Michael Negnevitsky, University of Tasmania

## Cordova Technology Tours - July 28 & 29, 2022

### Power Creek and BESS (8:30 am July 28):

Take the opportunity to connect with other participants while you experience the natural beauty and breathtaking scenery of Prince William Sound, Alaska. Tour includes a scenic drive with VIP access to the 6 MW Power Creek run-of-river hydro and the Cordova battery storage system.

### Humpback Creek (1 pm July 29):

Take a spectacular boat ride through the Cordova Harbor, past hauled out Stellar sea lions, to the beautiful beach landing and hike up the penstock to the 1.25 MW Humpback Creek run-of-river hydro project. See the original 1908 system, and the upgraded 1980s project.

**Note:** This tour is on Friday and requires an additional night stay in Cordova.





**Legacy  
Equipment**

**Modern  
Systems**



**Local  
Operators**

**Remote  
Staff**

**BETTER DECISIONS REQUIRE  
BETTER DATA ACCESS.**



**WATCH  
THE VIDEO**

**Learn more at [www.canarylabs.com](http://www.canarylabs.com)**



# Isolated Power Systems Connect Cordova, Alaska

## AGENDA - AT A GLANCE

### Tuesday July 26

- 4:00 Registration
- 5:00 Evening Reception and Welcome

### Thursday July 28

- 8:20 Convene at Cordova Center
- 8:30 Cordova Power Systems Tours
- 11:00 Visit CEC Battery Energy Storage System
- 12:30 Lunch at Cordova Center
- 1:30 Panel Session 4: The Dynamics of our Future Energy Landscape
- 3:30 Panel Session 5: Heating & Cooling in Isolated Communities
- 5:00 Close

### Wednesday July 27

- 8:00 Registration opens
- 8:20 Conference Welcome
- 9:00 Panel Session 1: Diesel Adaptation and Optimization
- 11:00 Panel Session 2: Enabling Technologies for Maximum Renewable Penetration
- 12:30 Lunch and networking
- 1:30 Panel Session 3: Alternative Storage Technologies
- 3:00 Day 2 Recap
- 4:00 Close
- 5:30 Evening Dinner

### Friday July 29

- 8:00 Panel Session 6: State of Charge on Energy Storage
- 10:00 Panel Session 7: Knowledge Sharing, Community Engagement and Human Capacity Building
- 11:30 Lunch and Wrap-up
- 12:30 Bus departs to airport
- 1:42 Flight departs to Anchorage
- 1:00 Humpback Creek Hydro Tour



**ACEP**  
Alaska Center for Energy and Power



Renewable Energy  
Alaska Project



A wide-angle photograph of the Pillar Mountain wind farm on Kodiak Island. Several large white wind turbines are visible on a grassy hillside overlooking a body of water. In the background, there are mountains and a cloudy sky.

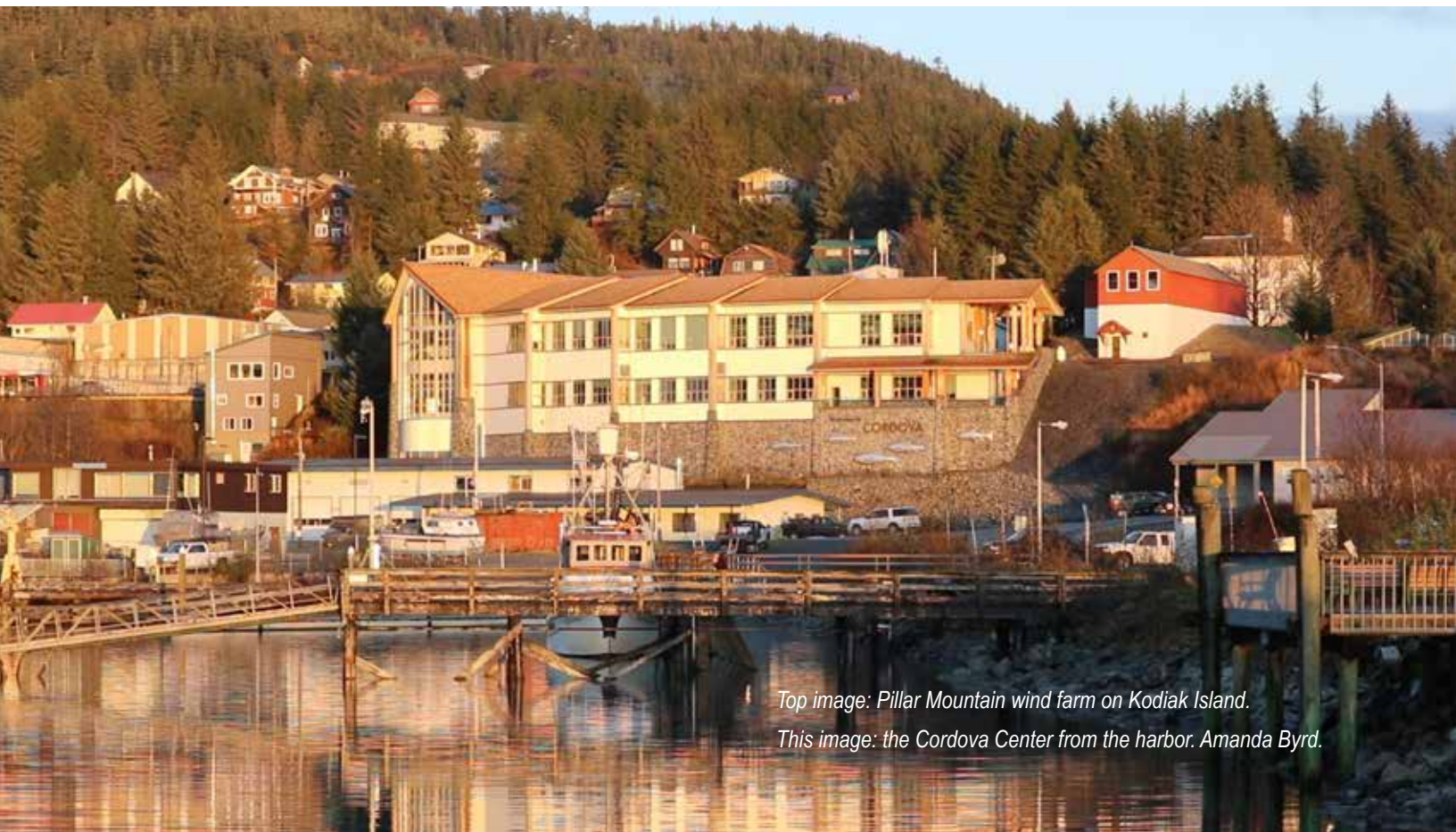
**DAY 1**

# Tuesday July 26, 2022

## Evening Reception

**4:00** Registration

**5:00** Evening Reception and Welcome







**DAY 2**

**Wednesday July 27, 2022**

## **TECHNICAL WORKSHOP & EVENING DINNER**

**8:00** Registration opens

**8:20** Welcome from conference co-chairs  
Gwen Holdmann and Chris Rose

**8:30** Cordova Welcome  
Clay Koplin, Mayor of Cordova

**8:40** Mark Hoover, Native Village of Eyak

### **9:00 Session 1: Diesel Adaptation and Optimization**

**Moderator:** Aimie Morgan, Alaska Village Electric Cooperative

ALASKA - Diesel Modernization  
**Russ Goss - Cordova Electric Cooperative**

GREENLAND - Heat Recovery  
**Niels Erik Hagelqvist - Nukissiorfiit**

ALASKA - Retrofitting a Diesel System in Stages  
**Peter Lilienthal - Alaska Center for Energy and Power**

**Q&A session**

**10:30** Coffee and networking

### **11:00 Session 2: Enabling Technologies for Maximum Renewable Penetration**

**Moderator:** Mariko Shirazi, Alaska Center for Energy and Power

ALASKA - Transforming Data into Actionable Analytics  
**Jeff Knepper - Canary Labs**

ALASKA - Thermal Utilization  
**Dennis Meiners - Intelligent Energy Systems**

ALASKA - Subsurface Transmission and Distribution Lines  
**Peter Larsen - Lawrence Berkley National Lab**

**Q&A session**

**12:30** Lunch and networking

### **1:30 Session 3: Alternative Storage Technologies**

**Moderator:** Annalise Klein, Alaska Center for Energy and Power

INTERNATIONAL - Vehicles to Grid Technology  
**Shawn Heurtevant - Hitachi Energy**

CANADA - Hydrogen Fuel Cell and Flywheel  
**Kristina Hamernik - Raglan Mine**

AUSTRALIA - Dynamic Rotating UPS  
**Simon Van Der Aa - Hydro Tasmania (Invited)**

**Q&A session**

**3:00** Day 2 Recap

**4:00** Close

**5:30** Evening Dinner



Top image: Cordova Electric Association's battery energy storage system.  
This image: Cordova Harbor. Amanda Byrd



**DAY 3**

**Thursday July 28, 2022**

## **TECHNOLOGY TOUR and TECHNICAL WORKSHOP**

### **EMERGENT ENERGY FUTURES**

**8:20** Convene at Cordova Center

#### **Cordova Power Systems Tours**

**Host:** Clay Koplin and CEC Staff

**8:30** Drive to Power Creek Hydro Project

**11:00** Visit CEC Battery Energy Storage System

**12:00** Return

**12:30** Lunch at Cordova Center

#### **Afternoon Panels**

#### **1:30 Session 4: The Dynamics of our Future Energy Landscape**

**Moderator:** Gwen Holdmann, Alaska Center for Energy and Power

ALASKA - Global Microgrid Market and Policy  
**Peter Asmus - Alaska Center for Energy and Power**

ALASKA - NW Arctic Independent Power Producers  
**Ingemar Matthiason - Northwest Arctic Borough**

ASIA - Electrification of Emerging Markets  
**Mark Glick - Hawai'i Natural Energy Institute**

ALASKA - Marine Energy  
**Ben Loeffler - Alaska Center for Energy and Power**

**Q&A session**

**3:00** Coffee and networking

#### **3:30 Session 5: Heating & Cooling in Isolated Communities**

**Moderator:** Bruno Grunau, National Renewable Energy Lab

ALASKA - Air Source Heat Pumps  
**Robbin Garber-Slaght - National Renewable Energy Lab**

CANADA - Electric Thermal Storage  
**Michael Ross - Yukon Research Centre**

ALASKA - Heating Loads with Diesels Off  
**Bailey Gamble - Alaska Native Tribal Health Consortium**

**Q&A session**

**5:00** Close

*Top image: A young girl rides a bike in front of the Kongiganak wind farm. Amanda Byrd.*



**DAY 4**

# Friday July 29, 2022

## TECHNICAL WORKSHOP

### EMERGENT ENERGY FUTURES

#### 8:00 Session 6: State of Charge on Energy Storage

**Moderator: Clay Koplin, Cordova Electric Cooperative**

AUSTRALIA - Living With SETuP

**Jeff Adams - Power and Water Corporation**

ALASKA - Grid-Bridging

**Bill Thomson - Alaska Village Electric Coop**

HAWAII - Battery Response Rates

**Kevin Davies - Hawai'i Natural Energy Institute**

USA - Standards for Facilitating Grid Integration

**Charlie Vartanian - Pacific Northwest National Lab**

**Q&A session**

#### 9:30 Coffee and networking

#### 10:00 Session 7: Knowledge Sharing, Community Engagement and Human Capacity Building

**Moderator: Chris Rose, Renewable Energy Alaska Project**

ALASKA-CANADA-ICELAND - ARENA

**Gwen Holdmann - Alaska Center for Energy and Power**

ALASKA - Analyzing Utility Systems

**Dan Borneo - Sandia National Laboratory**

SOUTH PACIFIC - Knowledge Sharing in the Pacific Islands

**Abraham Simpson - Pacific Power Association**

ALASKA - ANEEE

**Chris McConnell - Renewable Energy Alaska Project**

**Q&A session**

**11:30 Lunch and Wrap-up**

**12:30 Bus departs to airport**

**1:52 Flight departs to Anchorage**

**Afternoon Tour - Humpback Creek Hydro**

**1:00 Boat departs Cordova Harbor**



Top image: A wave energy device installed on King Island, Australia.  
This image: Kotzebue energy farm. Amanda Byrd.