

Transforming abandoned wells for geothermal energy production

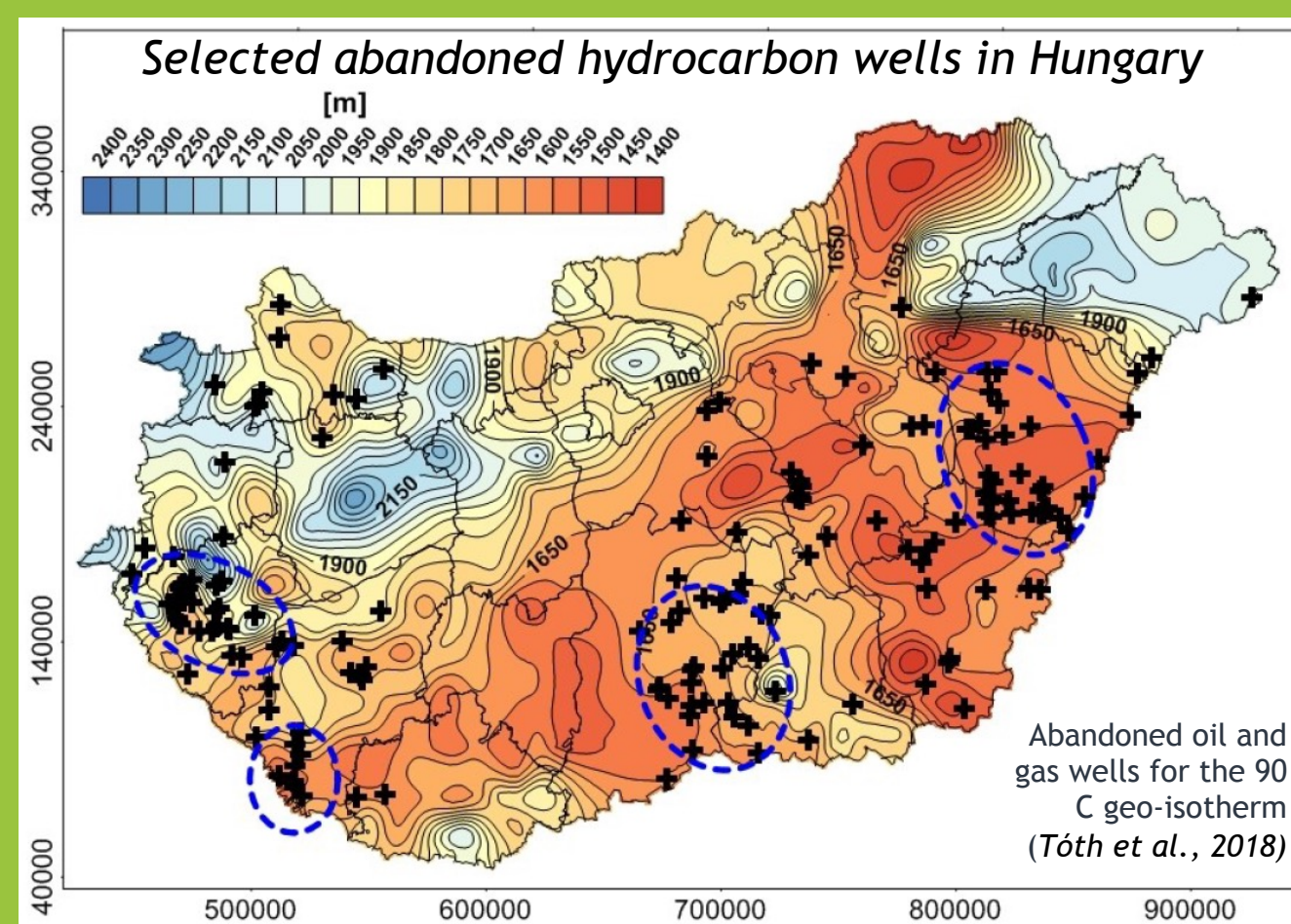
TRANSGEO

A regional development project exploring the potential for producing sustainable geothermal energy from abandoned oil and gas wells in Central Europe

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The fossil fuels industry is declining in central Europe, leaving behind thousands of old oil and gas wells and highly skilled workers.

- Germany: ~20.000 wells (Jordan et al., 2022)
- Hungary: >8.000 (pers. comm.)
- Austria: >4.000 (pers. comm.)
- Croatia: >3.000 (Kurevija and Vulin, 2011)
- Slovenia: >100 (pers. comm.)

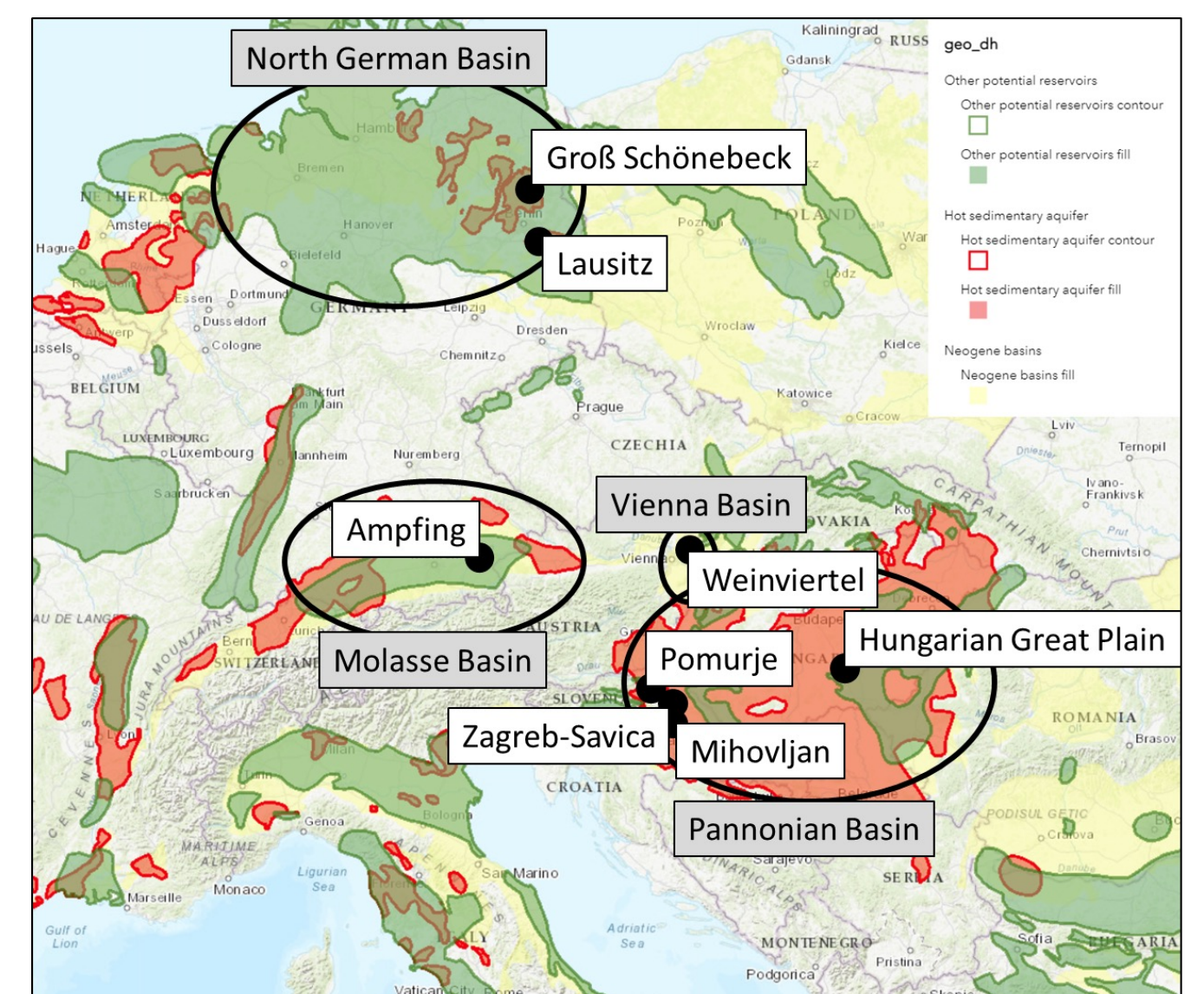


TRANSGEO is turning this environmental problem into an opportunity, by fostering a structural change from a fossil-fuel producing hydrocarbon industry to sustainable green geothermal heat and energy.

→ Repurposing existing well infrastructure and technical expertise in regions with hydrocarbon-producing industries contributes to an economically feasible and sustainable transition to a climate-neutral society by reducing greenhouse gas emissions in Central Europe.

Outputs

- Database of abandoned wells in Germany, Austria, Hungary, Croatia, and Slovenia
- Socio-Economic and Legal/Policy/Incentive Analyses for the 5 countries
- Engineering Workflows for using 5 geothermal technologies (Borehole Heat Exchanger, Aquifer and Borehole Thermal Energy Storage, Hydrothermal Energy, and Enhanced Geothermal Systems), informed by Pilot Studies and Numerical Simulations
- Online Well-Selection Tool, using the abandoned well database and map layers of heat and energy demand and technical parameters, to identify old wells for reuse
- Stakeholder Workshops to share results and receive feedback
- Transnational Strategy and Transnational Action Plan to propose a legal, policy, and incentive framework and specific actions that enable the transition to climate neutrality through geothermal energy use
- Overall Goal: To provide information and tools for municipalities, industry, and agriculture to reuse old wells for their needs with increased knowledge and decreased financial and technical risk



Locations of hydrocarbon basins (ovals and grey text boxes) and pilot sites for feasibility studies (black dots and text).

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