17-21 JUNE 2019
EU SUSTAINABLE ENERGY WEEK
SHAPING EUROPE’S ENERGY FUTURE
#EUSEW19
Low Temperature - High Efficiency Geothermal Heat and Power

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Geothermal Outlook
How can Europe Access Geothermal Heat and Power?

- Power generation limited to scarce volcanic areas
  - Unwanted GHG emissions
- Current proposals: EGS and Ultra Deep
  - Not market ready, costly, high risk
Sedimentary Basins
Untapped Potential

- Access to existing wells and data
- Minimized exploration risk, lower development costs
- Less stress – cheaper OPEX
- Reduced seismicity
- GHG capture – No steam

Source: Sedimentary Basins, Encyclopaedia Britannica (2010)
Internalization of Carbon Compounds

The next generation of Geothermal Energy
Pilot Project in Croatia
Co-Financed by the EC NER300
Valley of Death

### Capacity and Generation

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<table>
<thead>
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<tbody>
<tr>
<td>Availability p.a. (base-load)</td>
<td>8200 hours</td>
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<tr>
<td>Electricity Capacity</td>
<td>18 MWe</td>
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<tr>
<td>Net. electricity generation p.a.</td>
<td>100,000 MWh</td>
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<tr>
<td>Thermal Heat Capacity</td>
<td>82 MW</td>
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<tr>
<td>Net. heat generation p.a.</td>
<td>600,000 MWh</td>
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<tr>
<td>CO2 generation p.a. (either sold or injected)</td>
<td>50,000 tons</td>
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### Development & Specifications

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<th>2 years</th>
<th>1.5 years</th>
<th>25 - 30 years</th>
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<tbody>
<tr>
<td>Exploration</td>
<td>High risk</td>
<td>Moderate risk</td>
<td>Low risk</td>
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<tr>
<td>Resource development &amp; permitting</td>
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<tr>
<td>Construction</td>
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<tr>
<td>Commissioning &amp; operation</td>
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**CLEAG** – Founds SPV, analyses existing data, develops the site, attains permits

**Investor** – Enters the SPV with a equity stake

**Bank** – Provides long-term finance
Closing Remarks
Enabling the geothermal heat and power breakthrough

- Reduce exploration and development costs
- Standardized, market proven technologies
- Minimize seismicity
- Holistic generation: Zero emission
- Proactive public orientation