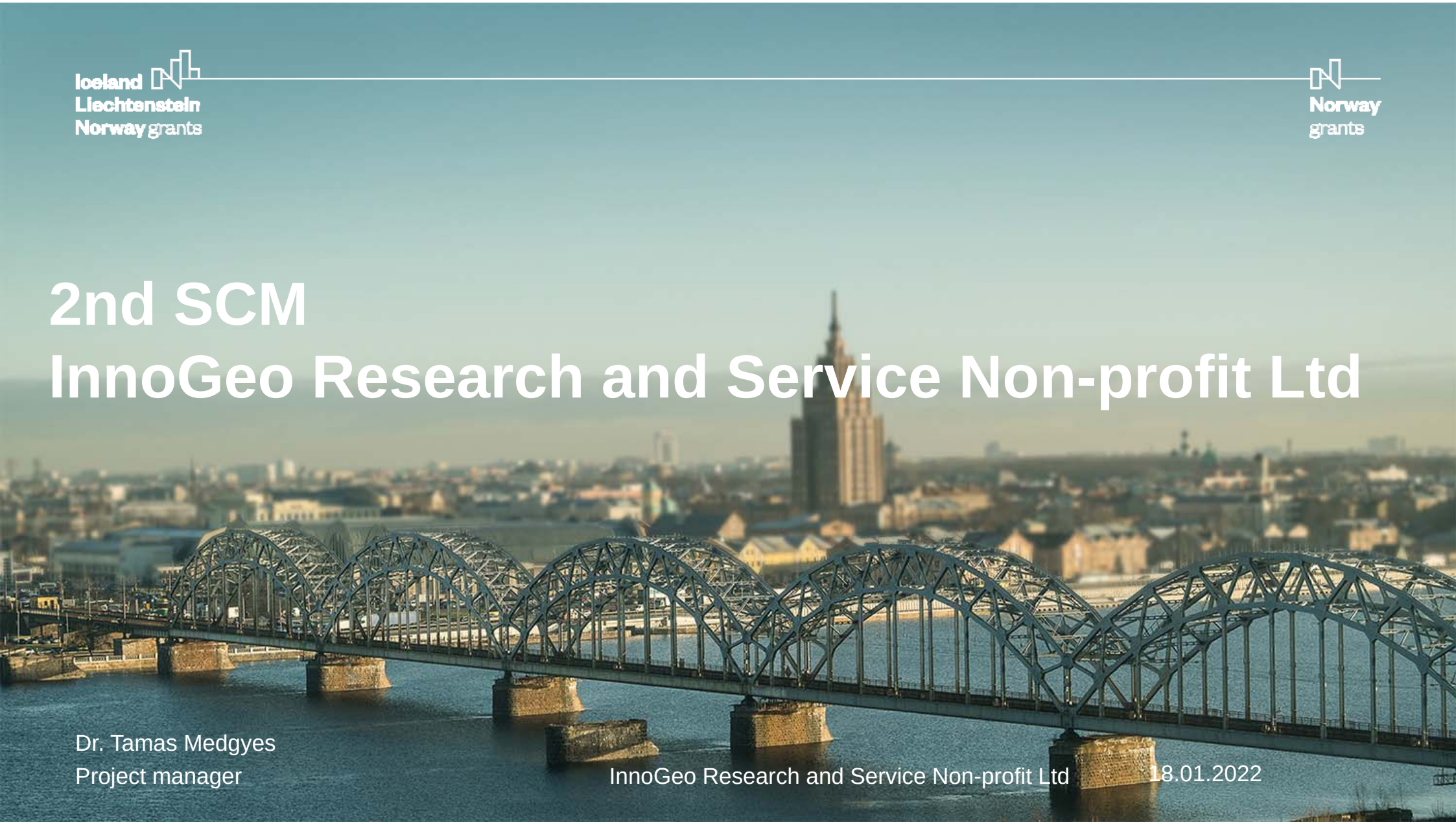

2nd SCM
InnoGeo Research and Service Non-profit Ltd

Dr. Tamas Medgyes
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et al.

InnoGeo tasks

Participates in	Leads
WP1: SCM'S, interim meetings	WP1: Partner level management
WP2: project website, FO seminars	WP2: Social media campaign
WP3: capacity building events in Norway, Iceland, joint stakeholder consultations in Poland, Slovakia	WP3: Development of orientation material for the Szeged site 1 joint stakeholder consulation in Szeged
WP4: Testing the model database	WP4: Research of existing datasets in Hungary (Szeged)
WP5: Developing the methodology	WP5: 1 technical study visit to Hungary
	WP6: Set-up of the Geothermal District Heating Service Hubs Developing the guidelines for system assessment by the GDHS

Progress so far

WP1: contracting, reporting, participation at SCM'S, interim meetings

WP2: data and images for project website, posts on social media platforms

WP3: Development of orientation material for the Szeged site has started

WP4: Research of existing datasets in Hungary (Szeged): 15+2 system datasheets submitted

WP5: Assisting the development of the methodology

and what's next

WP1: reporting for the 2nd period

WP2: FO seminars, whenever possible

WP3: Participation at capacity building events in Norway, Iceland, joint stakeholder consultations in Poland, Slovakia: whenever possible…
1 joint stakeholder consulation in Szeged (2023)

WP4: Testing the model database

WP5: Developing the methodology
1 technical study visit to Hungary (2023)

WP6: Set-up of the Geothermal District Heating Service Hubs
Developing the guidelines for system assessment by the GDHS

The Szeged case study

InnoGeo is closely associated with switching the district heating of Szeged to geothermal. This robust development provides bacground to our project activities.

The municipally owned District Heating Company of Szeged supplies heat and domestic hot water to 27,256 apartments and 433 public buildings in Szeged, Hungary – a city of 162,593 inhabitants near the Hungarian-Serbian-Romanian tri-border.

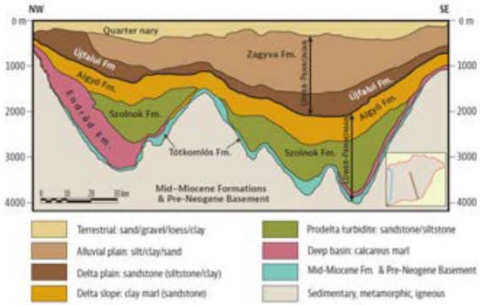
In 2015 the City Hall appointed a new expert team to manage SZETAV and to initiate the integration of renewables into district heating. The aim was to reduce the emissions of the gas-powered heating plants, and to improve the economy of the system with the help of renewables.

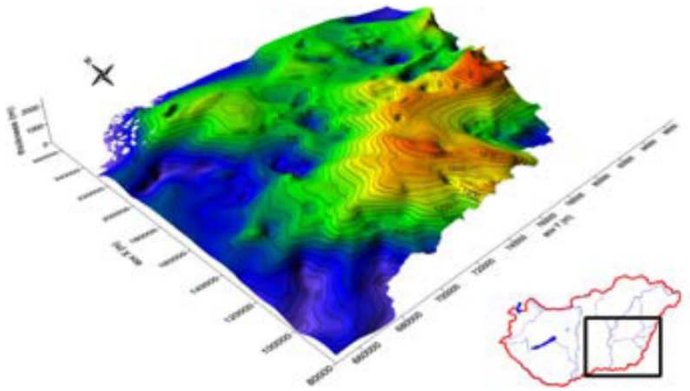
There are more than 250 geothermal DH systems in place in Europe, with capacities ranging between 1-50 MW, and geothermal energy systems are widespread in the Southern Great Plain region too. These systems are based on favourable medium enthalpy resources.

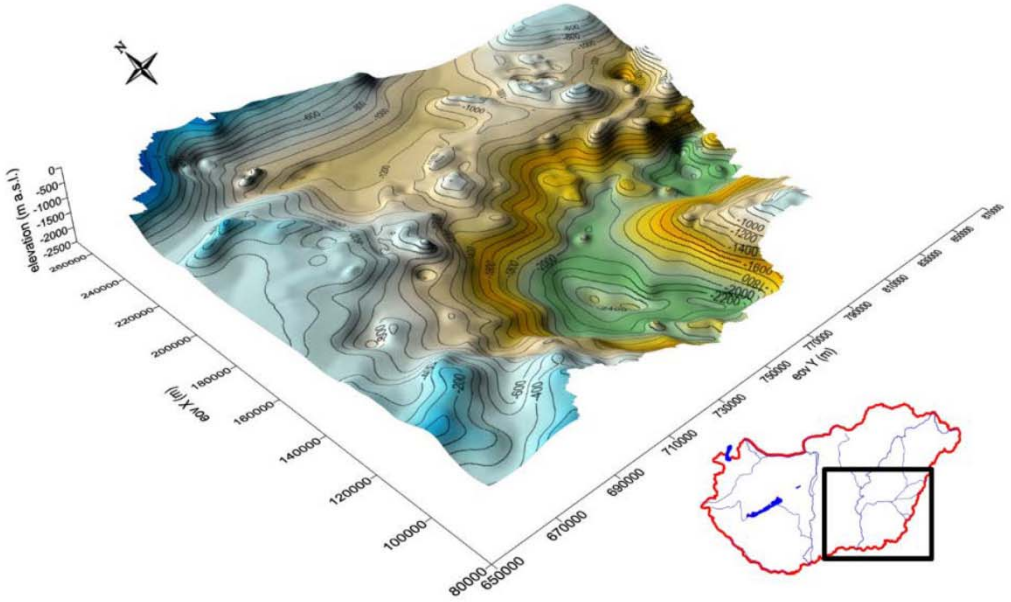
The Szeged case study

Circumstances 1: geothermal potential

- • Thickness of the thermal aquifer: 1,800
- 2,000m
- • Geothermal gradient: 150% of the world
- average
- • Average well yields: 90 oC, 70m3 /hour
- • Reservoir well researched by CH industry
- • Already operating geothermal systems, SPA's
- in nearby towns
- • Two privately owned geothermal heating
- circuits in Szeged



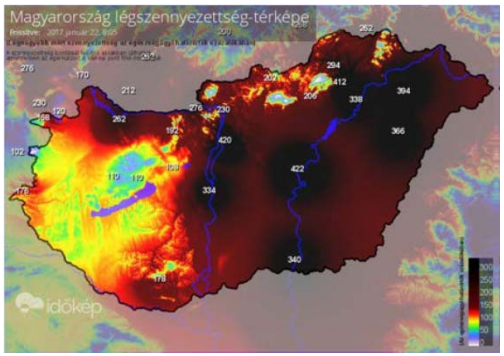




The Szeged case study

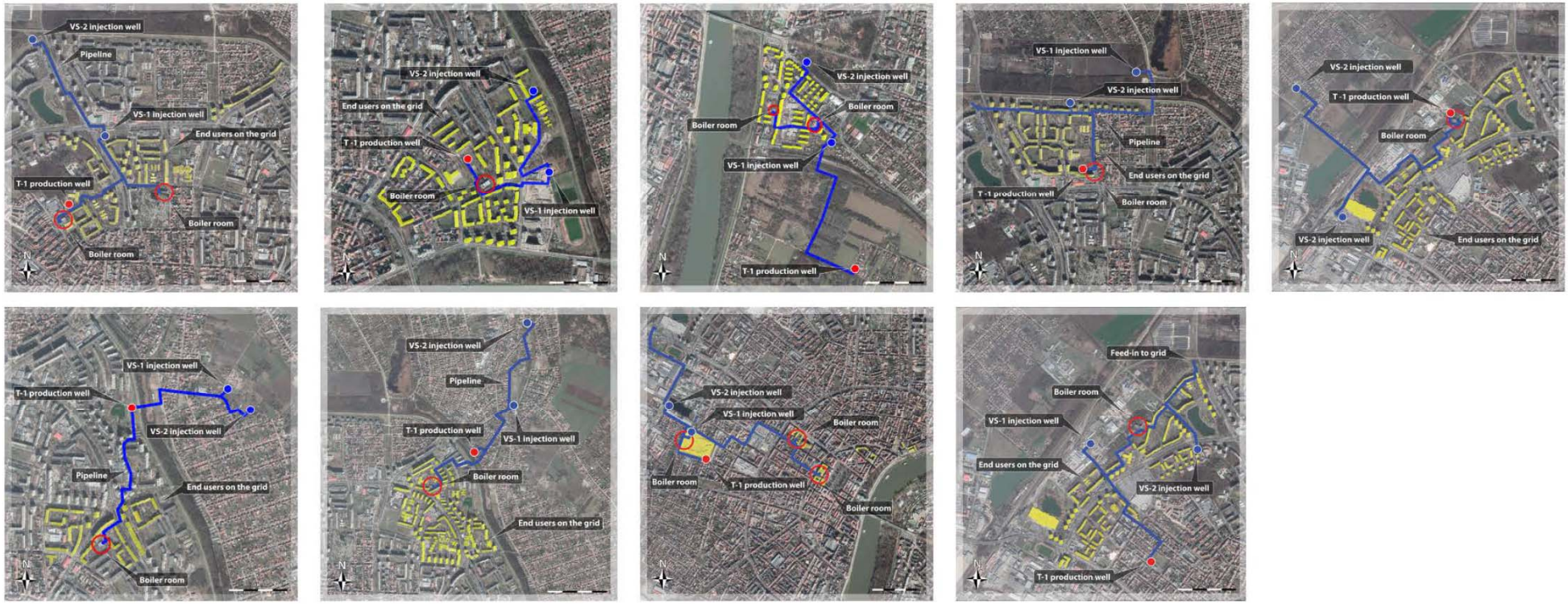
Circumstances 2: heat-market, energy supply, DH infrastructure, air quality

- • 28,000 households supplied by DH –
- another 28,000 not
- • Numerous near-crisis gas supply situations
- in recent years – time to look for new
- resources
- • Bad air quality throughout winter – need for
- green energy pronounced among the public
- • Making Szeged the „greanest” city in
- Hungary – a political agenda of the City Hall
- (electric public transport, geothermal DH,
- planting trees)



The Szeged case study

Introducing geothermal to 20 of the 23 heating circuits in 9 projects



The Szeged case study

Within the framework of the Szeged project 1,700 - 2,000 m deep thermal wells are drilled in the Upper Town, in Odessa housing estate, in the northern part of the city, in Tarján and in Rókus, to produce 70 m^3/h thermal water at 90°C. According to the plans, with the help of deep geothermal energy a total of nearly 20 million m^3 of natural gas would be replaced with 600,000 GJ of geothermal energy per annum, reducing the greenhouse gas load of the city of Szeged by 35,000 tons/year, improving air quality and security of supply. The 70-million-euro development is funded from ERDF sources (under the KEOP scheme) and private investments.

Geothermal in the DH will result in saving 595,887 GJ/year (82%) or 17,525,718 m^3/year (68%) natural gas, provide 536,298 GJ/year thermal energy in district heating and 34,699 t/year (65%) CO_2 emission saving. The project is implemented in 9 instalments, that is 9 geothermal heating circuits (extraction – production well triplets) are being constructed, and these will provide heat energy to 15 heating circuits in the DH of Szeged.

Iceland Liechtenstein Norway grants

Norway grants

Thank you!

www.eeagrants.org

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