



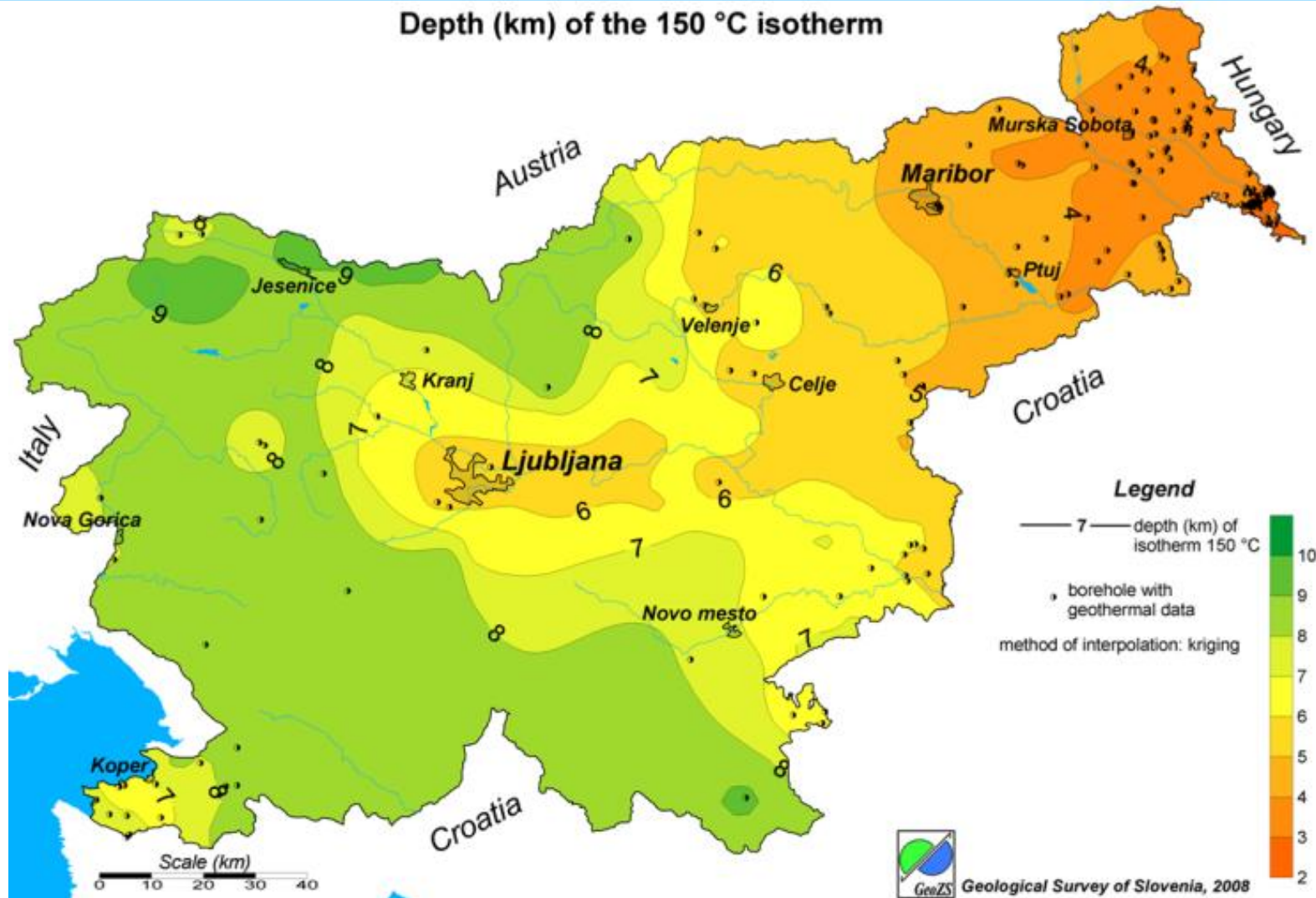
## *Workshop on the Danube Region Geothermal Concept (DanReGeotherm)*

*Budapest, 28 November 2013  
Geological and Geophysical Institute of Hungary*

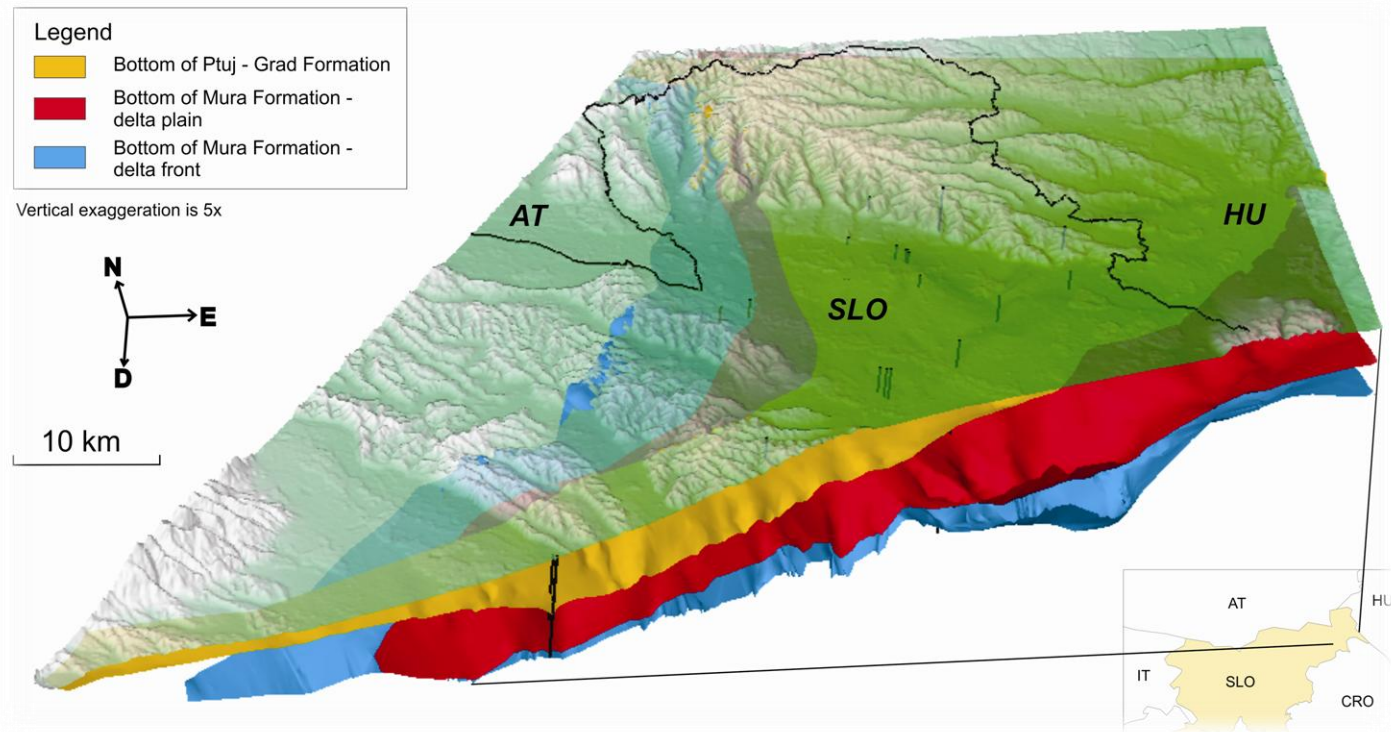
# Country update: SLOVENIA

mag. Andrej Lapanje  
Researcher  
Geological Survey of Slovenia

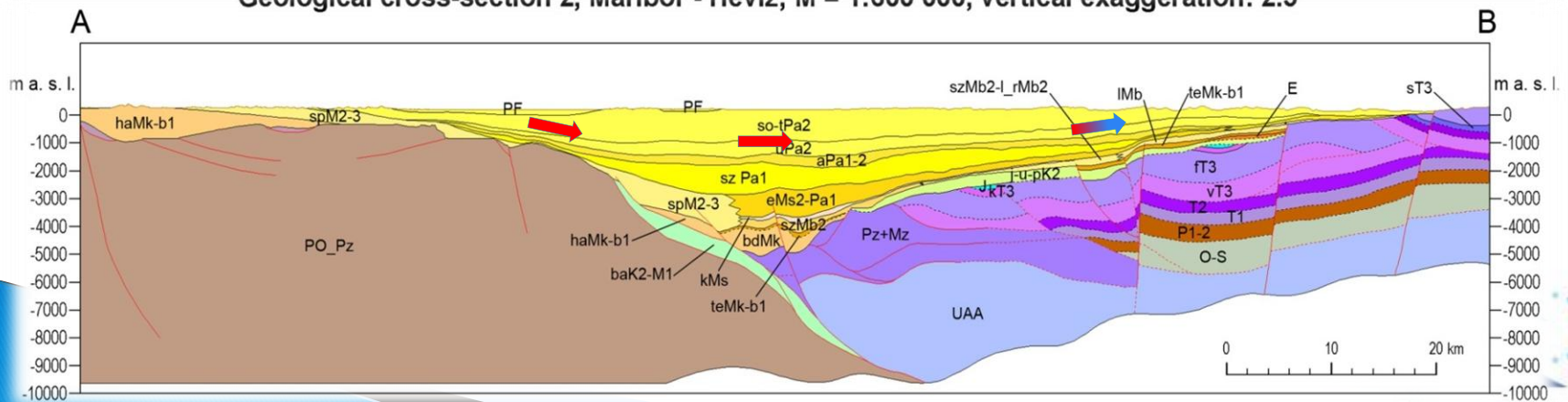
# Subsurface temperature conditions in Slovenia



# Main deep geothermal reservoirs in Slovenia



Geological cross-section 2, Maribor - Hévíz; M = 1:600 000, vertical exaggeration: 2.5





# Aquifers in sedimentary basins

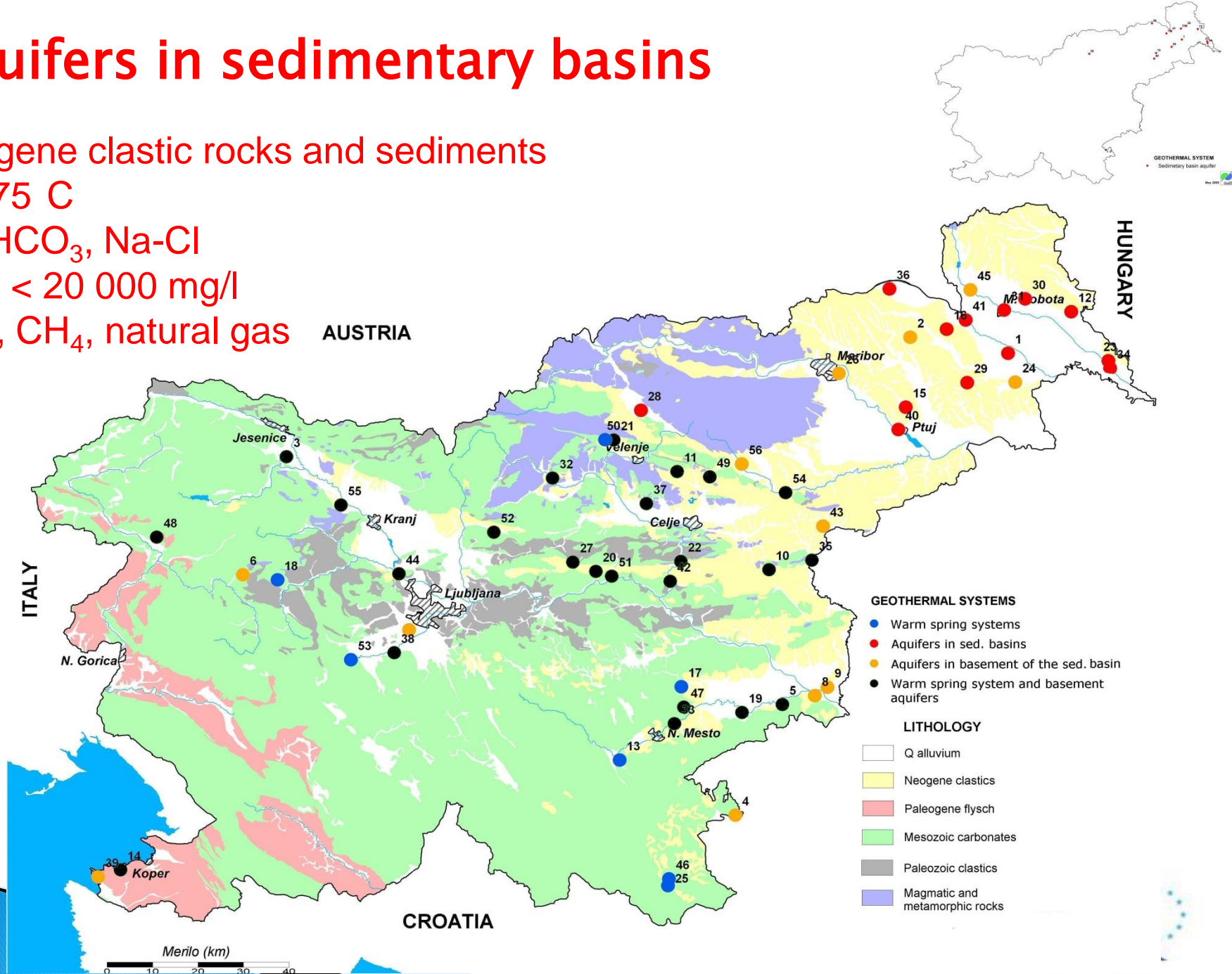
Neogene clastic rocks and sediments

$T < 75\text{ }^{\circ}\text{C}$

$\text{Na-HCO}_3$ ,  $\text{Na-Cl}$

$\text{TDS} < 20\,000\text{ mg/l}$

$\text{CO}_2$ ,  $\text{CH}_4$ , natural gas



# Basement aquifers beneath sed. basins

Fissured and karstified Mesozoic and Cenozoic carbonate rocks

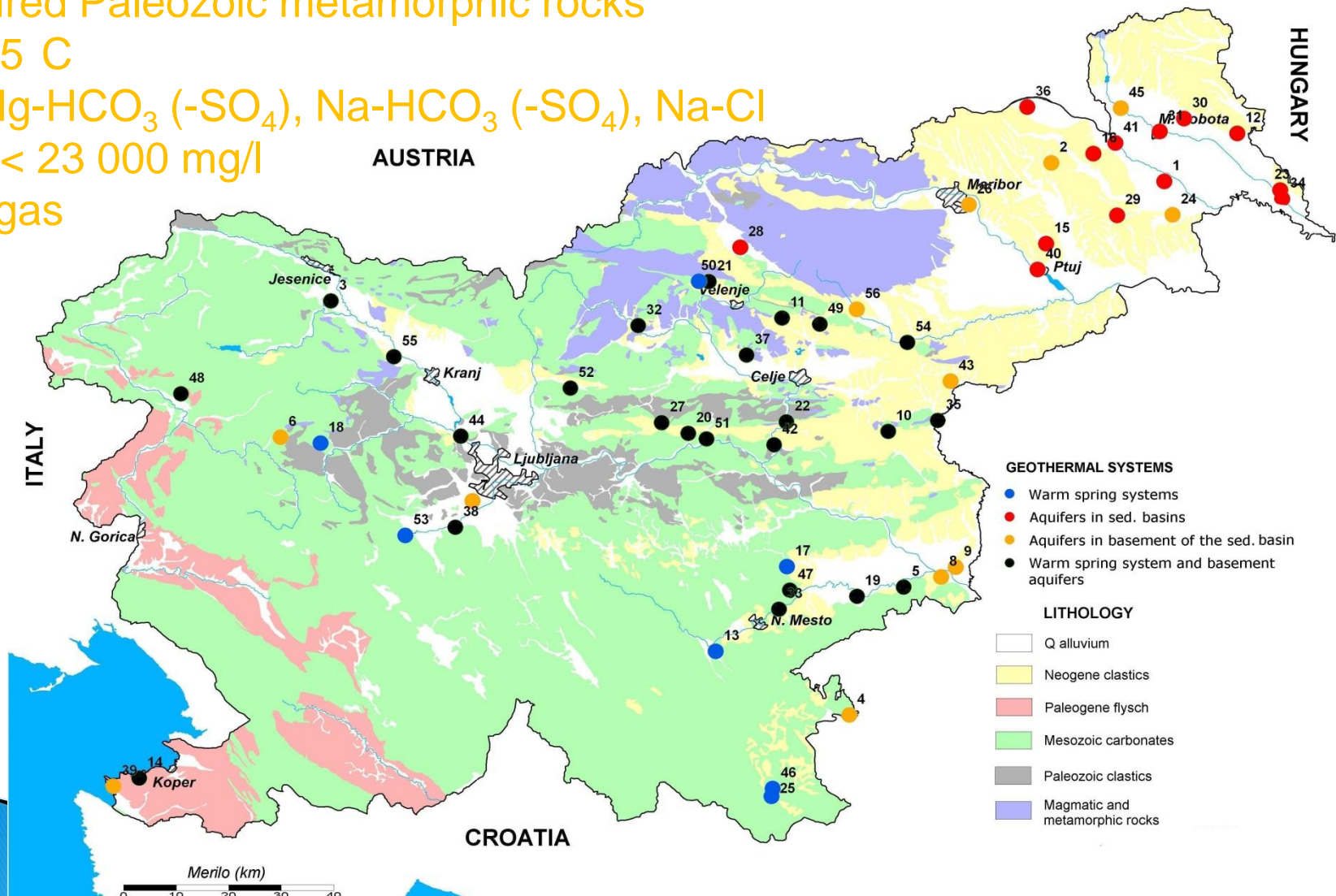
Fissured Paleozoic metamorphic rocks

$T < 85^{\circ}\text{C}$

$\text{Ca-Mg-HCO}_3$  ( $-\text{SO}_4$ ),  $\text{Na-HCO}_3$  ( $-\text{SO}_4$ ),  $\text{Na-Cl}$

$\text{TDS} < 23\,000\text{ mg/l}$

$\text{CO}_2$  gas





# Warm spring systems

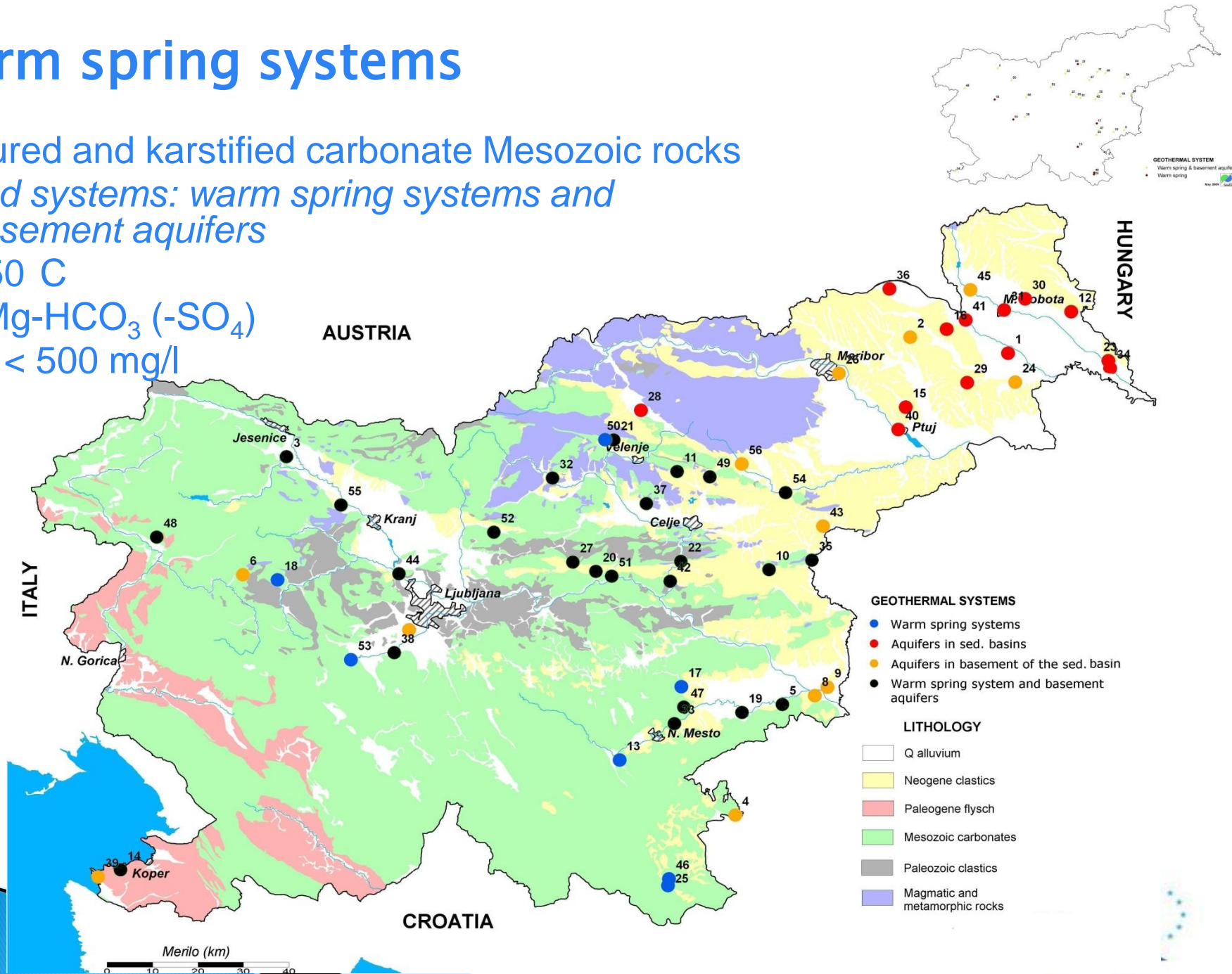
Fissured and karstified carbonate Mesozoic rocks

*Mixed systems: warm spring systems and basement aquifers*

$T < 50\text{ }^{\circ}\text{C}$

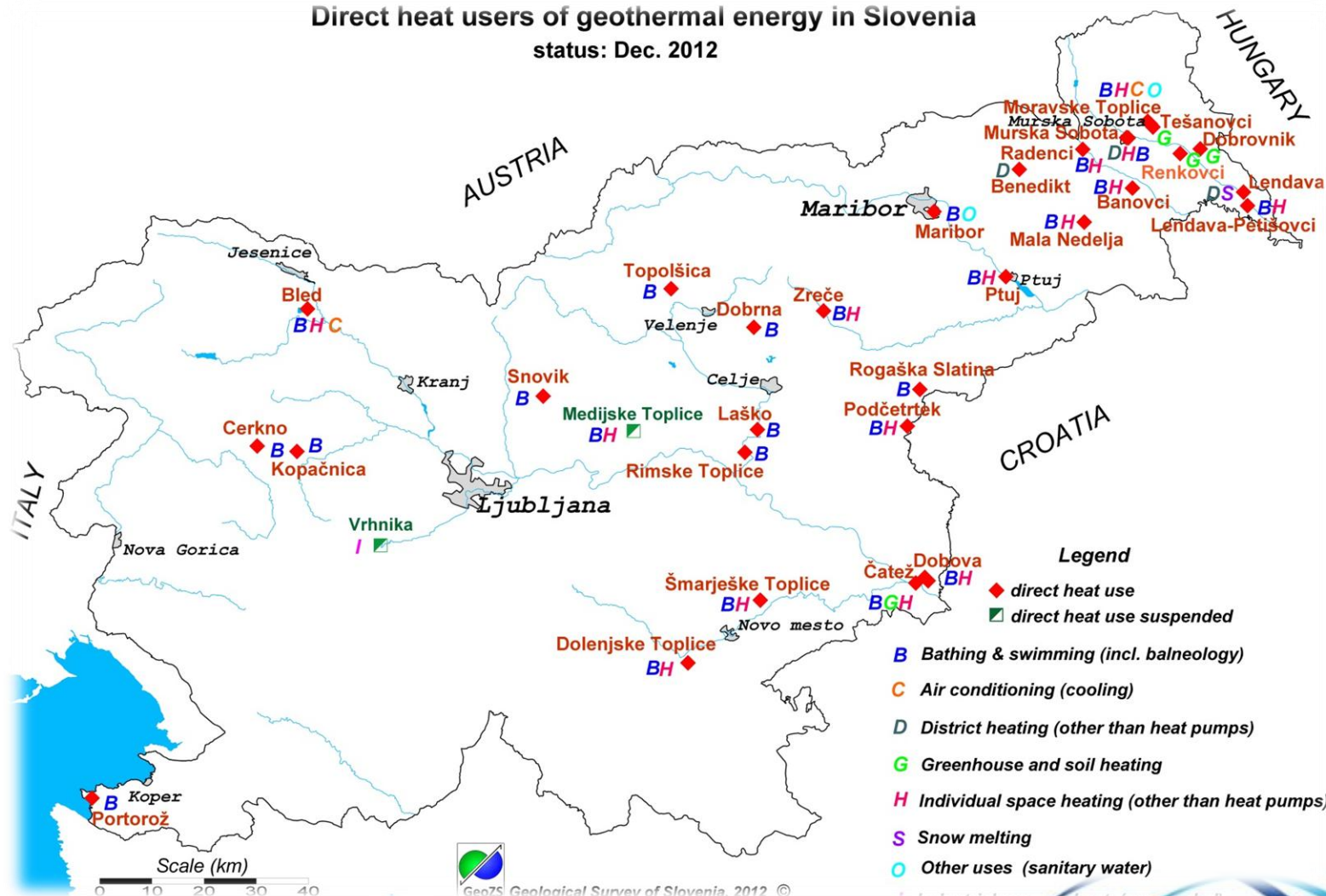
$\text{Ca-Mg-HCO}_3\text{ (-SO}_4\text{)}$

$\text{TDS} < 500\text{ mg/l}$

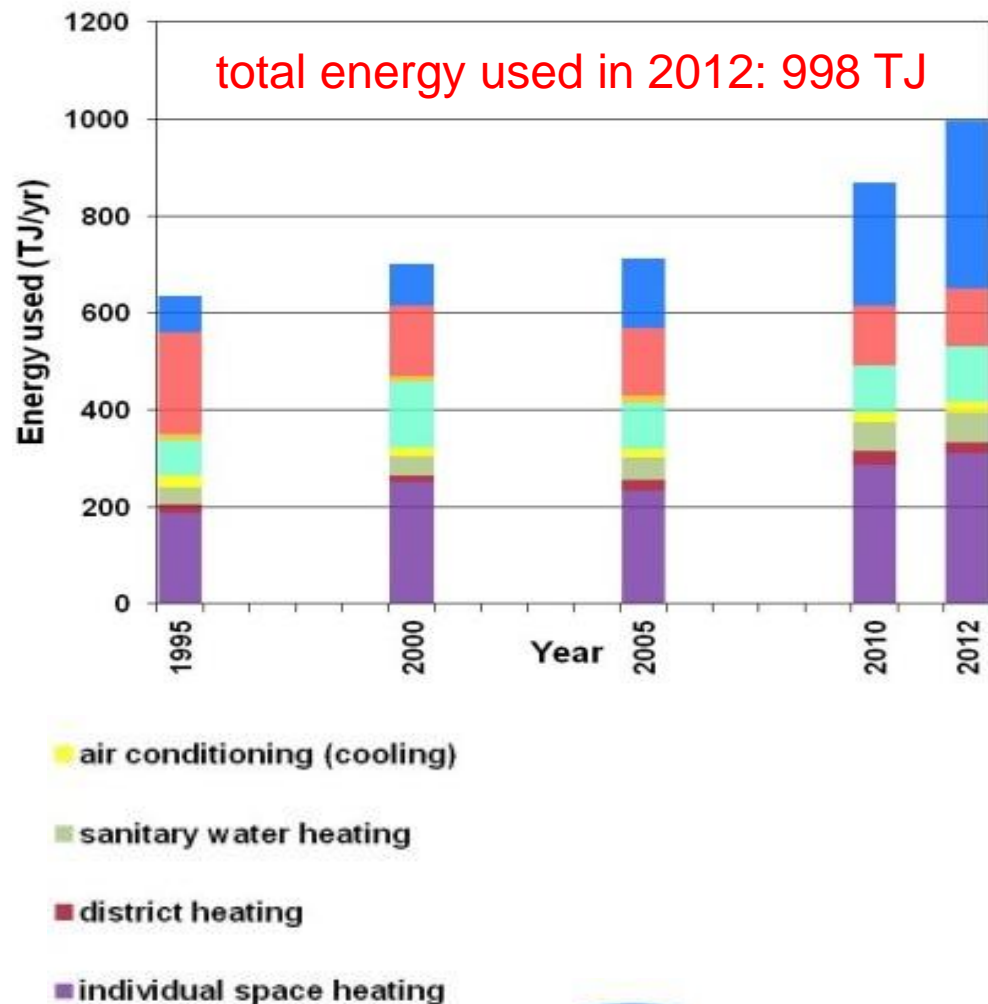
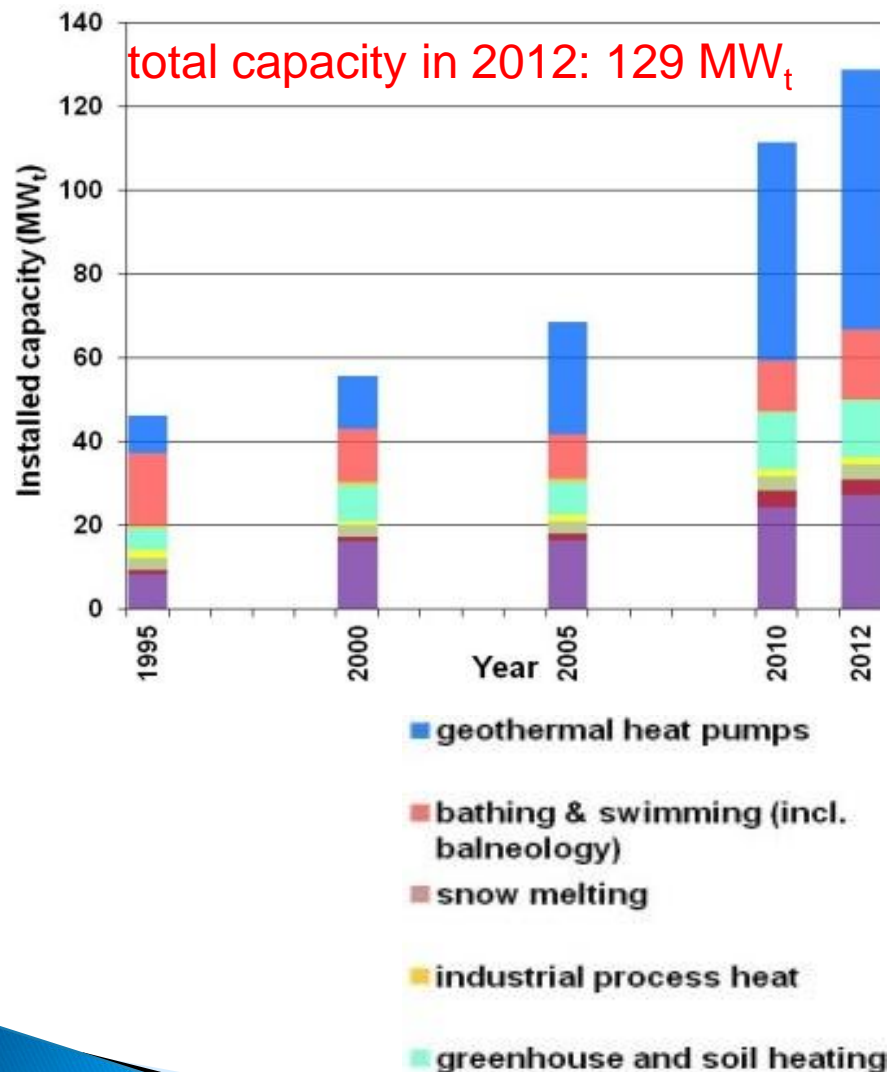


# Main types of utilization of geothermal energy

Direct heat users of geothermal energy in Slovenia  
status: Dec. 2012



# Trends in utilization of geothermal energy





# Plans for geothermal energy development in Slovenia

## Renewable energy action plan

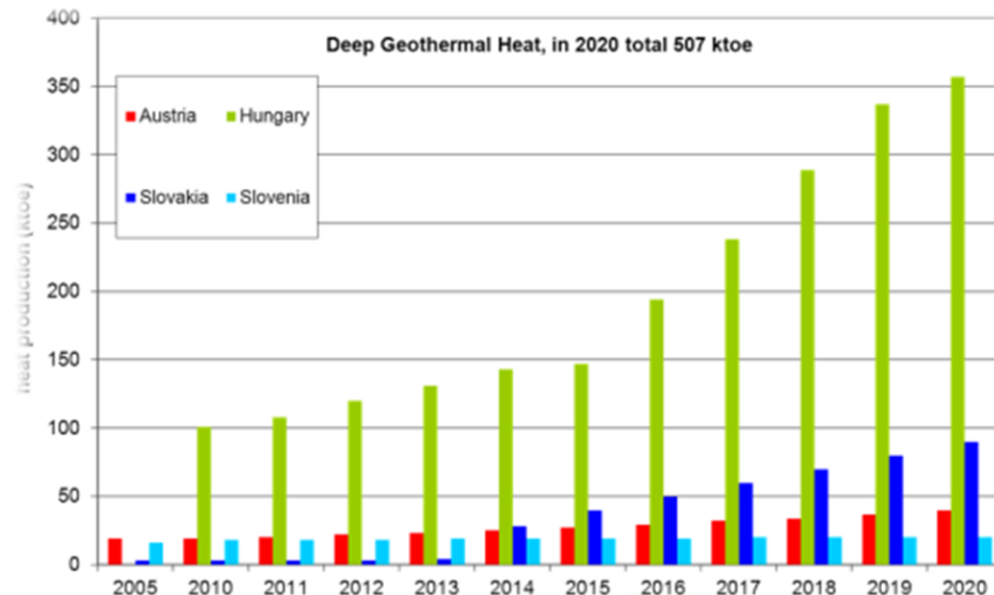
by 2020:

- increase of heat production from 1.11 to 3.42 PJ in 2020
- 0 MW geothermal electricity

## National energetic plan

by 2030:

- 25 MW of geothermal power



# Data policy

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We have existing geoscientific datasets available at Geological Survey of Slovenia

Except geophysics

Some data is public (EU projects)

Publicity is selected on well-to-well and data-type basis

# Main stakeholders of geothermal projects

