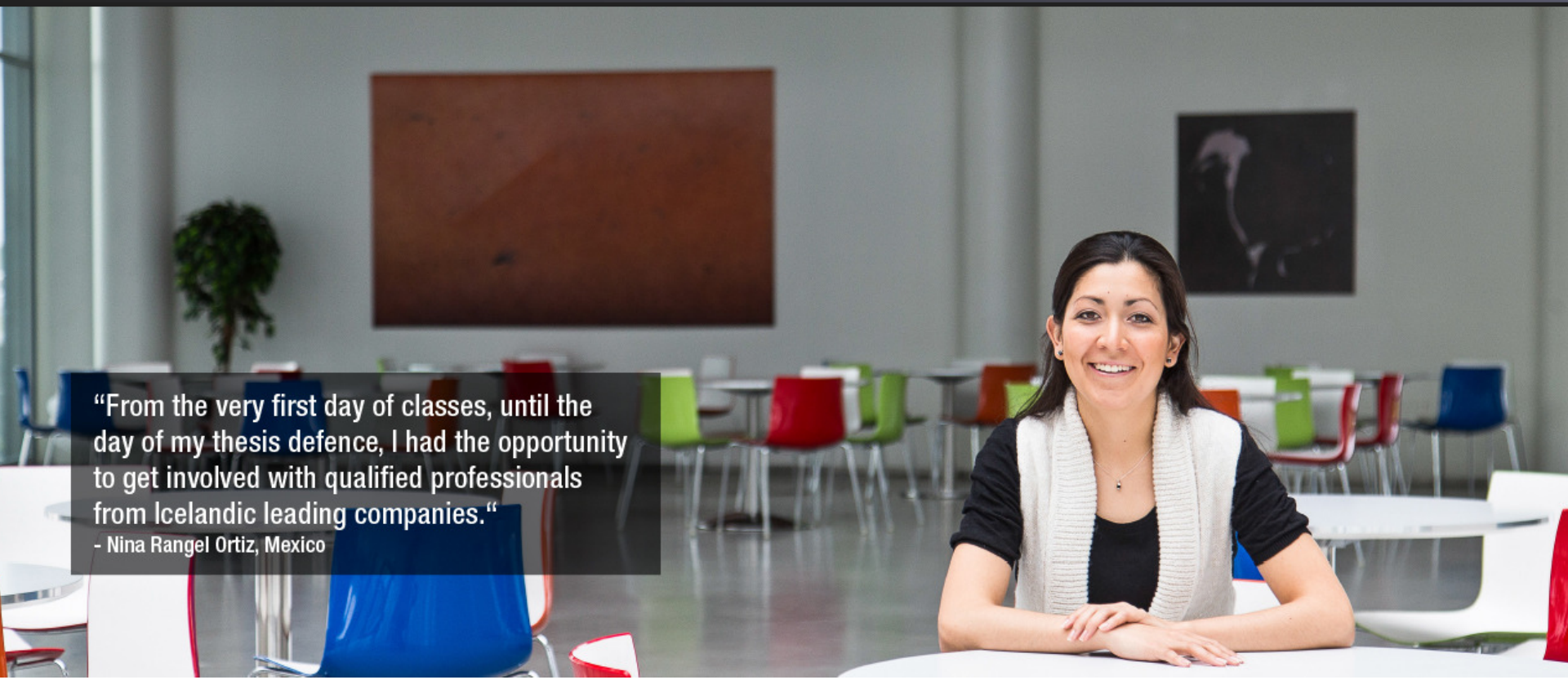
IMPLEMENTING POLICIES
ICELAND'S STORY AND THE ROLE OF EDUCATION



Halla Hrund Logadóttir,
Director Iceland School of Energy
halla@ru.is

ICELAND SCHOOL OF ENERGY
REYKJAVIK UNIVERSITY

ICELAND SCHOOL OF ENERGY:
OUR APPROACH

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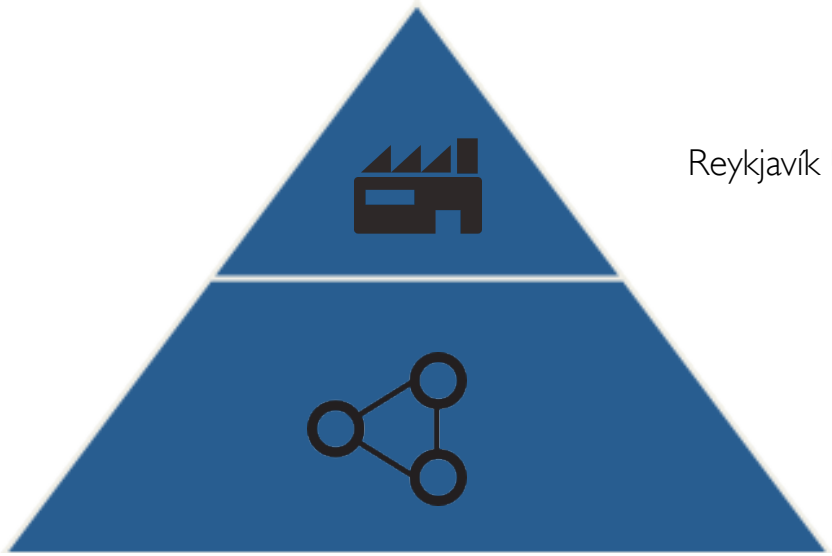
Reykjavík University, Reykjavík Energy and ISOR

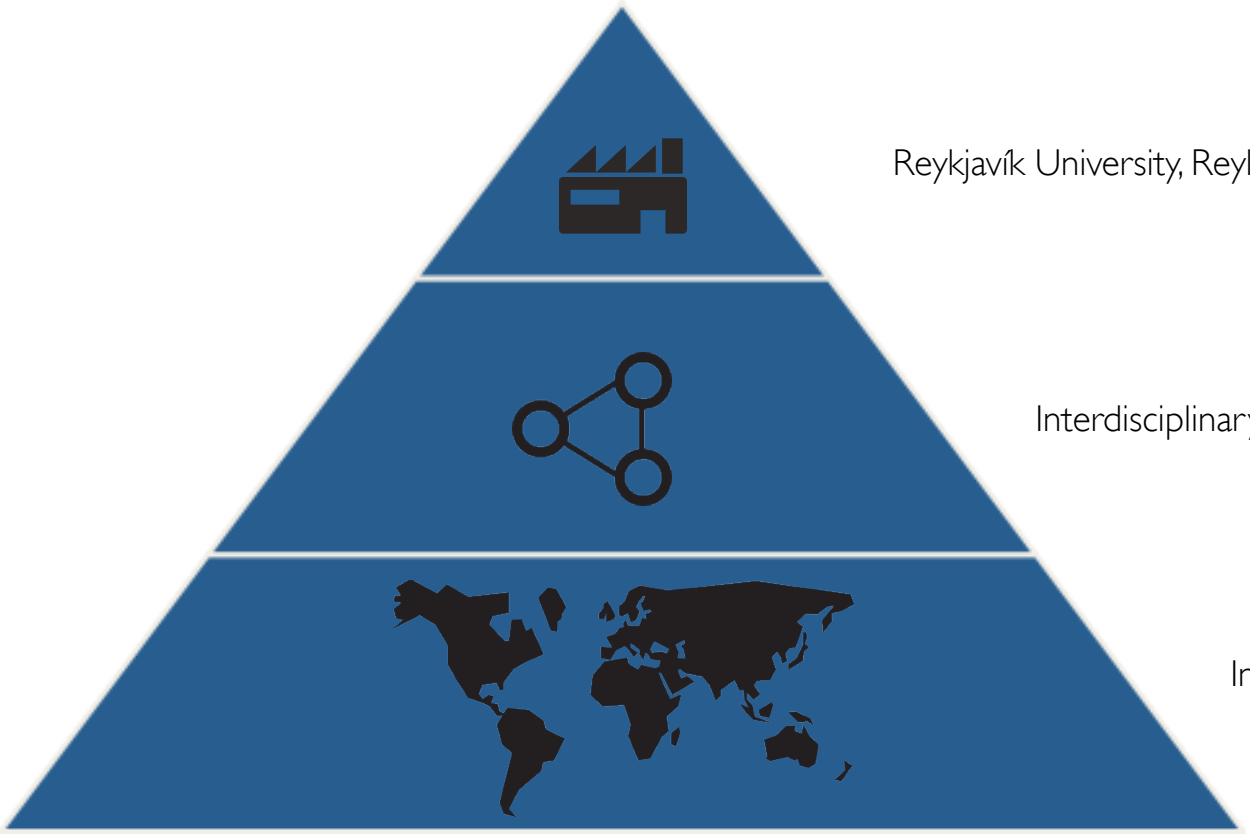
ICELAND SCHOOL OF ENERGY:
OUR APPROACH



Reykjavík University, Reykjavík Energy and ISOR

Interdisciplinary nature

ICELAND SCHOOL OF ENERGY:
OUR APPROACH



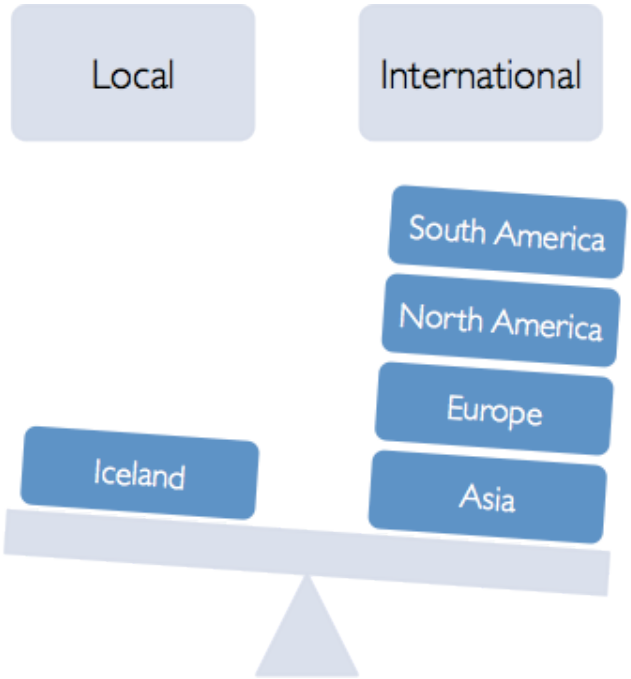
Reykjavík University, Reykjavík Energy and ISOR

Interdisciplinary nature

International outlook

ICELAND SCHOOL OF ENERGY:
OUR APPROACH

International Network



FROM COAL AND OIL TO RENEWABLES: ICELAND'S STORY

Beginning of the 20th century:

- Poor and undeveloped
- Highly depended on fossil fuels

In the early 1970s:

- Repeated oil crises
- Over half of energy consumed from fossil fuels

Today:

- 99% of electricity from renewables (hydro and geothermal)
- 9 out of 10 houses heated through geothermal district heating

GEOTHERMAL

- In 1904 a farmer found a way to built a premature geothermal system to heat his house
- Municipalities expanded on his example
- Oil crises in the 1970s pushed for utilization of local resources
    - Government's drilling mitigation fund (late 1960s)
    - Favorable regulation and support mechanism

HYDROPOWER

- Early hydro projects developed by diligent farmers to provide electricity for their farmhouses, or as a cooperative effort for a few farms

- In 1950, 530 such small hydro power plants had been built in Iceland, creating scattered independent power systems around the country

- 1970s: Iceland started to focus on large-scale hydropower development to attract large international industrial energy users

ICELAND'S ENERGY TRANSITION: THE LESSONS LEARNED

1. Local empowerment and public engagement is key for success

2. Establish cohesion and collaboration between municipalities, government and the public during early stages of transition

3. Favorable legal and regulatory framework along with government incentives or support, speeds developments

4. Long-term planning of renewable energy implementation in collaboration with stakeholders is important.

5. Showcasing every step of success is influential.

ICELAND'S ENERGY TRANSITION:
THE LESSONS LEARNED

Can we make the same change happen in Europe?

What is the opportunity?

IMPLEMENTING CHANGE IN EUROPE

"A recent calculation indicates that **space heating and cooling and hot water amount to more than one third** of total EU final energy"

EU Heating and Cooling Strategy Consultation Forum

IMPLEMENTING CHANGE IN EUROPE

In Europe it is considered that approximately

25%

of the **population** lives in an area suitable for geothermal district heating

Geothermal DH potential in Europe. GEODH, 2014þ

How can we exploit this opportunity?

Pro EU-Level Policies:

- EU 2020
- Energy Efficiency Directive
- Renewable Energy Directive

IMPLEMENTING CHANGE IN EUROPE

Available and Improved Support Schemes:

37.5 billion euros towards low carbon economy
4.8 billion euros towards renewable energy

(European Commission)

Examples:

- European Regional Development Fund
- EEA Grants
- European Funds for Strategic Investments

What's holding Europe back?

EXAMPLES OF ACTION NEEDED

1. Drilling Mitigation Fund
2. Showcase Success for Inspiration
3. Education for Decision Makers
    - Understand the opportunity
    - Learn best practices

EDUCATION FOR DECISION-MAKERS

Fast developing industry

EDUCATION FOR DECISION-MAKERS

Fast developing industry

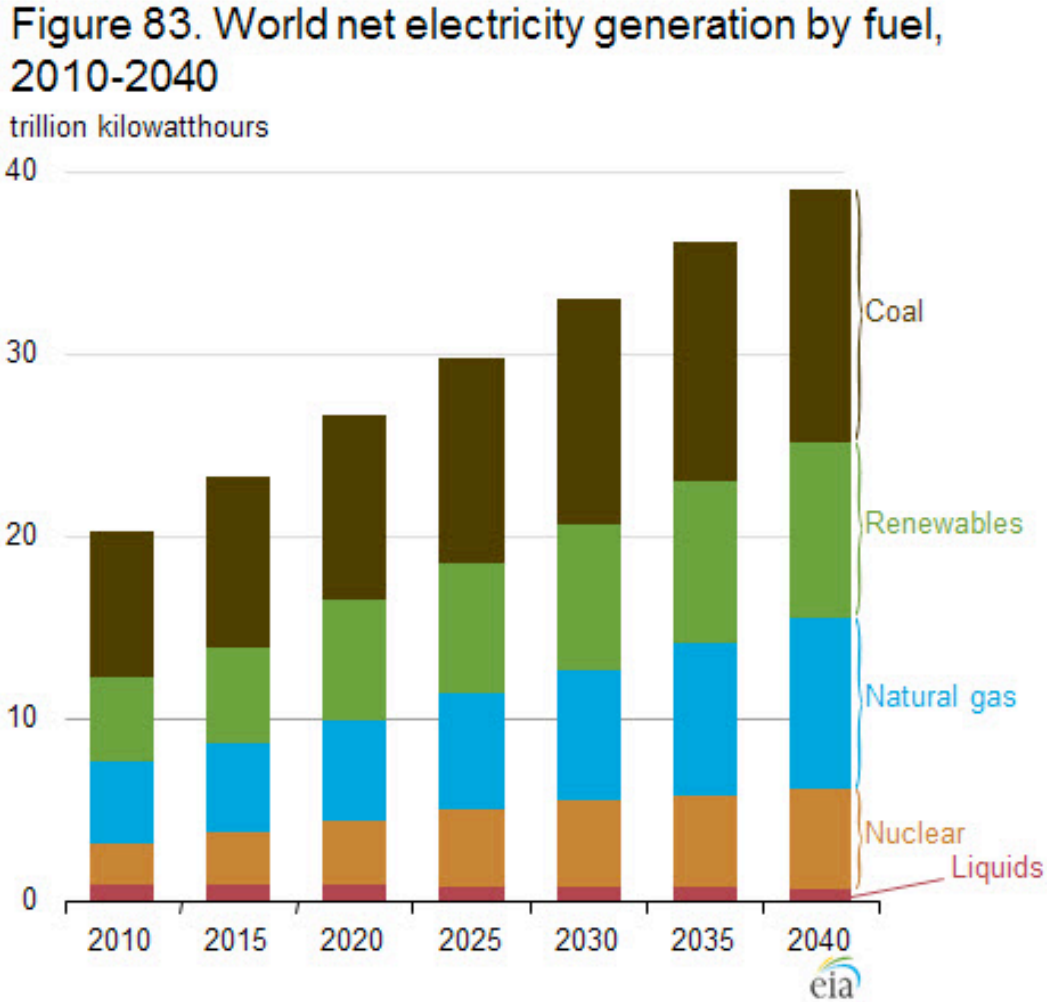
New solutions: Geothermal

EDUCATION FOR DECISION-MAKERS

Fast developing industry

New solutions: Geothermal

Keeping up to speed on latest developments is not easy



NEW CHALLENGES AND OPPORTUNITIES

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- How to implement?
- Geothermal costs
- Who can implement?
- Geothermal benefits

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- How to implement?
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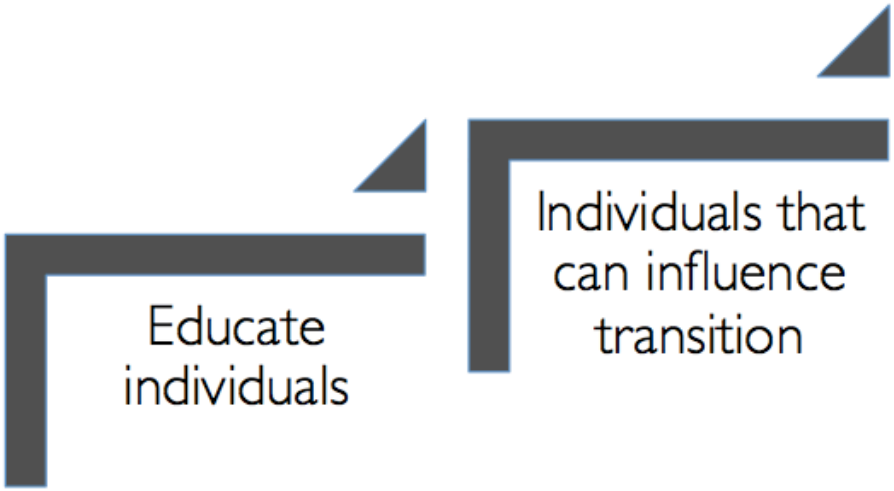
EDUCATION IS THE KEY FOR GEOTHERMAL ENERGY IMPLEMENTATION

Educate individuals

EDUCATION IS THE KEY FOR GEOTHERMAL ENERGY IMPLEMENTATION



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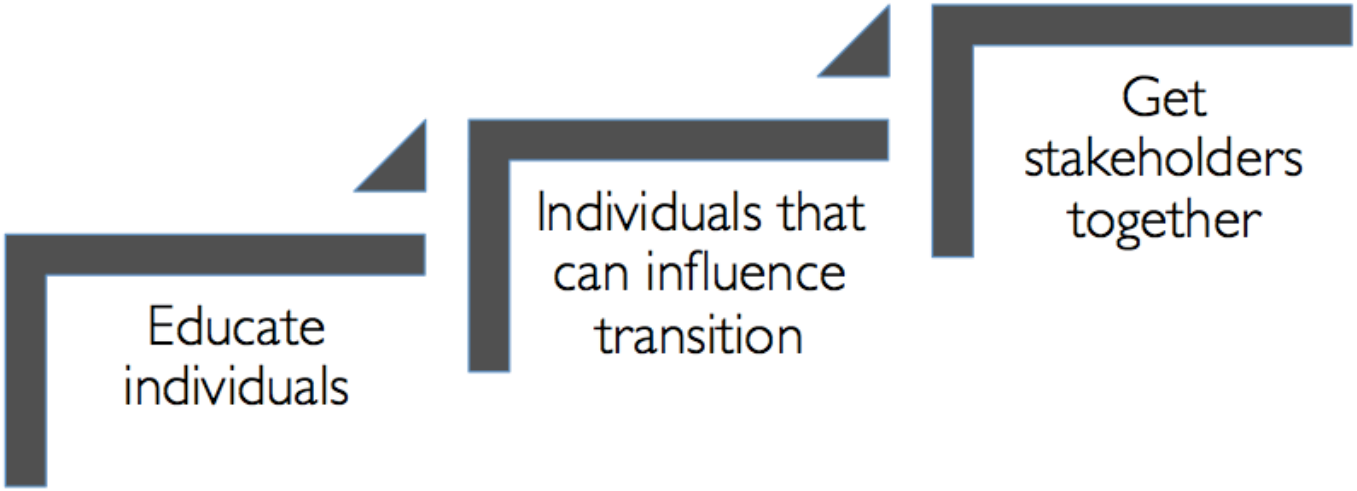

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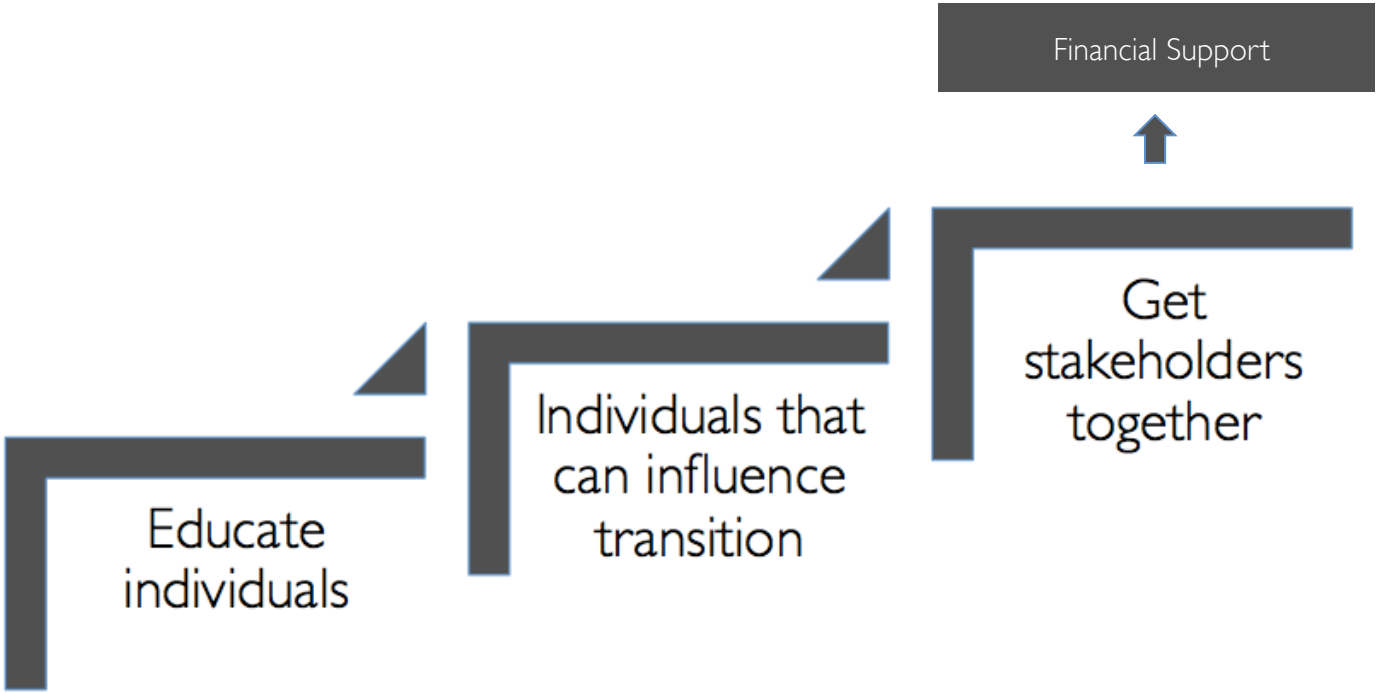

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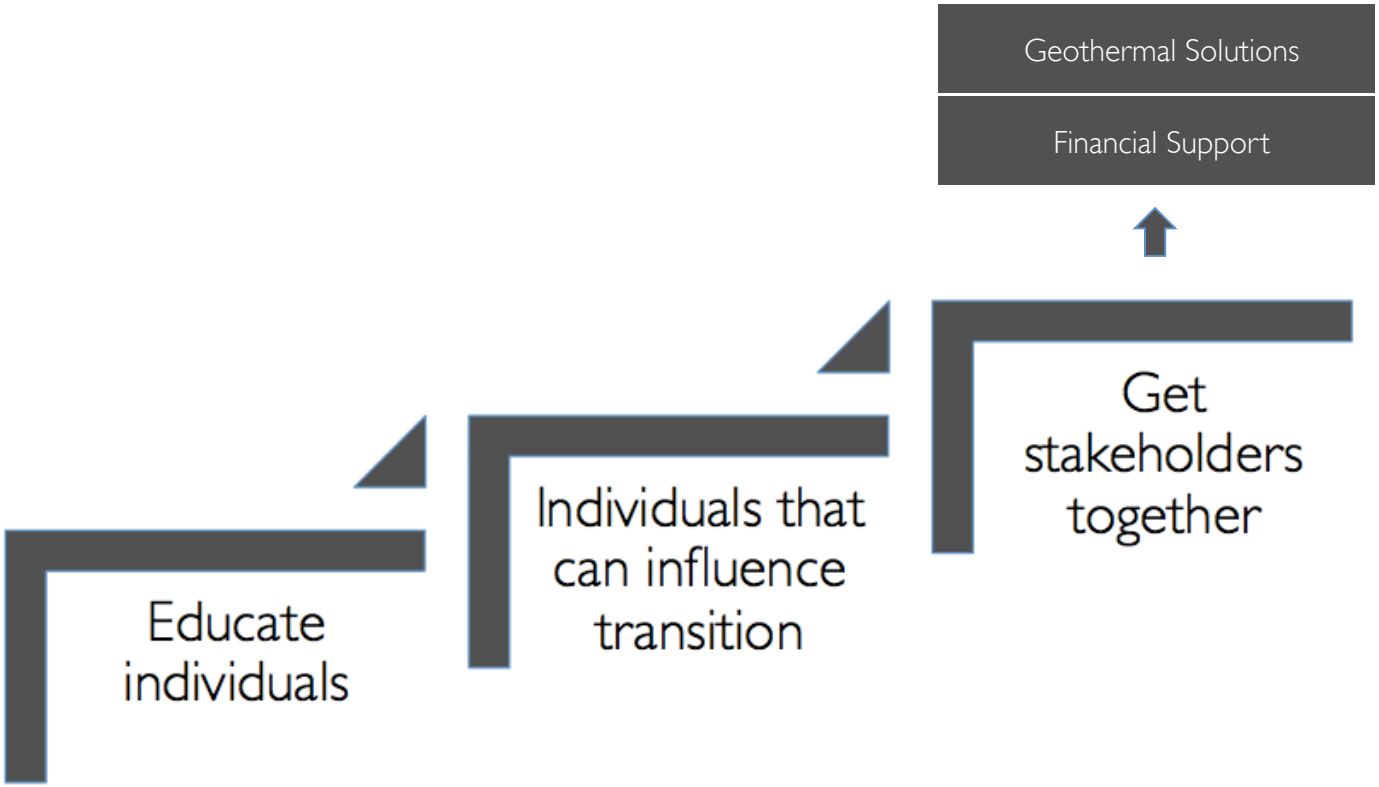

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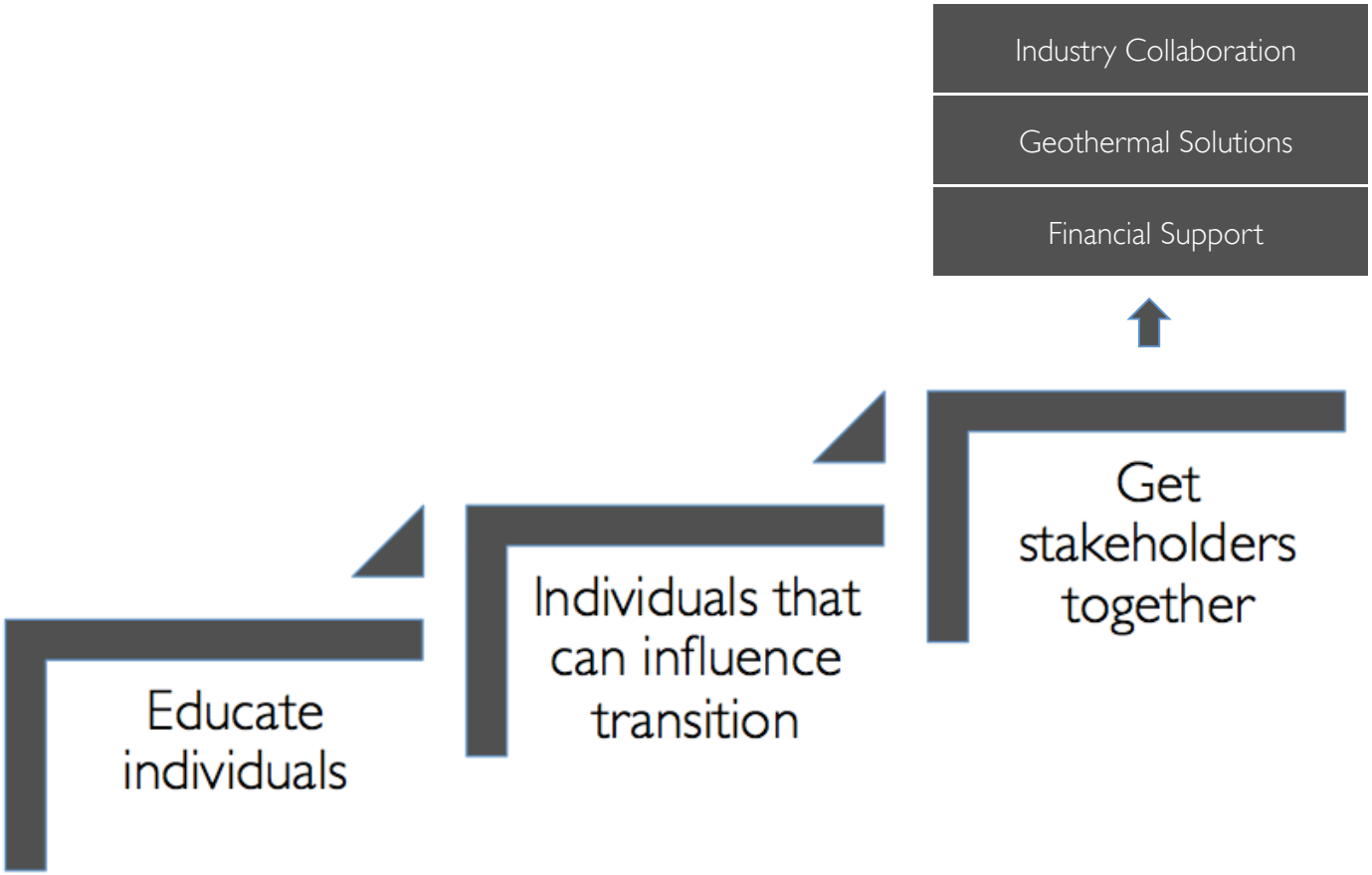


EDUCATION IS THE KEY FOR GEOTHERMAL ENERGY IMPLEMENTATION

Informed Decision Makers

Industry Collaboration

Geothermal Solutions

Financial Support

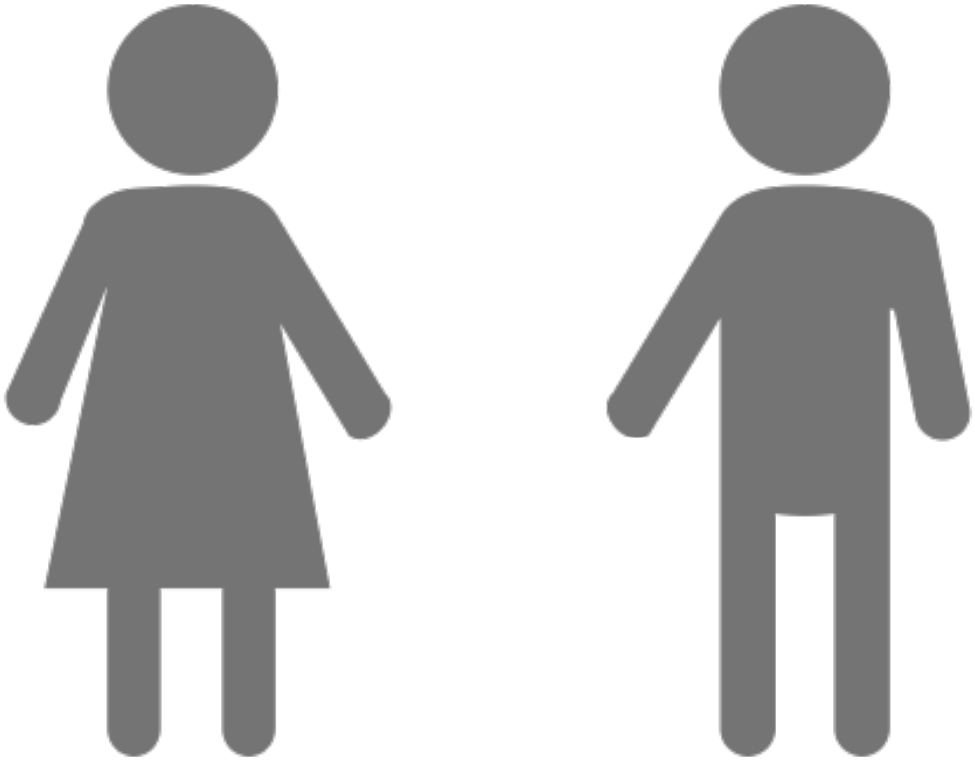
Get stakeholders together

Individuals that can influence transition

Educate individuals

EDUCATION IS THE KEY FOR GEOTHERMAL ENERGY IMPLEMENTATION

Europe's collaborative journey of industries and municipalities…



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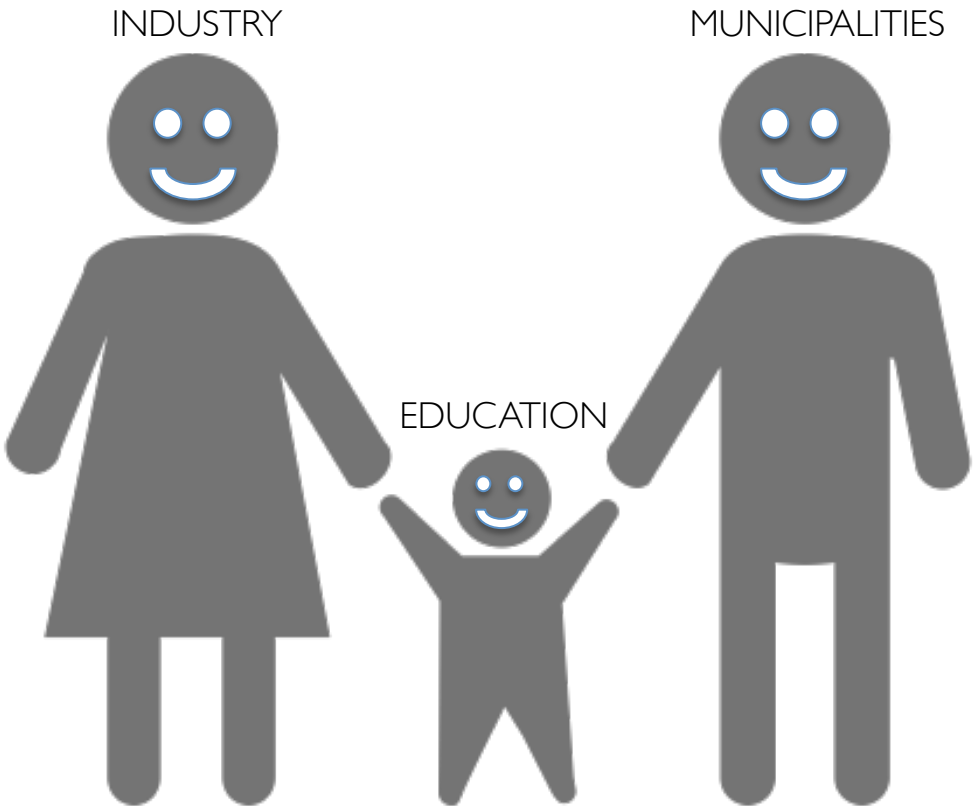
will deliver more fruitful and faster results if empowered by education