Christine King, INL
Director Gateway for Accelerated Innovation in Nuclear

Battelle Innovation in Climate Resilience
March 29, 2023
Session B4
What does Repowering Coal mean?

- Greenfield Project
- Reuse Site, Electrical, Admin Buildings
- Indirect Coupling to Steam Cycle Equipment
- Direct Couple to Steam Cycle Equipment
80% of Evaluated Coal Sites Suitable for SMR

<table>
<thead>
<tr>
<th>Project type</th>
<th>Total Project Overnight Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>$4,572</td>
</tr>
<tr>
<td>Scenario 1</td>
<td>$4,799</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>$3,598</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>$3,951</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>$3,398</td>
</tr>
</tbody>
</table>

Estimates on cost savings from repurposing viable coal infrastructure range from 15% to 35%
Regional Economic and Environmental Impacts (Modeled Results)

- **C2N: 650 Net-Change in Jobs**
  - $102 million in new Labor Income

Impact Type | Scenario | Kg/Year | Kg/Year | Sq Meters | Kg/Year | Kg/Year | Kg/Year | Kg/Year | Cubic Meters
--- | --- | --- | --- | --- | --- | --- | --- | --- | ---
Direct | Pre-Closure | 5.4m | 2.6b | 1.8m | 0 | 36.7k | 0 | 29k | 297m
| Nuclear | 4m | 8m | 1.4m | 0 | 27k | 0 | 21k | 220m
Total | Pre-Closure | 6m | 2.7b | 3.2m | 775k | 136k | 5 | 32k | 335m
| Nuclear | 4.8m | 157m | 2m | 677k | 129k | 7 | 25k | 258m

Net Change Coal to NuScale: $275 m New Economic Activity
Coronado Generating Station

Primary Objective: Assess the feasibility of transitioning from coal to nuclear; Learnings will help 6 other coal units within commuting distance

Partnered with Salt River Project and St Johns Mayor's Office
Plant is in same county as Navajo Nation

Ghent Generating Station

Primary Objective: Assess the feasibility of transitioning from coal to nuclear to support nearby industrial customers

Station retirement is planned in 2040s.
Coal to Nuclear Research Group

Each group is leading important projects associated with potential repurposing coal sites with nuclear technology. Use group discussions to align our individual efforts to make the most of this opportunity for the broader industry. In addition, get constructive feedback on GAIN case study pilot project.
JOIN US to dive in WHY: 4:30 P.M. - 5:30 P.M. Battelle South Energy Communities: Repurposing Coal with Nuclear

Andrew Bochman
INL, Senior Grid Strategist

Kenya Stump
EXECUTIVE DIRECTOR, OFFICE OF ENERGY POLICY, KENTUCKY ENERGY AND ENVIRONMENT CABINET

Kevin Nordt
KEVIN NORDT, CHIEF RESOURCE OFFICER, GRANT PUD