

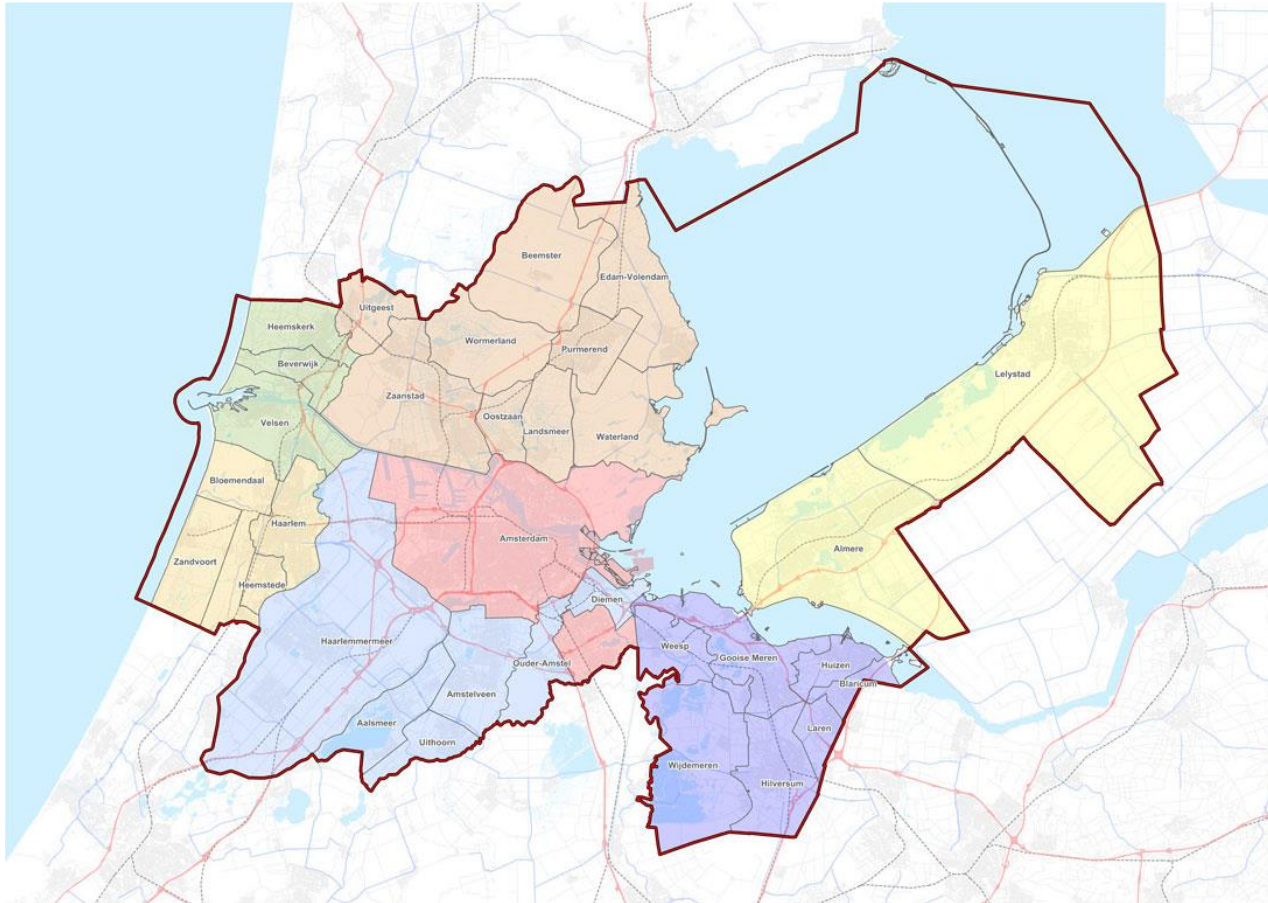
Geothermal development Metropolitan Region Amsterdam

(project versnelling aardwarmte MRA)

October 15, 2021

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- 32 municipalities
- 2 provinces
- 1.1 mln dwellings
- Cities densely populated
- Nature reserves
- Geological 'white spot'

Position of geothermal in MRA

- Only 'along the edges' (Heemskerk, initiatives in south & north)
- Part of the mix of future sustainable sources, with residual heat & aquathermia etc.
- For district heating (built environment) and greenhouses
- Role of geothermal is uncertain
 - Lack of geological data, so potential largely unknown
 - Mining law centralises permitting procedures; local government wants to be 'in control' to drive the 'heat-transition'
 - Huge 'start-up costs' for project-developers

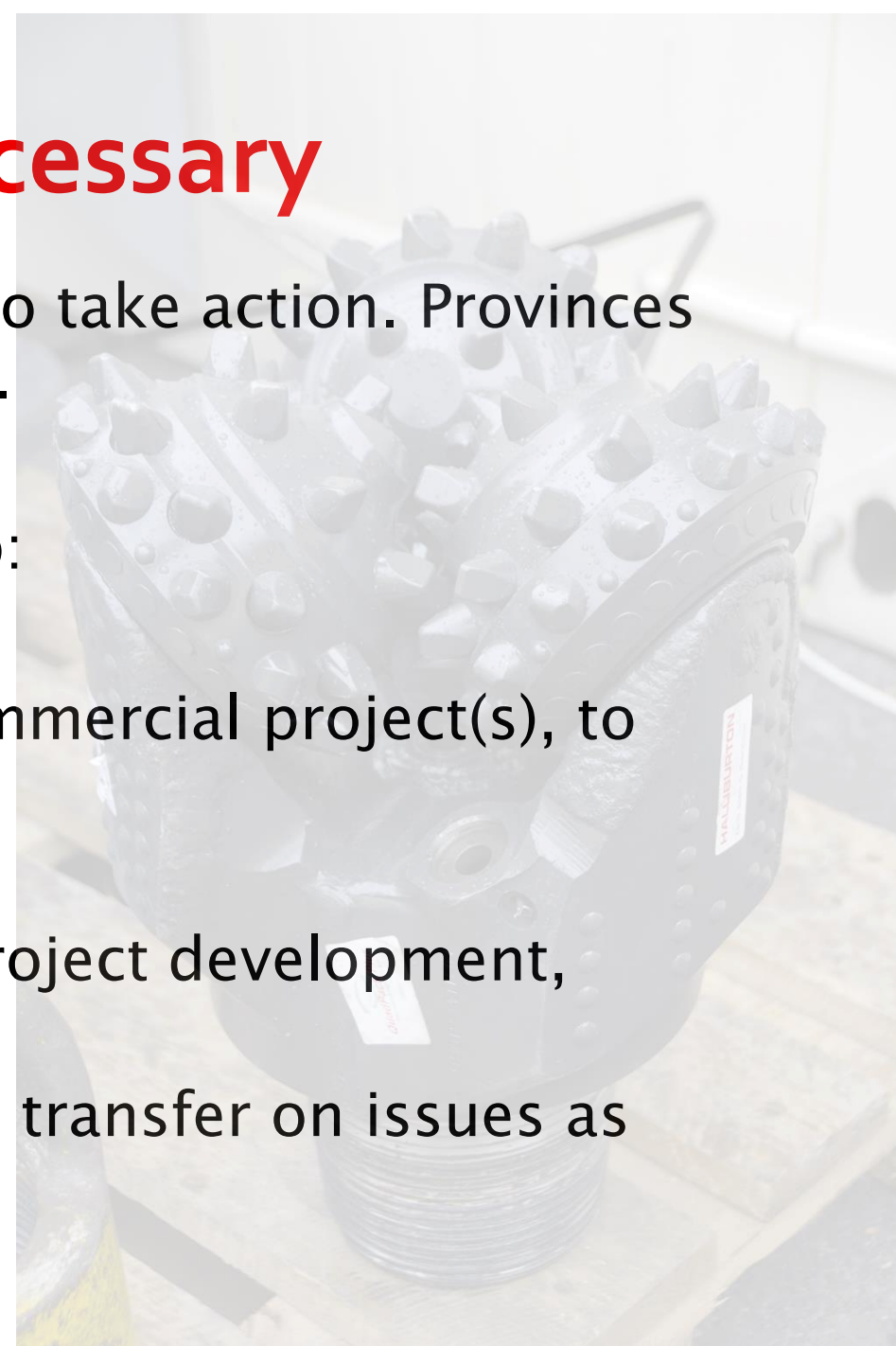
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‘Market failure’ justifies local government to take action. Provinces North-Holland and Flevoland took initiative.

Acceleration project with small team set up:

- Provide subsurface data
- Provide additional guarantee for first commercial project(s), to generate more data
- Promote knowledge exchange
 - Inform relevant parties about geo-project development, mining law
 - Enable knowledge development and transfer on issues as public involvement
 - Data –exchange and co-operation



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Subsurface data: Seismic research



Funding:
Blue - National
Green –
Provinces

Results
available:
Early 2022

Public data &
Interpretation
for laymen:
Mid 2022

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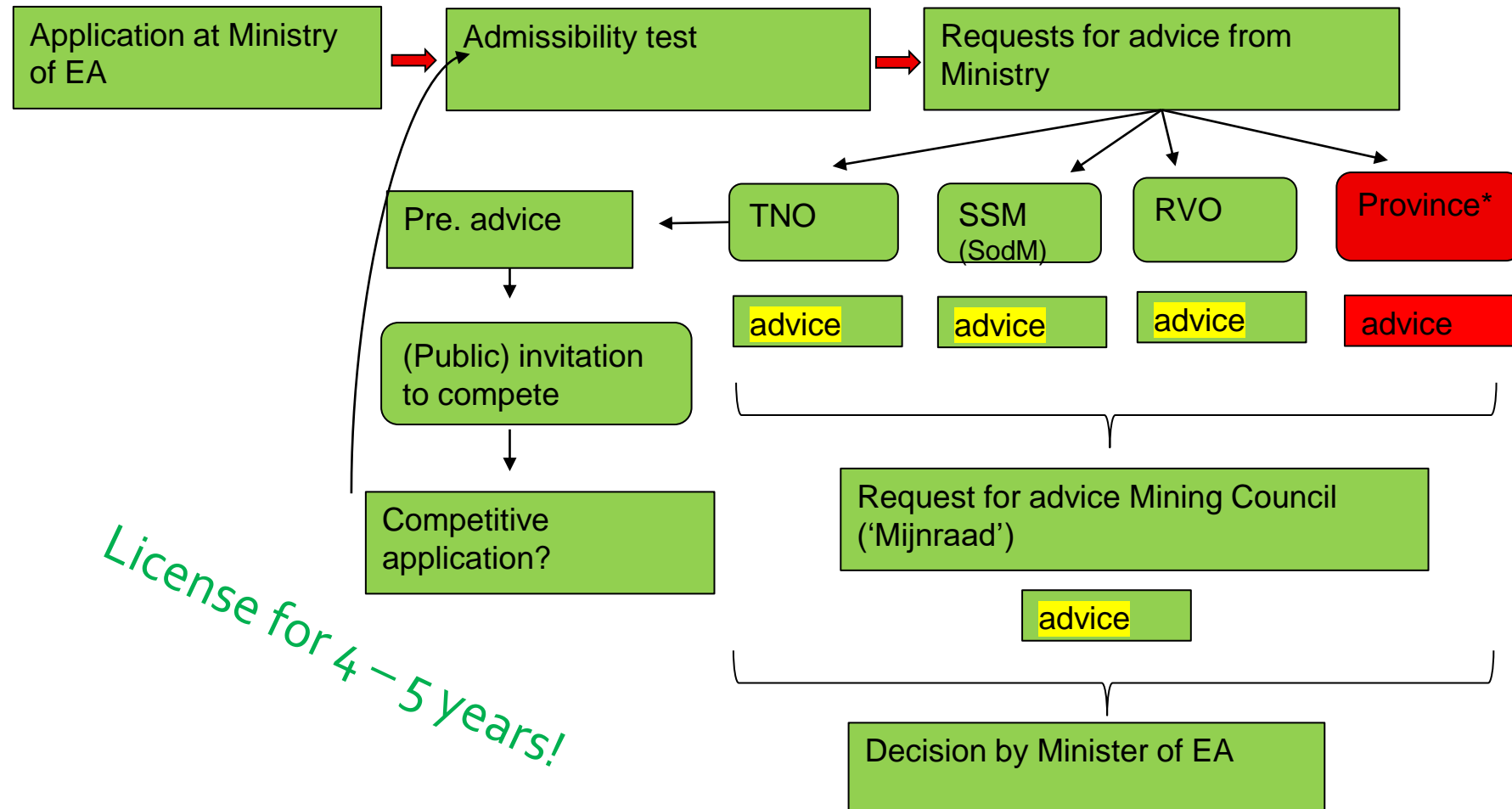
Position of local government

Responsible for the energy (heat) transition, as agreed upon in the Climate Agreement (2019).

- *Will the subsurface be monopolised by parties I do not know?*
- *How can efficient use and a fair price be guaranteed?*
- *What is my role in finding a location acceptable for my inhabitants?*
- *(How will the new Mining Law improve my position?)*

Webinars, 1-1 discussions, presentations in city councils and i.a. 'guidelines for local policies on geothermal energy'

Example: exploration license



* co-ordinating input from municipalities and water authorities

metropool regio amsterdam **Permits**



Multiple project-initiatives already underway:

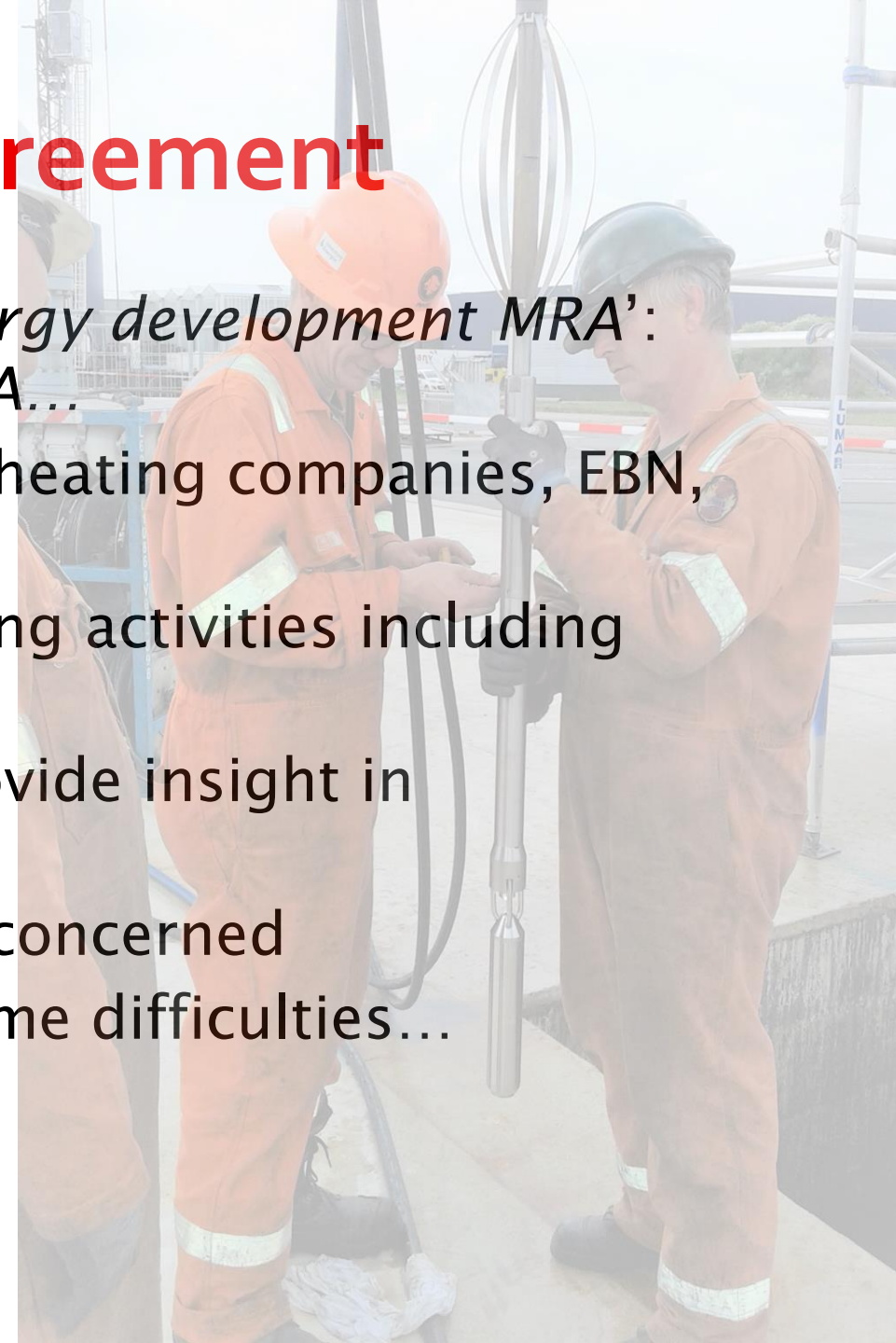
- Private parties only
- Private and public parties

Some focus on build environment, some on greenhouses

Green = exploration

Purple = production

- *‘Common principles for geothermal energy development MRA’:*
aka: *Accelerating geothermal in the MRA...*
- 2 provinces, 7 municipalities, 2 district heating companies, EBN, 7 project developers
- Share information/ knowledge, combining activities including lobby
- Roadmap, to align expectations and provide insight in bottlenecks
- Provide/align information to all parties concerned
- (Mentally) support each-other to overcome difficulties...



To summarise....

It's all about enabling

- Governments to be in control, about something they understand
- Developers to understand local dynamics, and take the appropriate position
- District heating companies to achieve their sustainability goals

Via

- Data, data, data...
- Information and usage of the legal framework
- Putting them together in a safe (non-binding) environment

**Any questions or
suggestions?**

