

**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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Denali Commission

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

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

ALASKA -
Peter Lilienthal -

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

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: Ian Baring-Gould - National Renewable Energy Lab

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 - Project Financing Models
Ingemar Matthiason - Northwest Arctic Borough

ASIA - Electrification of Emerging Markets
Mark Glick, HNEI

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

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 -
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