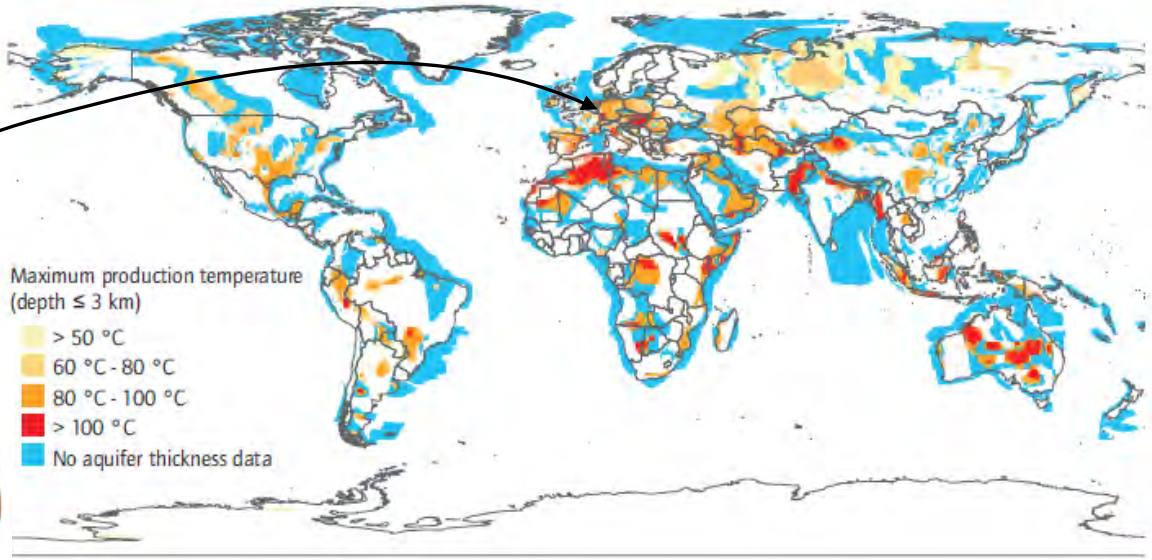
TNO innovation for life

Geothermal data repository, resource assessment and exploration:

Open data, public models and transparancy in methods are key to exploration success

Figure 3: World map of deep aquifer systems



IEA roadmap geothermal energy

Note: World map of deep aquifer systems modified from (Penwell, 1984). Overlain are expected average production temperatures for a depth interval starting at excess temperatures of 40°C relative to surface, and ranging to a maximum depth of 3 km. The map is based on heat flow data from Artemieva (2006) and sediment thickness information from Laske and Martens (1997). Local performance strongly depends on natural heat flow conditions and surface temperature.

Source: TNO, www.thermogis.nl/worldaquifer.

Geological survey of the netherlands
Applied research geo-energy

TNO innovation for life

50 bln € invested by oil&gas
Open data policy
public subsurface models

OSG NL Olie- en Gasportaal

- Boreholes
- Seismic surveys
- Fields
- Production
- Infrastructure
- Licences
- Publications and Data sets
- Legislation
- Administrative procedures
- Fees, taxes and state participation
- Seismicity and subsidence
- Contacts

- Links
- Home
- Disclaimer
- Contact
- (In het Nederlands)

Welcome to the NL Oil and Gas Portal

This site provides information about oil and gas exploration and production in the Netherlands and the Dutch sector of the North Sea continental shelf.

It aims to help users access information furnished by the Dutch government in an easy, comprehensible fashion.

This site was produced at the request of the Dutch Ministry of Economic Affairs, Agriculture and Innovation and is being managed by TNO, *Geological Survey of the Netherlands*.

Recent changes

We keep this site continually up-to-date. Click here for an overview of recent changes.

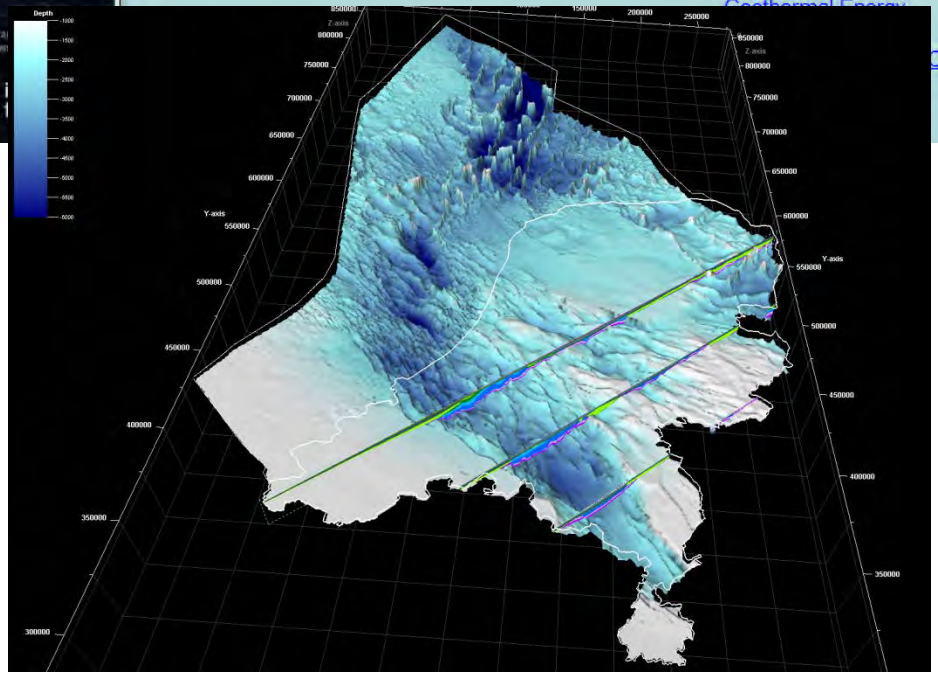
Other topics

Salt production

Underground gas storage

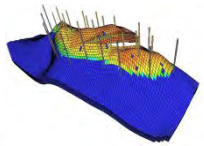
CO2

NL one of few countries
With public data access
to almost all E&P data



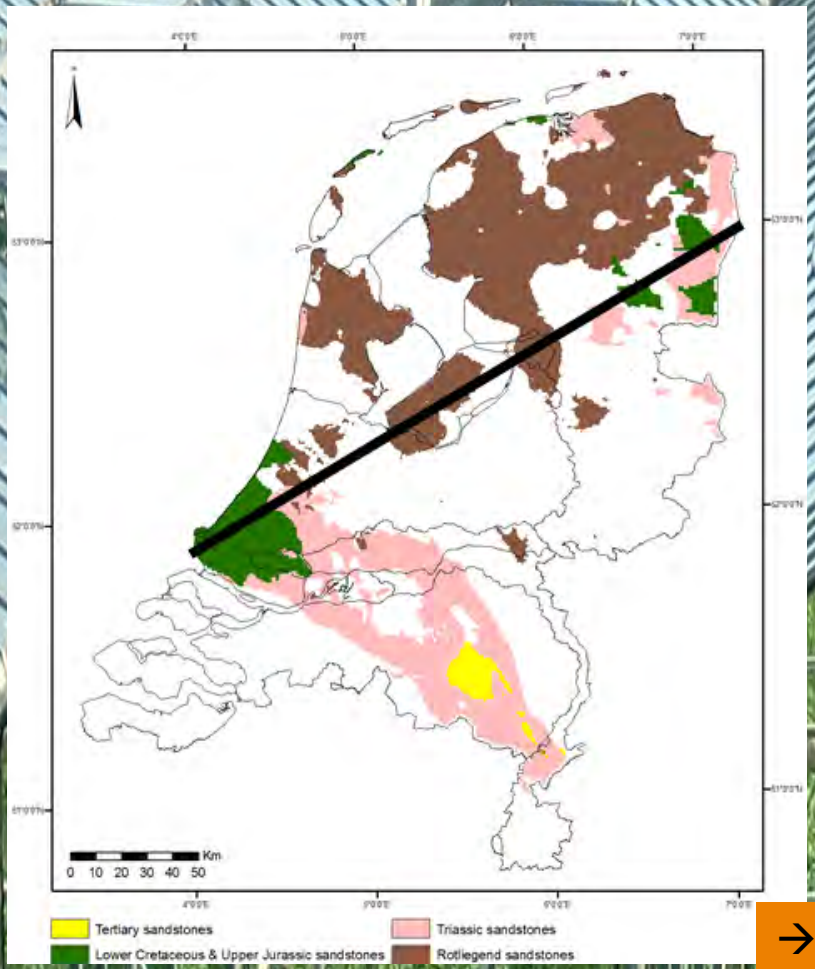
>20 years experience
State of the art 3D
subsurface mapping

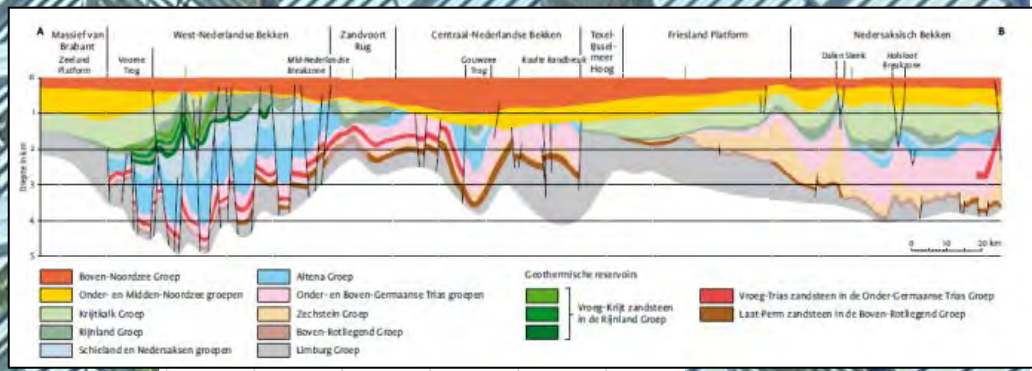


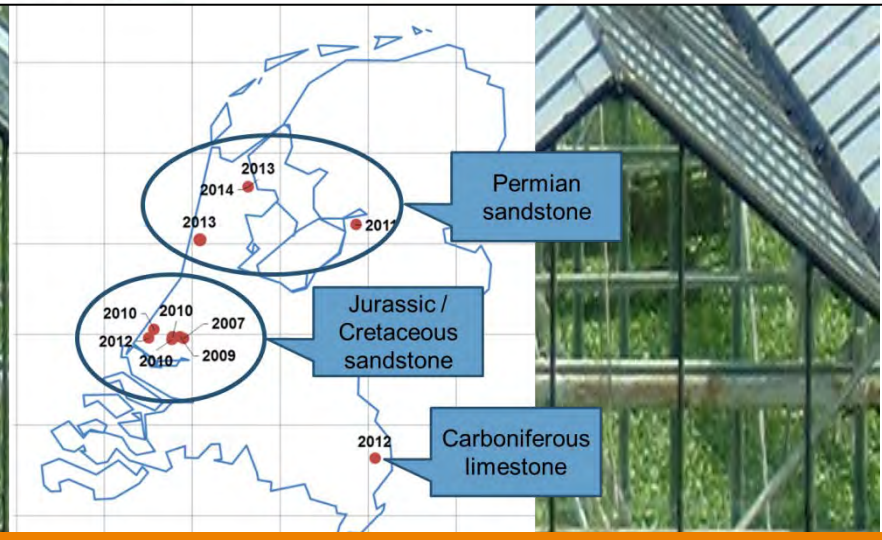


TNO innovation for life

Geothermal Energy in the Netherlands; key to market uptake is harnessing deep subsurface data and information: www.thermogis.nl



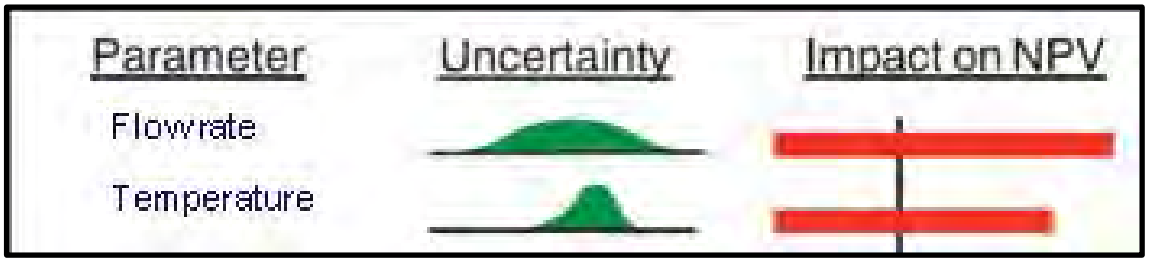


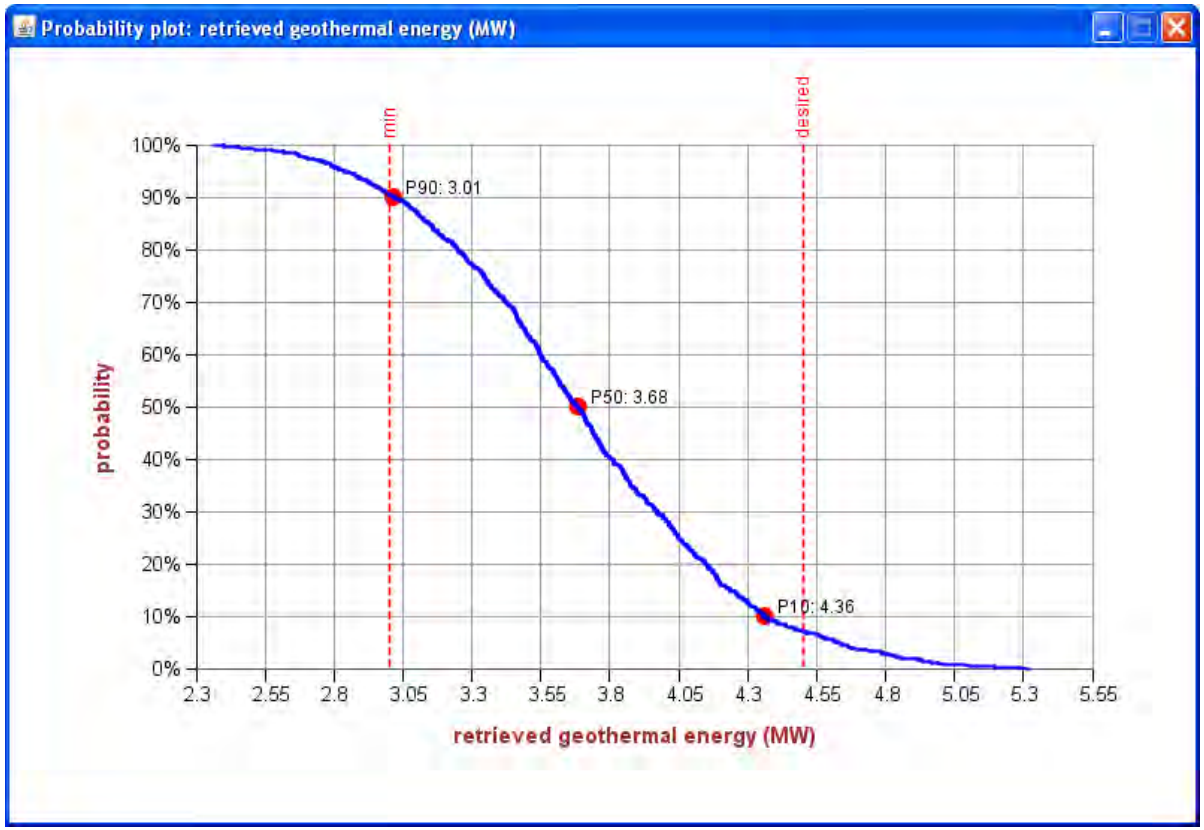


→boom in doublet systems (year) for green house heating


TNO innovation for life

Public tools for performance assessment
→ robustness, transparancy
→ Reduction mning risk





>90% success rate in drilling
>feed-in tariff, bankability

Promotes **open innovation (PPP)**
for adressing performance challenges

ITC
UNIVERSITY OF TWENTE.

if
DNV·GL
Well Engineering Partners

TU Delft

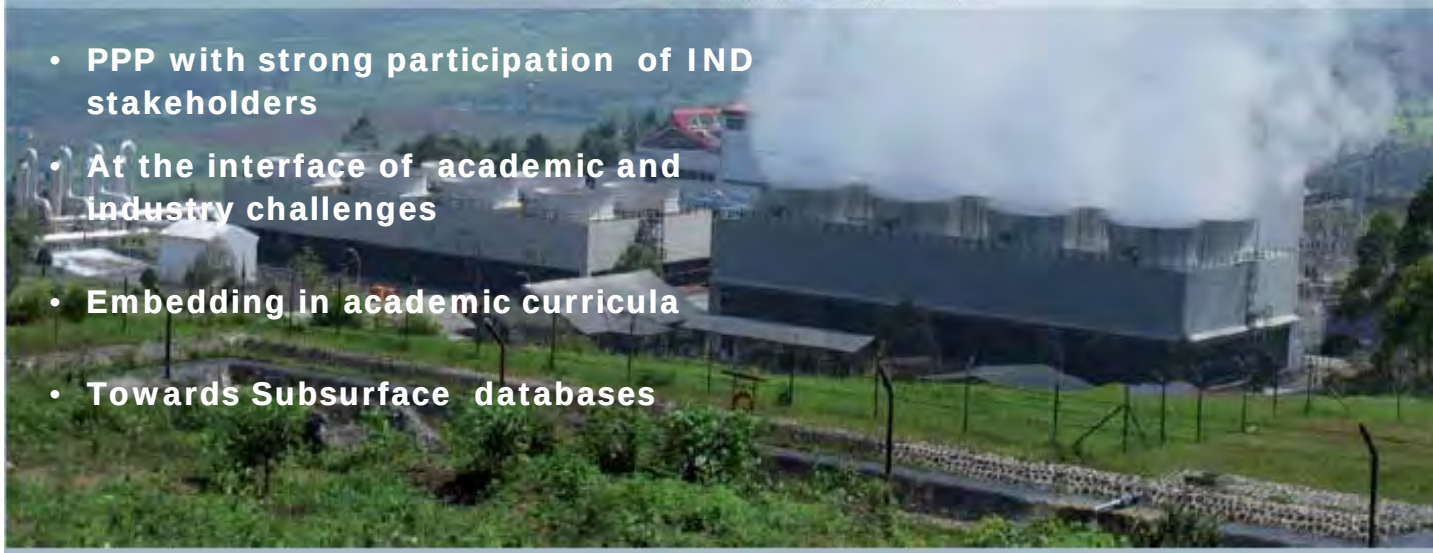
University of Utrecht

TNO
WWF

Geothermal Capacity Building Programme

Indonesia-Netherlands (GEOCAP)

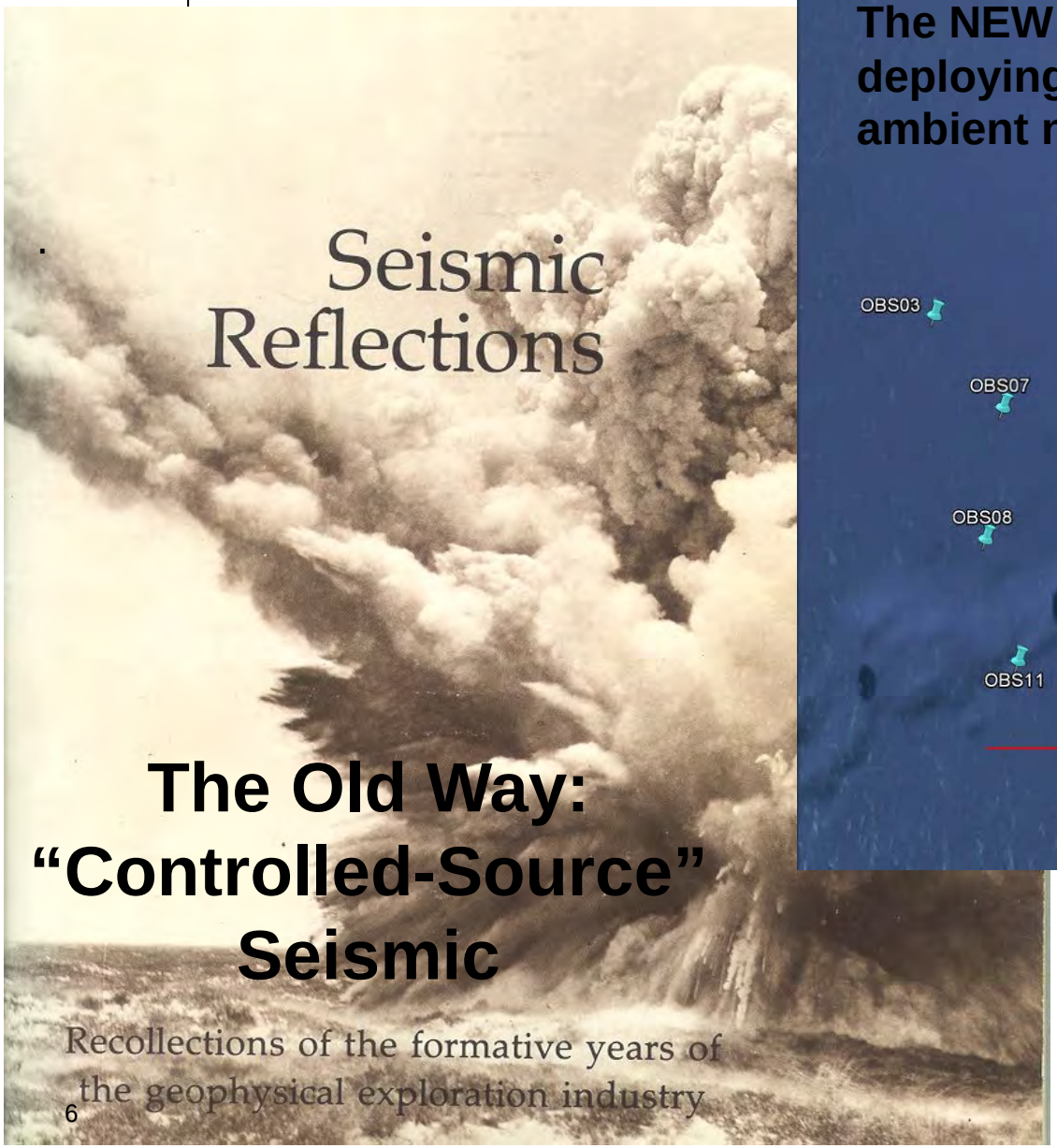
An international collaboration between Indonesian and Dutch entities with the goal to develop intimately linked geothermal programmes for education and training, research and subsurface databases.
This Public-Private-Partnership blends the capabilities of Universities, Knowledge Institutes and Industry Partners to reach the common goal of supporting the Government of Indonesia in their quest to increase utilization of their geo-energy resources.



- **PPP with strong participation of IND stakeholders**
- **At the interface of academic and industry challenges**
- **Embedding in academic curricula**
- **Towards Subsurface databases**

www.geocap.nl

GEOCAP
Geothermal Capacity Building Program Indonesia • Netherlands



The Old Way: "Controlled-Source" Seismic

The NEW Way: "Passive" Seismic, deploying natural seismicity and ambient noise