Optimise electricity sourcing and use via demand-response (flexibility) in industry clusters.

Reduce and balance industrial power demand by joining a virtual power plant.

### Key Insights
- **Optimise power use**
- **Secure power supply**
- **Integrate sites & clusters**
- **Enable renewable energy**

### Balancing the Grid

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Use per Sector</th>
<th>Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>100-150 kWh/ton mineral</td>
<td>10-30% (crushing and grinding)</td>
</tr>
<tr>
<td>Minerals</td>
<td>80-100 kWh/ton crude oil</td>
<td>30-45% (cooling tower, pumping unit, oil separation)</td>
</tr>
<tr>
<td>Chemicals</td>
<td>300-700 kWh/ton steel</td>
<td>15-30% (electric arc furnace steelmaking)</td>
</tr>
</tbody>
</table>

### Cross-Sector Collaboration

Process industries have a realistic potential to provide flexibility to the grid.

Electricity-intensive industries have a growing demand for security of power supply.

### Sustainability Impact

**Wins for industry**
- for suppliers: reduction of power instability
- for industry: 5-10% electricity cost savings

**Environmental gains**
- renewable energy enabled: 10-45% lower peak power demand

**Wins for society**
- security of power supply (blackout avoidance)
- improved business relations in regional clusters
- job creation and new skills development

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REFERENCES


