Intermountain Power Project & Green Hydrogen
July 2020
CURRENT INTERMOUNTAIN POWER PROJECT

- LOCATION: DELTA, UTAH
- TWO COAL UNITS – 1,800 MW NET CAPACITY
- OPERATING SINCE 1986
- NORTHERN AND SOUTHERN TRANSMISSION SYSTEMS WITH NEARLY 300 MW CURRENT WIND INTERCONNECTIONS
- PARTNERSHIP BETWEEN UTAH AND SOCAL MUNICIPAL UTILITIES
- COAL CLOSURE AND NATURAL GAS CONVERSION COMPLETE BY 2025
  - NEW POWER PLANT WILL HAVE 840 MW NET CAPACITY
Utah’s Renewable Hub

- IPP sits in a confluence of renewable resources
- Currently interconnected to 370 MW of wind generation
- Secondary Path for existing Geothermal Projects and potential for additional geothermal in the area
- 2,300 MW of current solar interconnection requests in queue
- 1,500 MW of Wyoming wind interconnects currently being discussed
Unlocking IPP’s Green Hydrogen Potential
Hydrogen Powered Generators

The new generators at IPP will be capable of burning a hydrogen fuel mix on **DAY 1** of commercial operation.
Hydrogen Storage at IPP

Hydrogen storage is one of IPP’s most **unique** features.

Allows for **SEASONAL SHIFTING** of renewable energy; taking the otherwise curtailed energy and storing it as fuel.

- A typical cavern size at IPP = 4,000,000 barrels
- 1 cavern = 5,512 tons of H₂ (operational limit)
- Equivalent to:
  - 200,000 hydrogen buses
  - 1,000,000 fuel cell cars
  - 14,000 tankers used for delivery
- Over 100 caverns can be constructed in the salt dome at IPP
Green Hydrogen Future

- **Renewables**
  - Solar and wind resources from Wyoming, Utah, Nevada, and California
  - NTS and STS required for transmission

- **Electrolysis**
  - Using renewable energy, electrolyzers change water into hydrogen gas

- **Storage**
  - Hydrogen fuel is stored in underground salt caverns
  - Allows for seasonal shifting on renewable energy

- **Combustion**
  - Combustion technology is capable of mixing hydrogen with natural gas
  - New IPP generators will have this capability on COD
IPP Potential Emissions Profile

GHG (CO2) Emission (million tons/year)

2025: Coal Retired; NGCC Online
2035 & 2040: Major overhaul to add H2 capabilities
2045: 100% Green H2

<table>
<thead>
<tr>
<th>%Hydrogen Volume (projected)</th>
<th>2026-2030</th>
<th>2031-2035</th>
<th>2036-2040</th>
<th>2041-2045</th>
<th>2046 -</th>
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<tbody>
<tr>
<td></td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>75%</td>
<td>100%</td>
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Coal
Coal - Projected
NGCC - Projected
NGCC w/Hydrogen - Projected