

**ISOLATED  
POWER  
SYSTEMS  
CONNECT  
2022**

**Cordova  
Alaska**

**26-29 July, 2022**

International technology forum  
for system operators and owners

4 day technical workshop

2 technology tours

Visit Cordova's run-of-the-river

Hydro and battery energy storage system

# 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



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# 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 organising 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.



# 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 or Evening Cruise

### 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
- 1:52 Flight departs to Anchorage
- 1:00 Humpback Creek Hydro Tour



**ACEP**  
Alaska Center for Energy and Power

 **REAP**  
Renewable Energy  
Alaska Project



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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 & GALA 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

### **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 (Invited)

AUSTRALIA - Rottneest Island  
Ray Massie - Hydro Tasmania (Invited)

CANADA - Diesel Optimization Strategies  
Mike Ocko - Northwest Territories Power Corp

**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

HAWAII - Gensets to Synchronous Condensers

ALASKA - Underground Cables  
Peter Larsen - Lawrence Berkley National Lab

**Q&A session**

**12:30** Lunch and networking

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

Moderator: Electric Power Research Institute  
(Invited)

ALASKA - Supercapacitors

INTERNATIONAL - Vehicles to Grid Technology  
Shawn Heurtevant

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 or Evening Cruise



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 - Evolution of Business Models  
Matt Bergan, Kotzebue Electric Association

AUSTRALIA - Stand Alone Power

ASIA - Electrification of Emerging Markets  
Mark Glick, HNEI (Invited)

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 (Invited)

ALASKA - Air Source Heat Pumps  
Ingemar Matthiason (Invited)

CANADA - Electric Thermal Storage  
Michael Ross - Yukon Research Centre

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

GREENLAND -  
Kjell Bergman - Nukissiorfiit (Invited)

**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: TBD

SOUTH PACIFIC - Overview of Projects  
Simon Franklin, IT Power (Invited)

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

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

AUSTRALIA - Pacific Power Association  
Andrew Dacca

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