



ALCUE NET

Latin America, Caribbean and European Union Network on Research and Innovation

Supporting Innovation and Renewable Energy Development: The Role of Geothermal Education

**Geothermal Energy Workshop
Salta – December 2014**





en.ru.is

EYJAFJALLAJÖ KULL!







FEW FACTS ABOUT ENERGY IN ICELAND



- **99%** of electricity from renewables
- **9/10** houses heated with Geothermal



TRANSITION FROM COAL AND OIL TO RENEWABLES



Before geothermal space heating:
Reykjavik in 1933 covered with smoke
from coal heatings,



With geothermal space heating:
Reykjavik in 2008, almost same view
but without visible air pollution

A world map with a green horizontal band across the center. The text "WHY ENERGY EDUCATION?" is written in large, white, sans-serif capital letters across the green band. The map shows the outlines of continents and countries in white and light gray against a dark gray background. The green band is positioned over the Atlantic and Indian Oceans, passing between North and South America on the left and Europe and Africa on the right. The text is centered horizontally and vertically within the green band.



WHY DO WE NEED RENEWABLE ENERGY EDUCATION



Fast developing
industry



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Fast developing
industry



Strong shift towards
renewables



WHY DO WE NEED RENEWABLE ENERGY EDUCATION?



Fast developing
industry

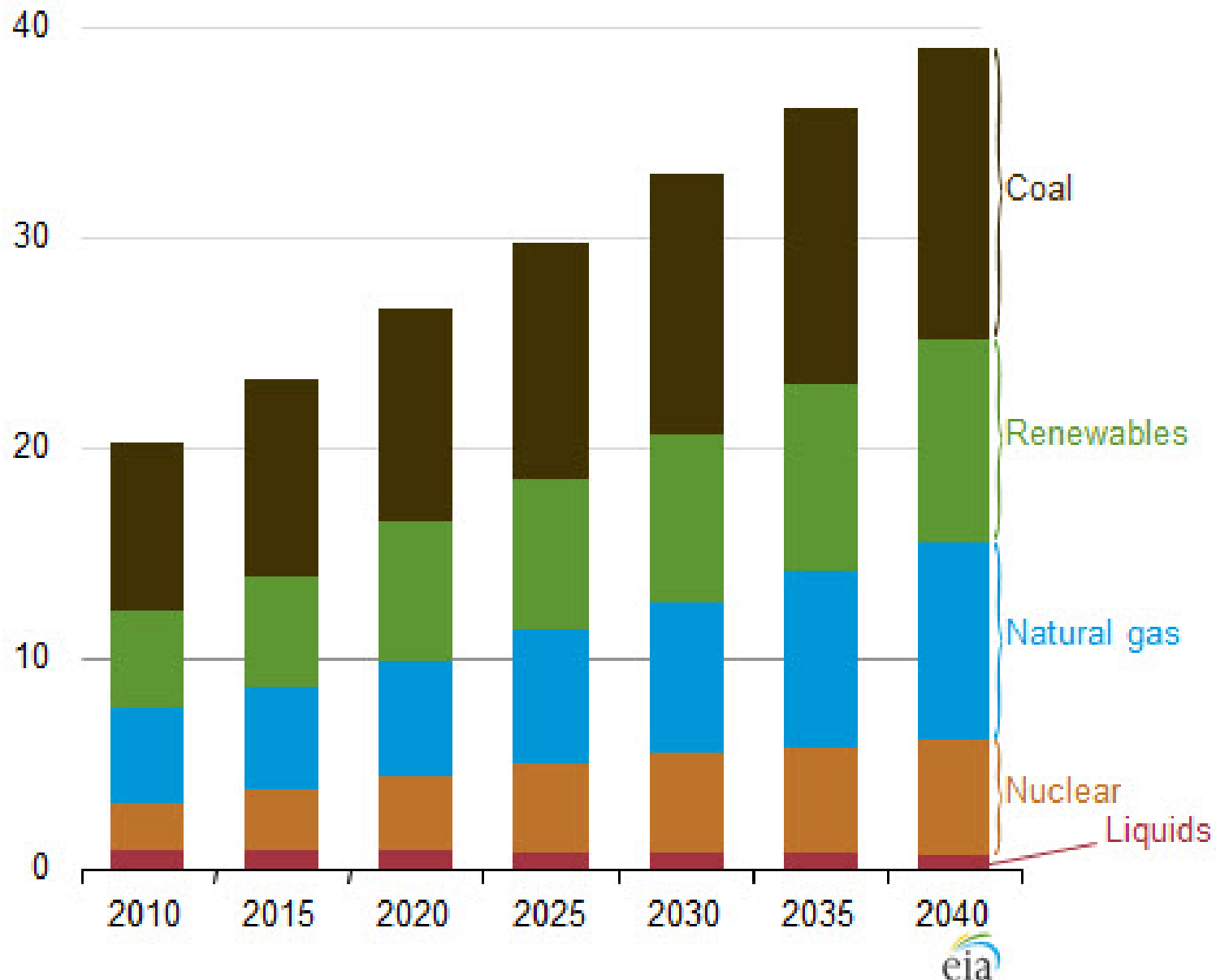


Strong shift toward
renewables

“A centre piece of the framework is the target to reduce EU domestic greenhouse gas emissions by 40% below the 1990 level by 2030”

Figure 83. World net electricity generation by fuel, 2010-2040

trillion kilowatthours





WHY DO WE NEED RENEWABLE ENERGY EDUCATION?

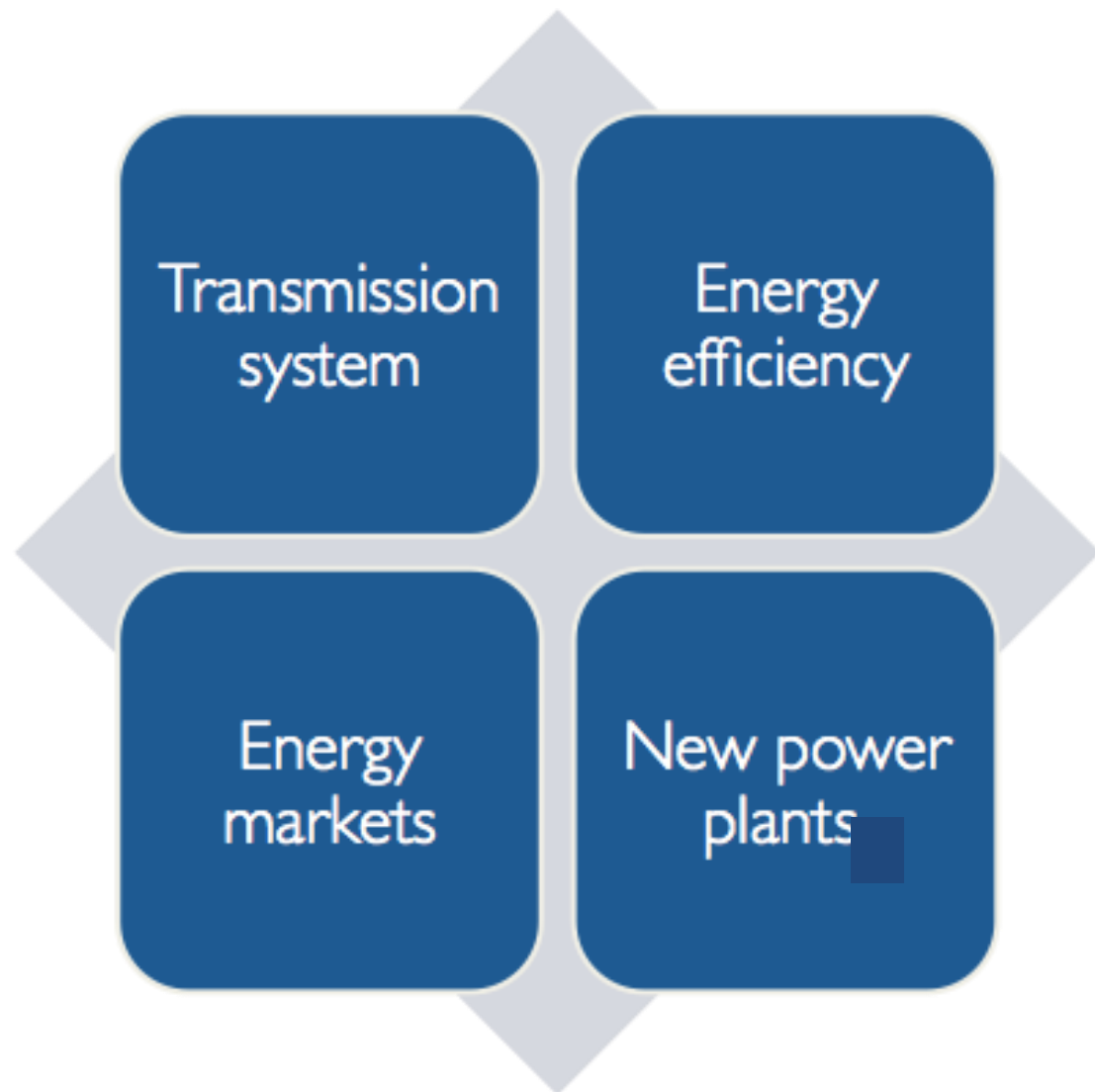
NEW CHALLENGES AND OPPORTUNITIES





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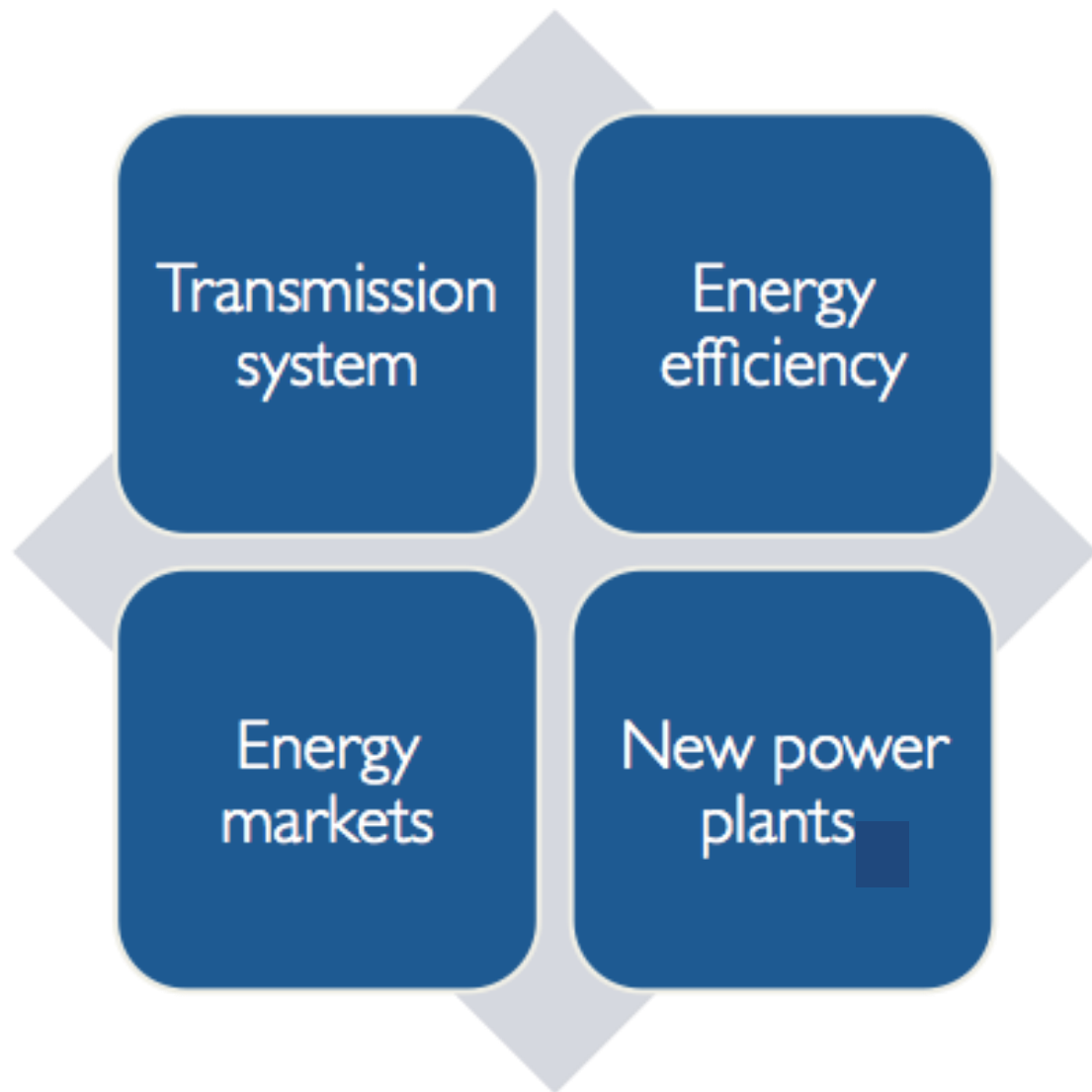
NEW CHALLENGES AND OPPORTUNITIES





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NEW CHALLENGES AND OPPORTUNITIES



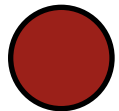
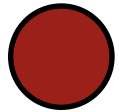
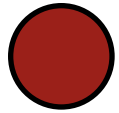
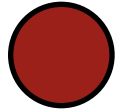
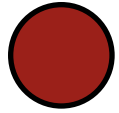


EDUCATION FOR THE ENERGY INDUSTRY



EDUCATION FOR THE ENERGY INDUSTRY

Skilled Work Force





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Skilled Work Force

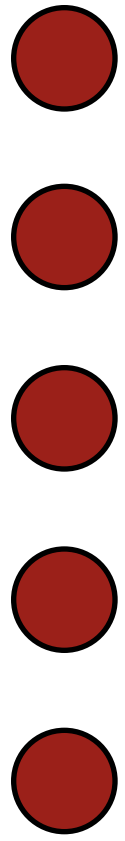


Educate
individuals



EDUCATION FOR THE ENERGY INDUSTRY

Skilled Work Force



Educate
individuals

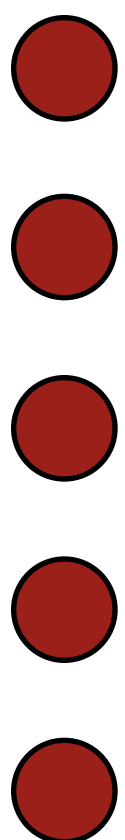


Individuals
work for the
industry



EDUCATION FOR THE ENERGY INDUSTRY

Skilled Work Force



Educate
individuals



Individuals
work for the
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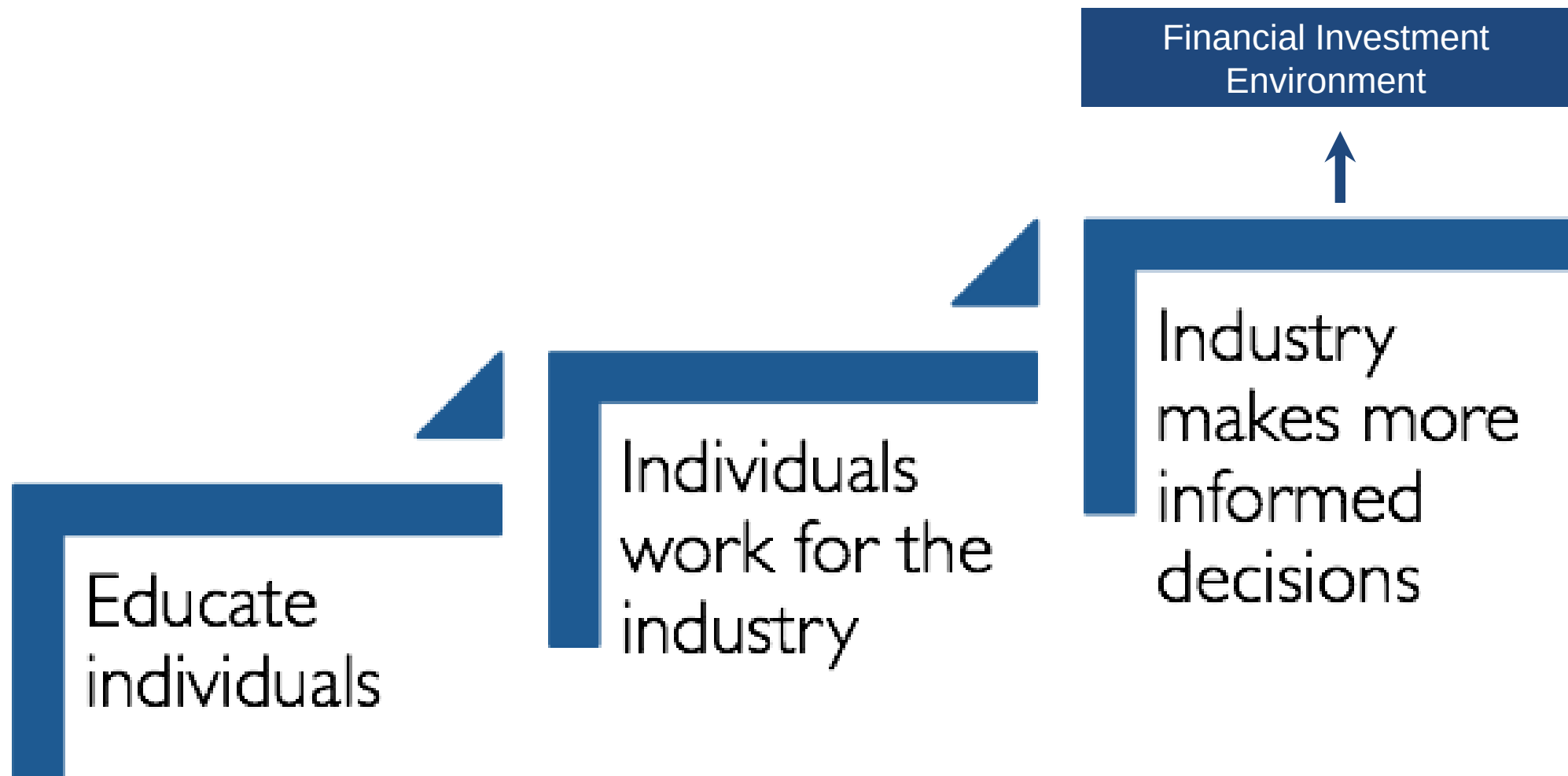


Industry
makes more
informed
decisions



EDUCATION FOR THE ENERGY INDUSTRY

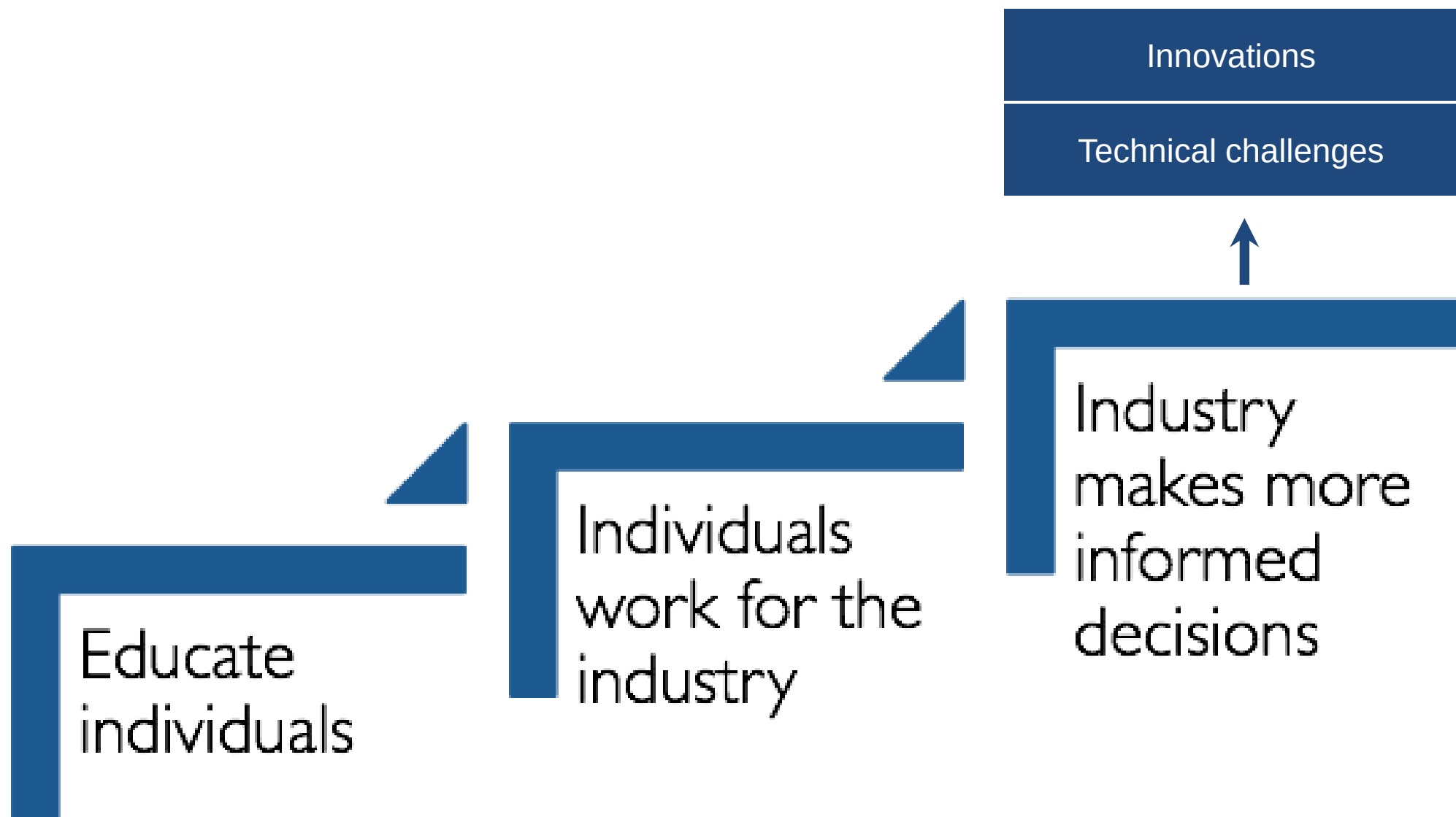
Skilled Work Force





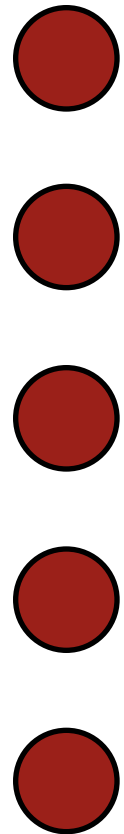
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Skilled Work Force

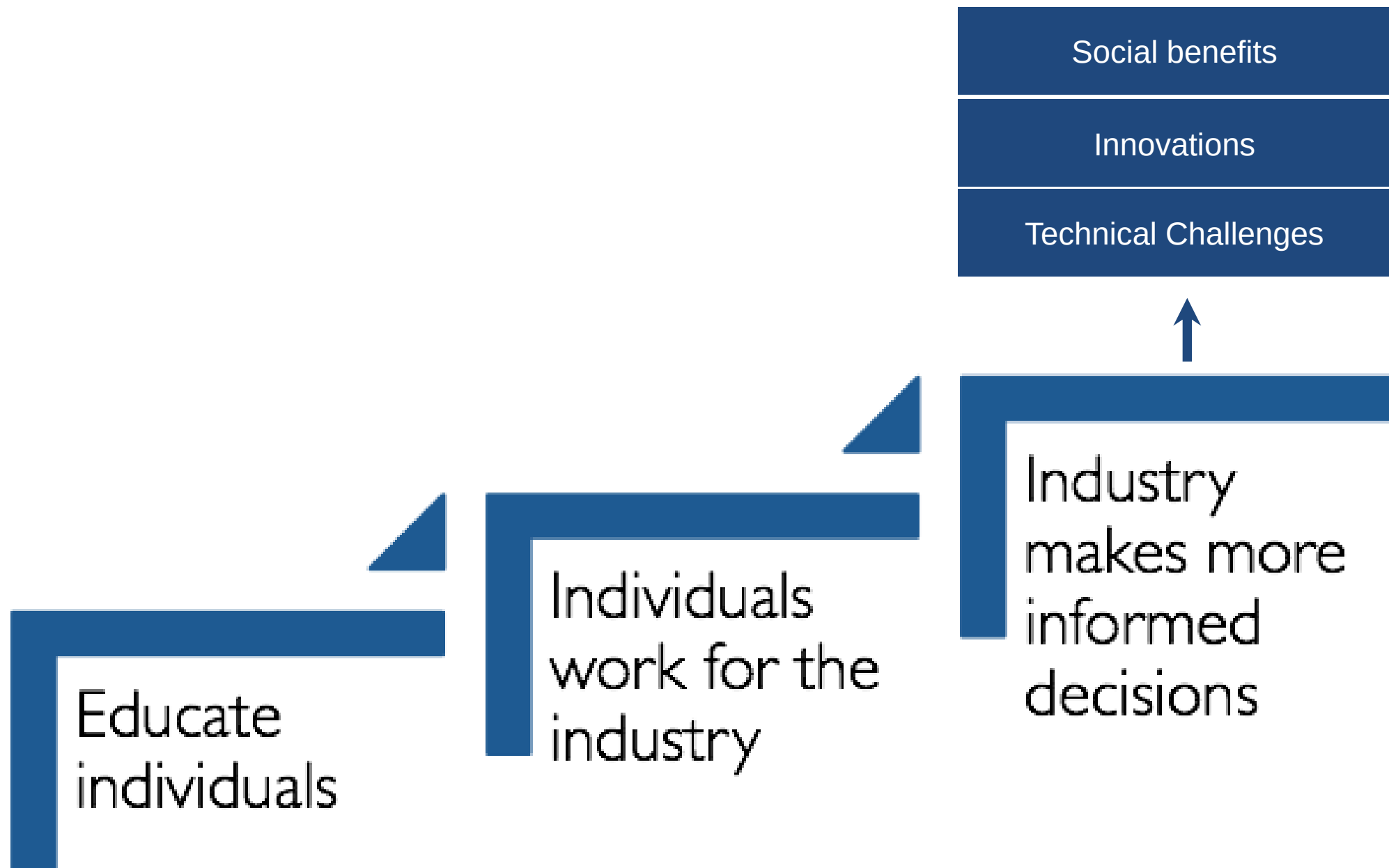




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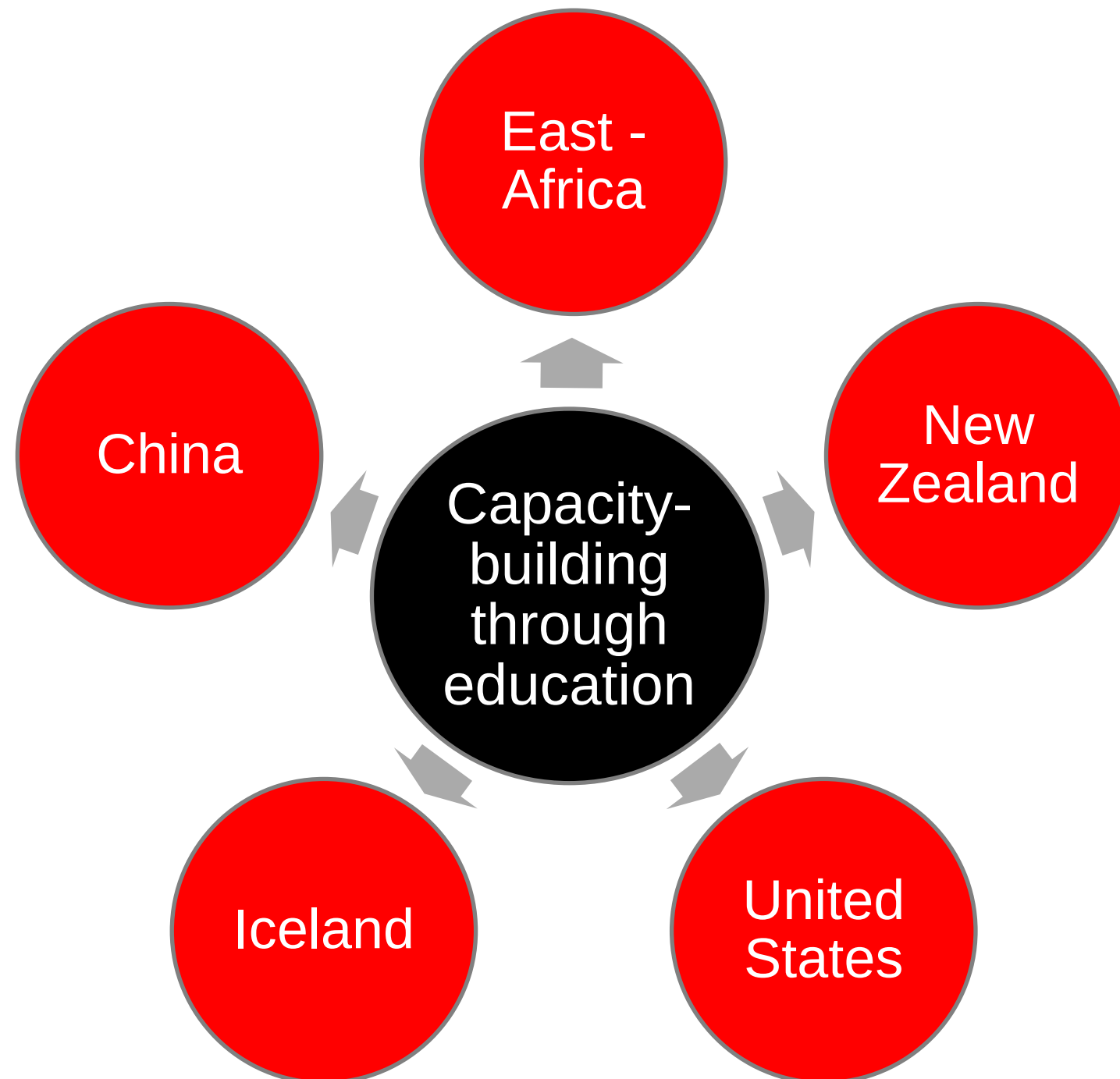


Skilled Work Force





GEOHERMAL DEVELOPMENT NEEDS **CAPACITY BUILDING**





GEOHERMAL ENERGY **PLAYERS** IN ICELAND

GEOHERMAL EDUCATION IN ICELAND

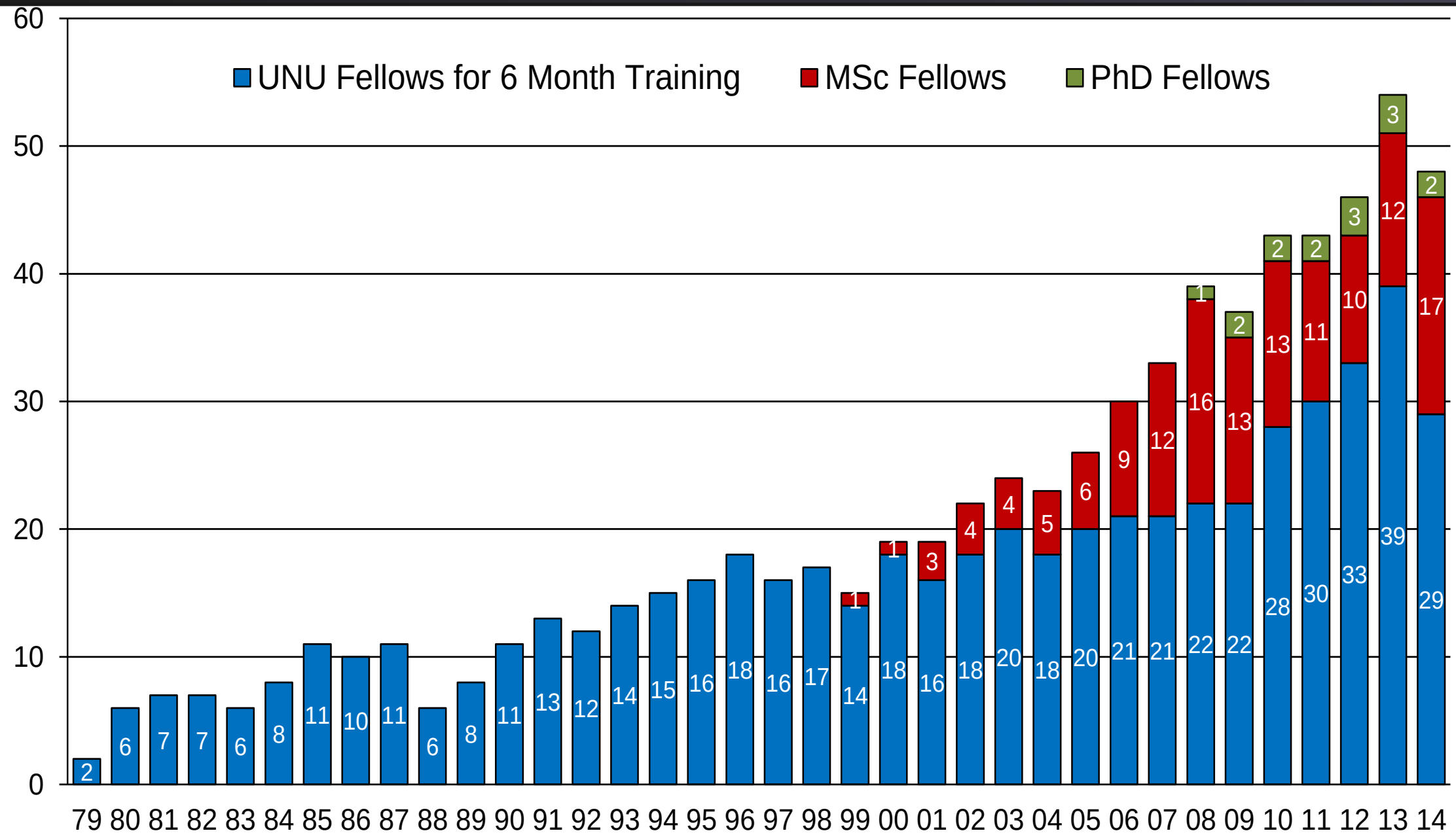
UNDP

University of
Iceland

Iceland
School of
Energy at RU



GEOHERMAL ENERGY PLAYERS IN ICELAND





HOW TO STUCTURE EDUCATION: LESSONS FROM ICELAND?



ICELAND SCHOOL OF ENERGY AT REYKJAVIK UNIVERSITY

“From the very first day of classes, until the day of my thesis defence, I had the opportunity to get involved with qualified professionals from Icelandic leading companies.”

- Nina Rangel Ortiz, Mexico



Halla hrund Logadóttir,
director iceland school of energy
halla@ru.is



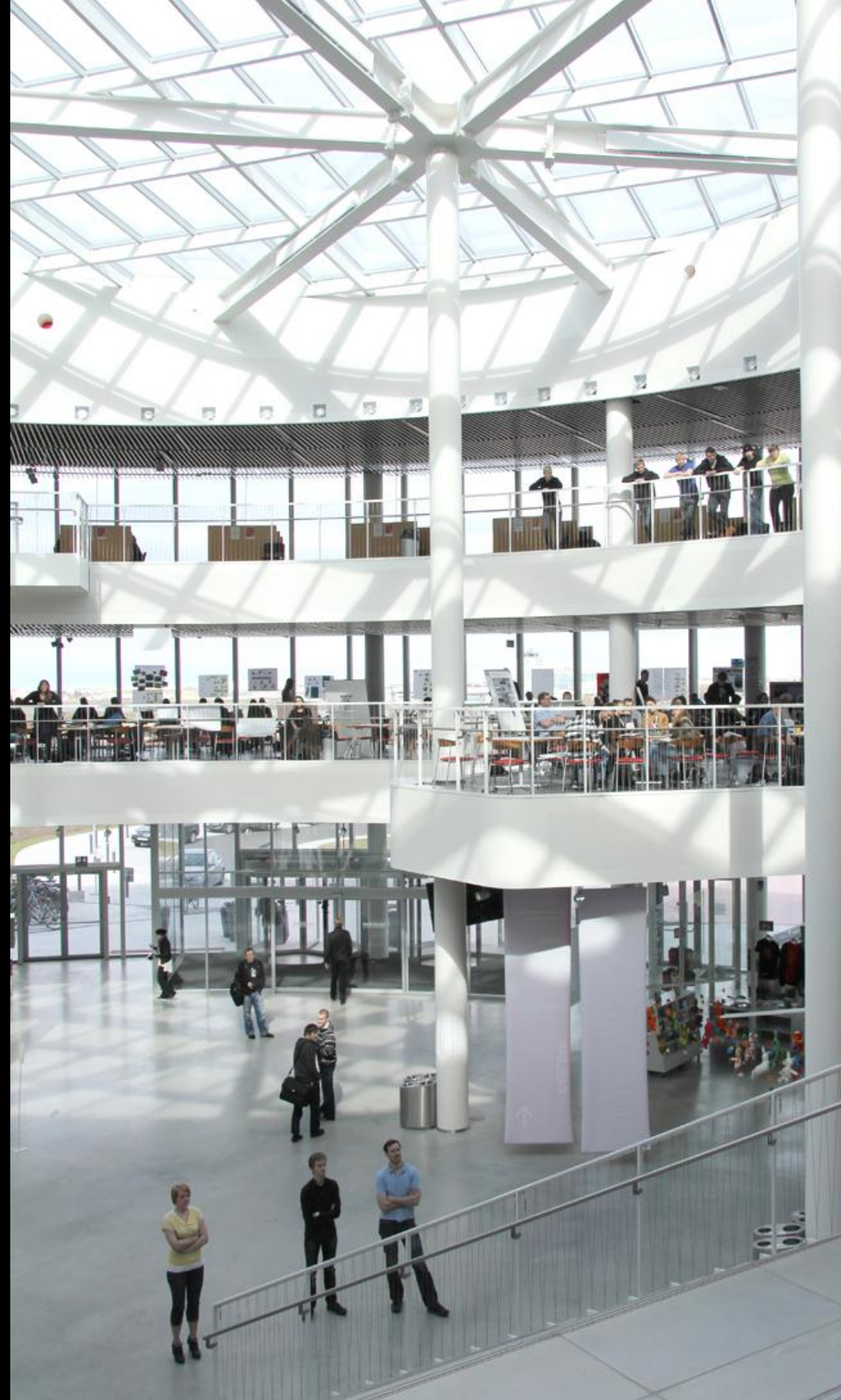
ICELAND SCHOOL OF ENERGY
REYKJAVIK UNIVERSITY

REYKJAVIK UNIVERSITY



OVERVIEW

- **REYKJAVIK UNIVERSITY**
 - Private non-profit
 - Quality teaching
 - Academic strength
 - Ties with industry
- **NUMBERS**
 - 3000 students at this time
 - 1/3 in graduate programs
 - 700 graduated per year
 - 270 fulltime staff and faculty
 - Annual budget: 23 million Euros





ICELAND SCHOOL OF ENERGY AT REYKJAVIK UNIVERSITY

MISSION



ICELAND SCHOOL OF ENERGY AT REYKJAVIK UNIVERSITY

MISSION

is to provide each new generation with
trained experts in the field of green energy
for a **sustainable world**



OUR CO-OWNER: ICELAND GEOSURVEY

- 60 years global experience
- Geothermal exploration, development, and utilization





OUR CO-OWNER: REYKJAVIK ENERGY

- Reykjavik Energy is a public utility company
- Covering 67% of the Icelandic population





ICELAND SCHOOL OF ENERGY AT REYKJAVIK UNIVERSITY

FOCUS AREAS



ICELAND SCHOOL OF ENERGY AT REYKJAVIK UNIVERSITY

ICELAND SCHOOL OF ENERGY

MSc in Sustainable Energy Engineering



ICELAND SCHOOL OF ENERGY AT REYKJAVIK UNIVERSITY

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MSc in Sustainable Energy Engineering

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ICELAND SCHOOL OF ENERGY

MSc in Sustainable Energy Engineering

MSc in Sustainable Energy

Executive Education



ICELAND SCHOOL OF ENERGY AT REYKJAVIK UNIVERSITY

ICELAND SCHOOL OF ENERGY

MSc in Sustainable Energy Engineering

MSc in Sustainable Energy

Executive Education

Research



**HELP THE WORLD COMBAT CLIMATE CHANGE:
BECOME AN EXPERT IN RENEWABLE ENERGY**

GRADUATE STUDY



SUMMER SCHOOL



EXECUTIVE EDUCATION



RESEARCH



**STUDY RENEWABLE ENERGY
IN ICELAND**



OUR PARTNERS





ICELAND SCHOOL OF ENERGY'S APPROACH



Owned by and in close collaboration with the industry



ICELAND SCHOOL OF
ENERGY'S APPROACH

COOPERATION WITH INDUSTRY



ICELAND SCHOOL OF ENERGY'S APPROACH

RESEARCH

COOPERATION WITH INDUSTRIES



ICELAND SCHOOL OF ENERGY'S APPROACH

COURSE DEVELOPMENT

RESEARCH

COOPERATION WITH INDUSTRIES



ICELAND SCHOOL OF ENERGY'S APPROACH

TEACHING

COURSE DEVELOPMENT

RESEARCH

COOPERATION WITH INDUSTRIES



ICELAND SCHOOL OF ENERGY'S APPROACH

INTERNSHIPS

TEACHING

COURSE DEVELOPMENT

RESEARCH

COOPERATION WITH INDUSTRIES



ICELAND SCHOOL OF ENERGY'S APPROACH

THESIS

INTERNSHIP

TEACHING

COURSE

RESEARCH

COOPERATION WITH INDUSTRIES



Startup Energy
Reykjavik



[Investor Day](#)

[Program](#)

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Mentorship

Connection and advices from experienced mentors.



Workspace and benefits

Great office space with everything your company needs.

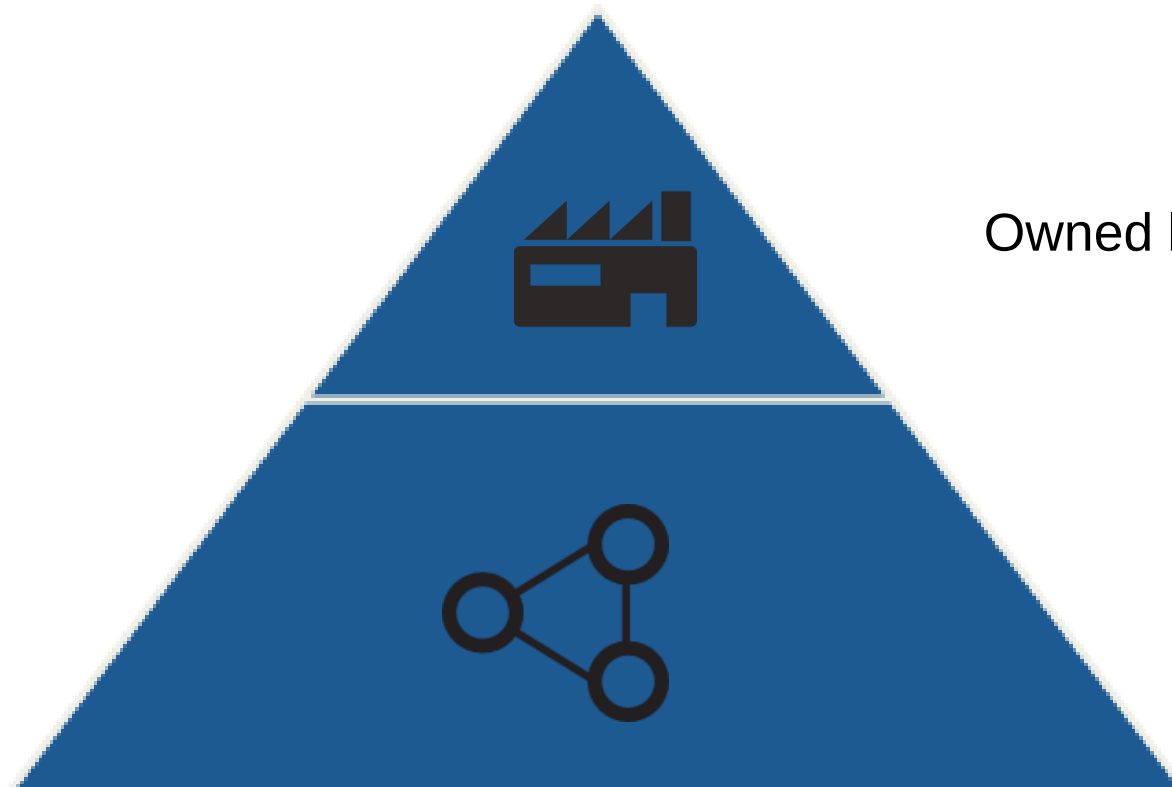


Seed Capital

We give you 40k (5.000,000 ISK) and receive 10% stake in your company.



ICELAND SCHOOL OF ENERGY'S APPROACH



Owned by and in close collaboration with the industry

Interdisciplinary nature



ICELAND SCHOOL OF ENERGY'S APPROACH

INTERDISCIPLINARY APPROACH

Engineering



ICELAND SCHOOL OF ENERGY'S APPROACH

INTERDISCIPLINARY APPROACH

Engineering

Business/Economics



ICELAND SCHOOL OF ENERGY'S APPROACH

INTERDISCIPLINARY APPROACH

Engineering

Business/Economics

Law



ICELAND SCHOOL OF ENERGY'S APPROACH

INTERDISCIPLINARY APPROACH

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Geosciences



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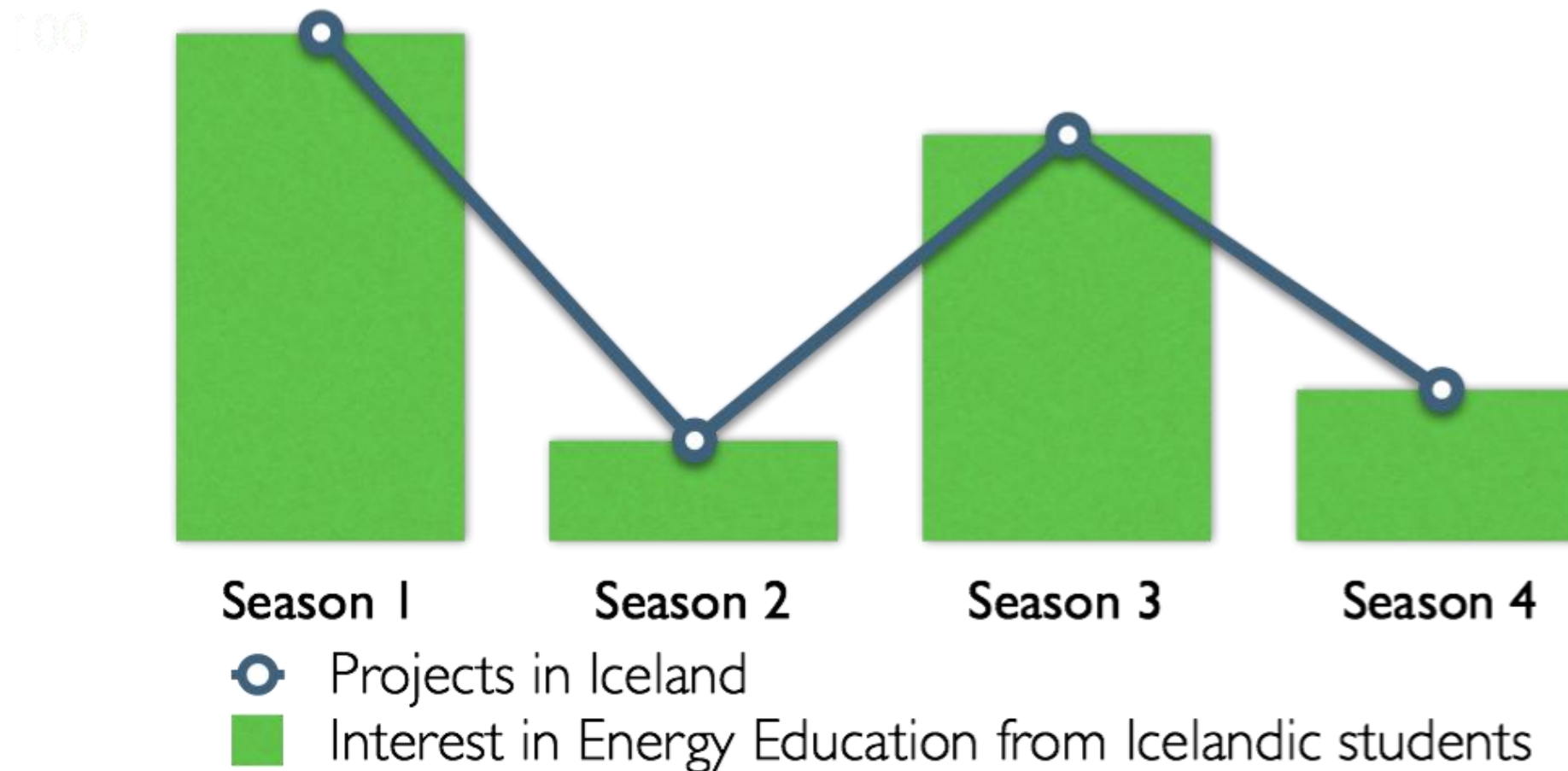


International outlook



INTERNATIONAL OUTLOOK

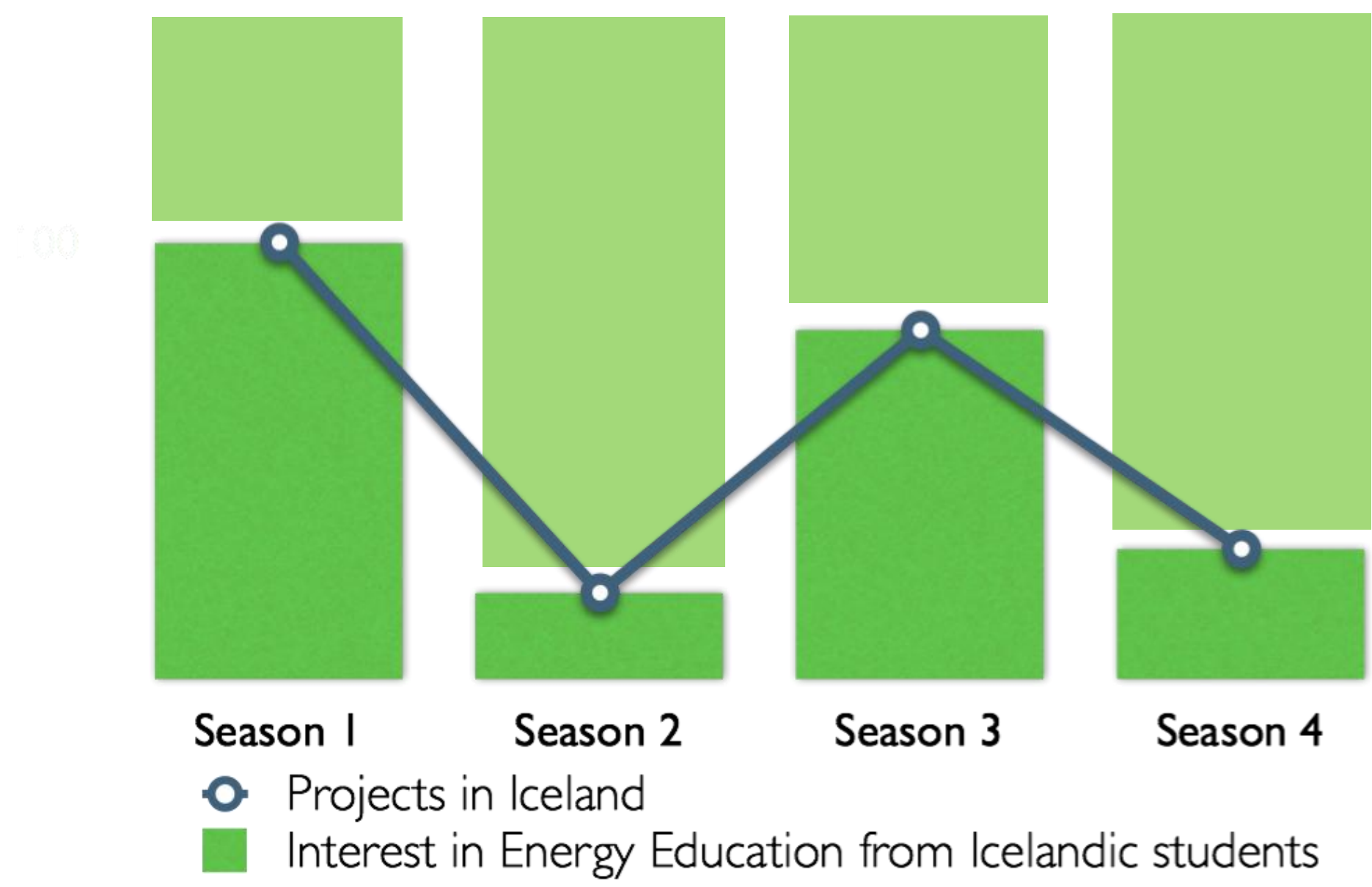
Promotes Quality and Sustainability of Education and Research





ICELAND SCHOOL OF ENERGY'S APPROACH

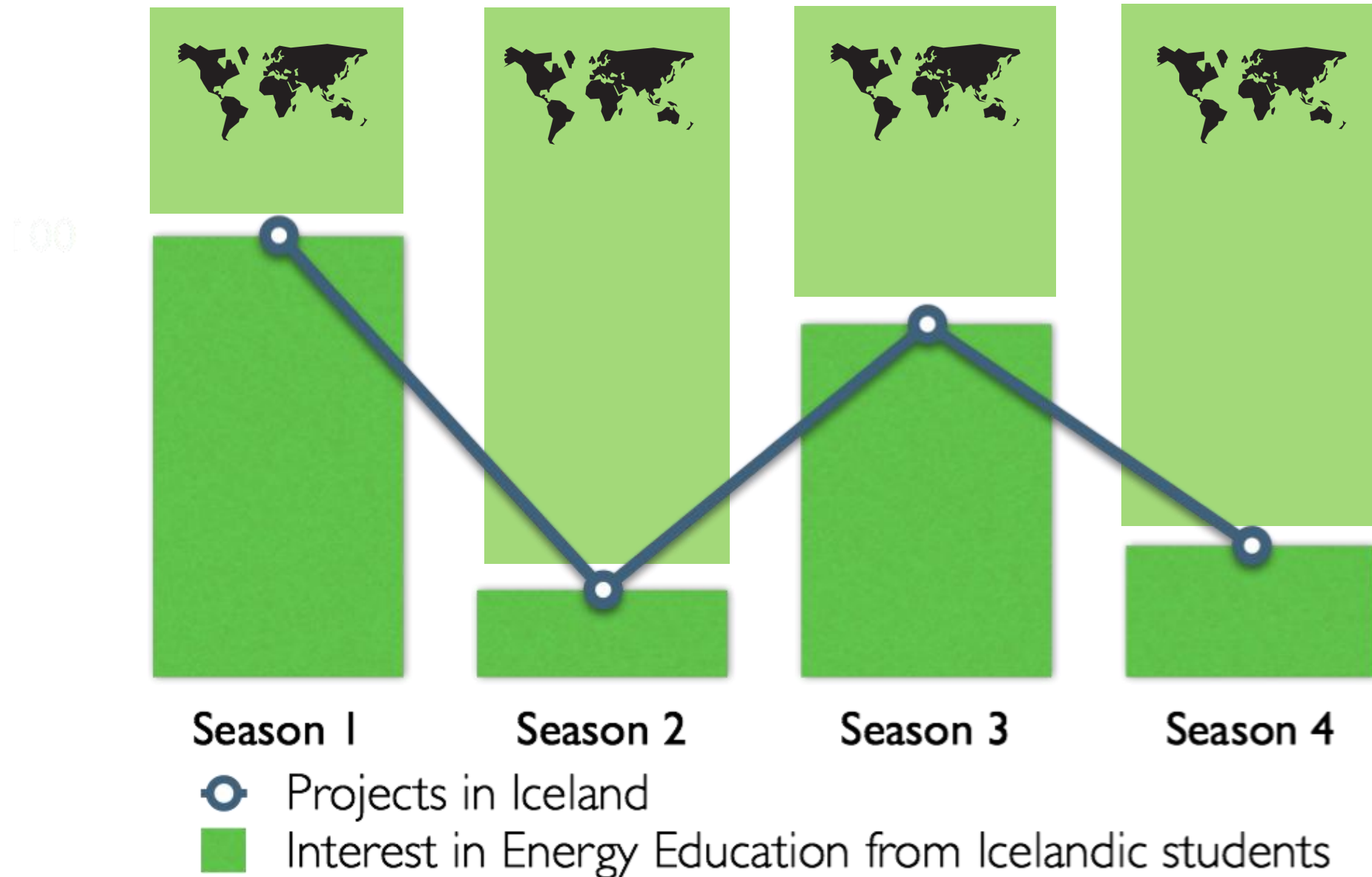
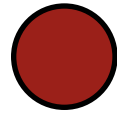
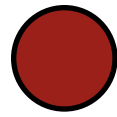
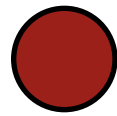
● Promotes Quality and Sustainability of Education and Research





5 REASONS WHY INTERNATIONAL OUTLOOK IN ENERGY EDUCATION MATTERS FOR THE ICELANDIC ENERGY INDUSTRY

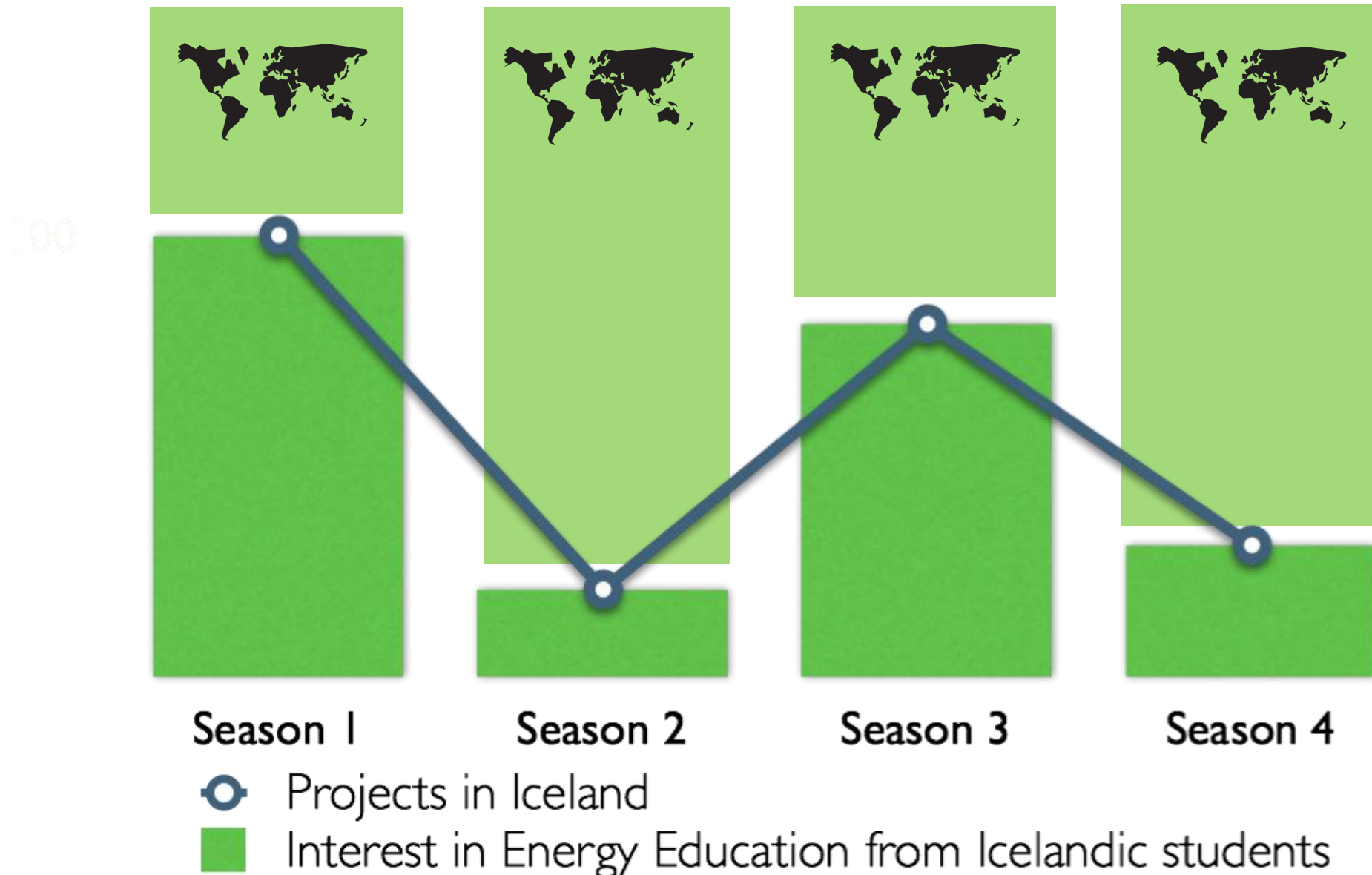
Promotes Quality and Sustainability of Education and Research





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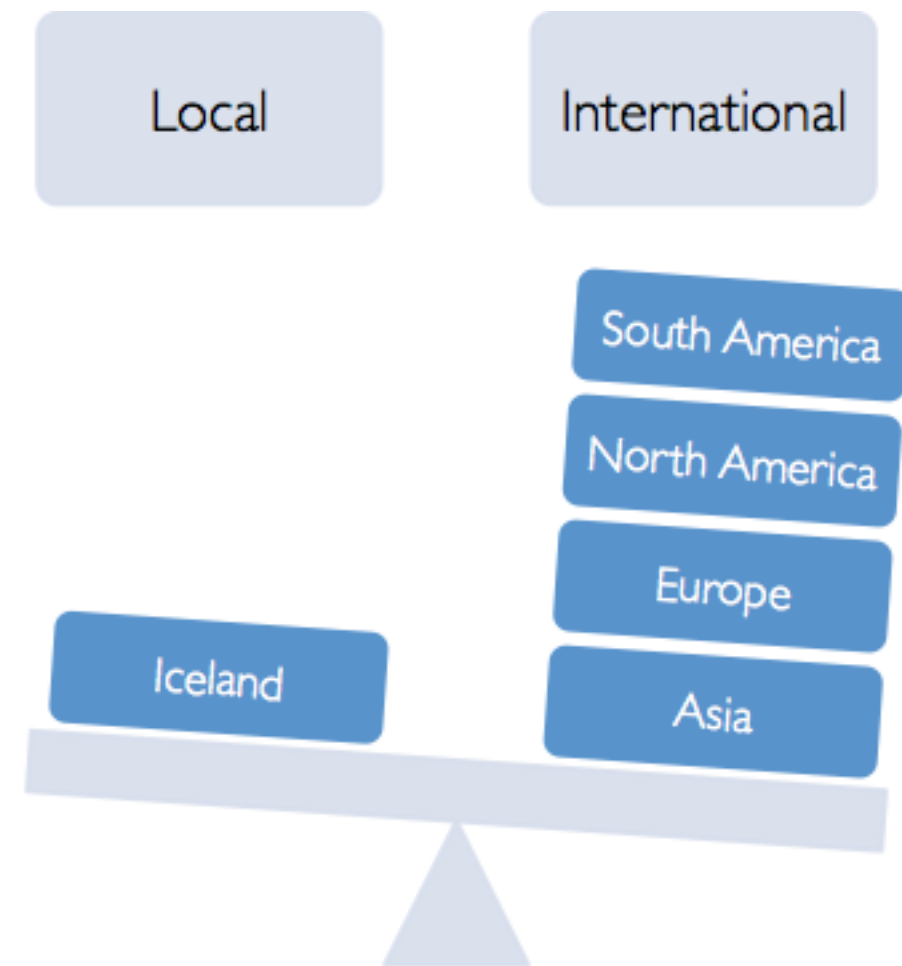
Promotes Quality and Sustainability of Education and Research





INTERNATIONAL OUTLOOK

International Network

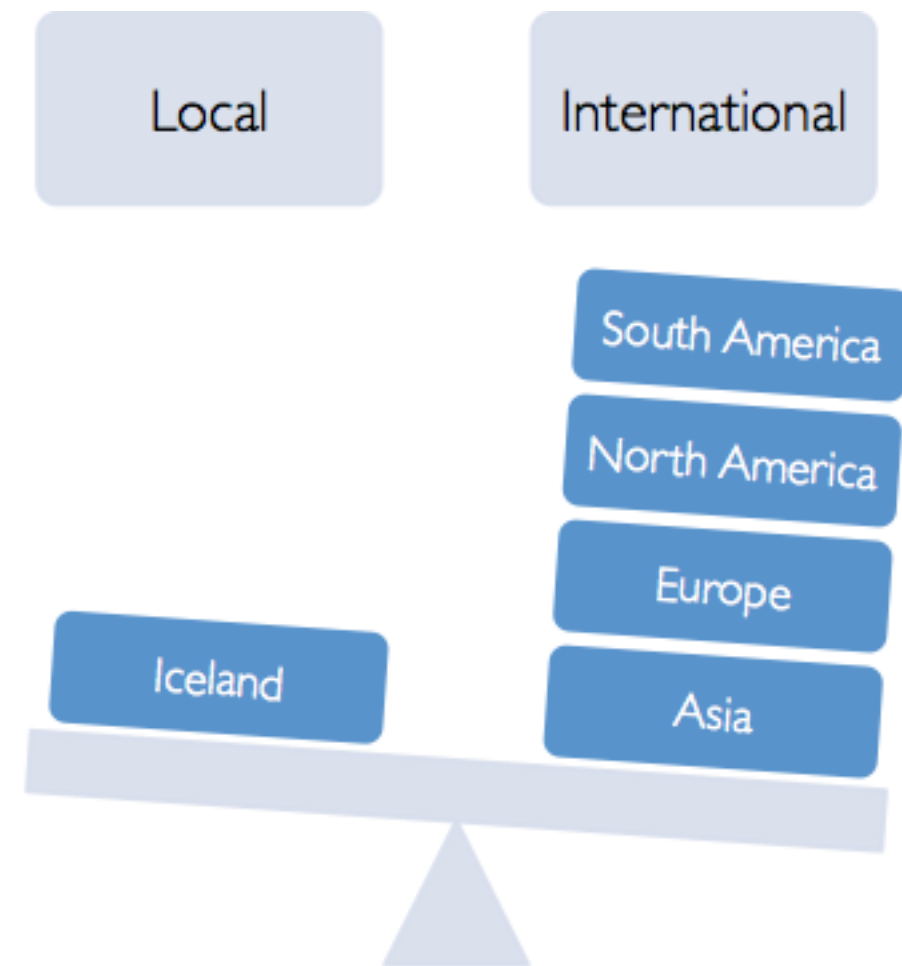




INTERNATIONAL OUTLOOK

- 2014: 100% increase in students numbers

International Network

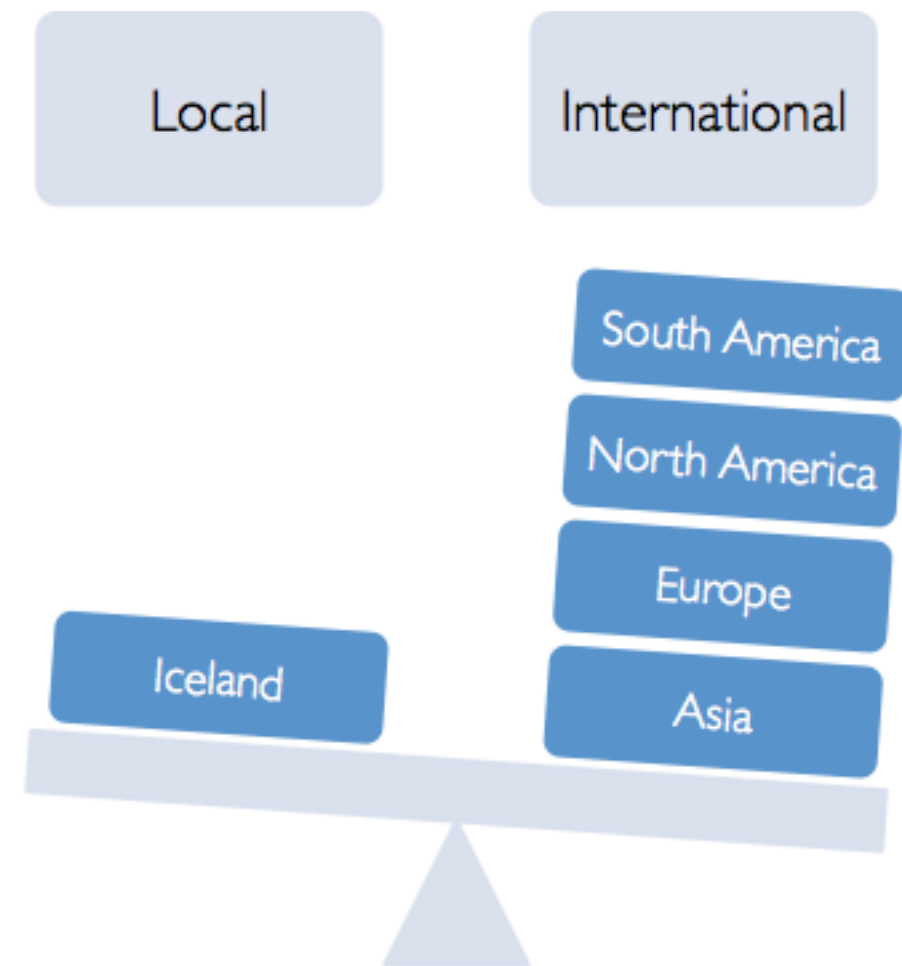




INTERNATIONAL OUTLOOK

- 2014: 100% increase in students numbers

International Network





TALENT **RECRUITMENT**

Attracting Young Talents to the Field!





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Attracting Young Talents to the Field!





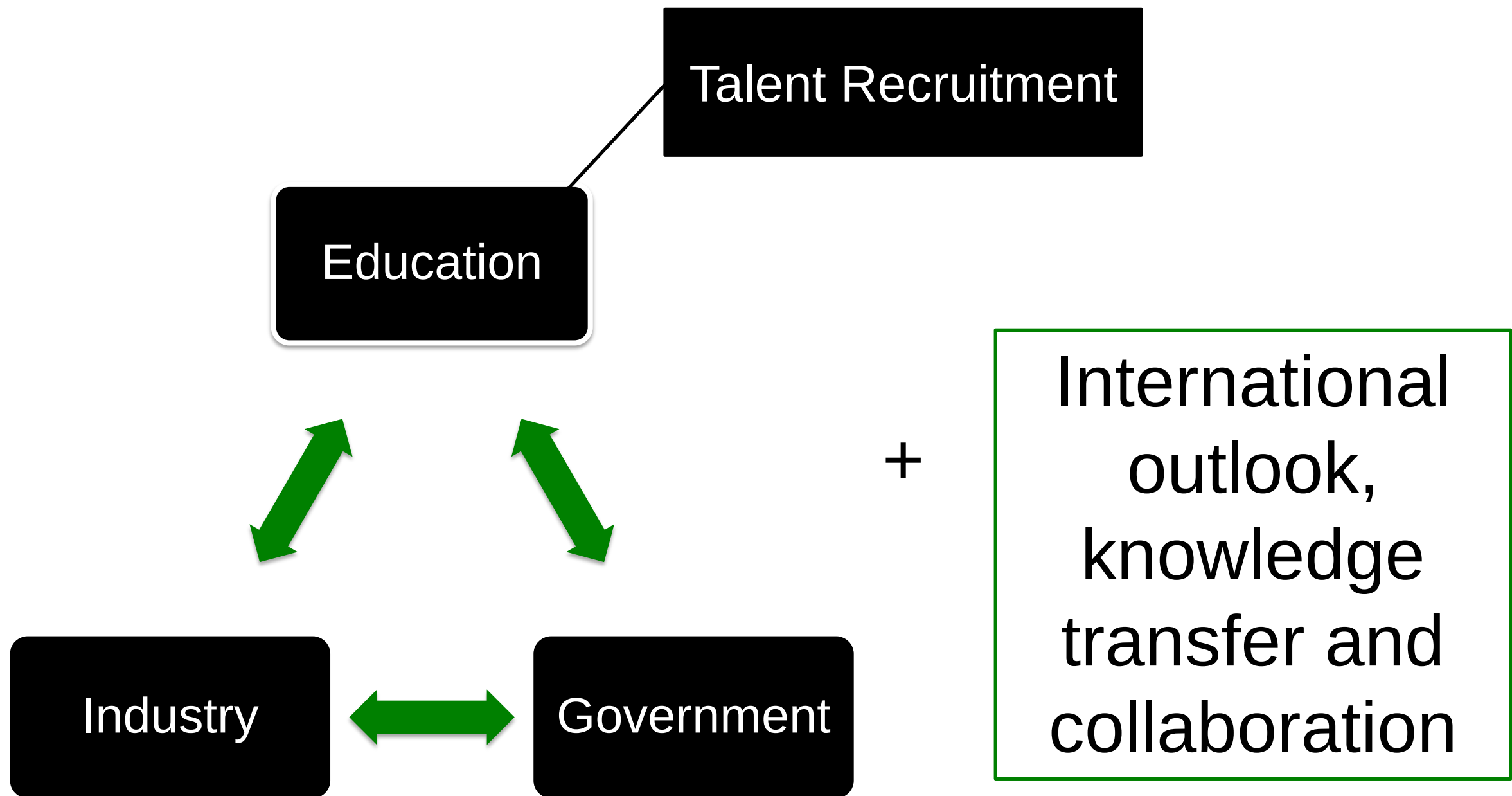
ICELAND SCHOOL OF ENERGY

REYKJAVIK UNIVERSITY



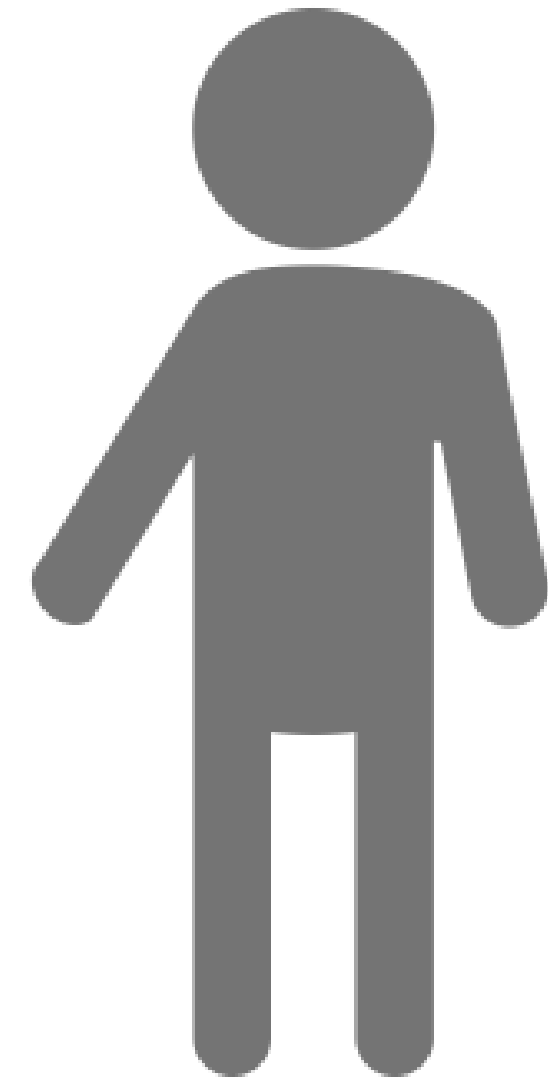
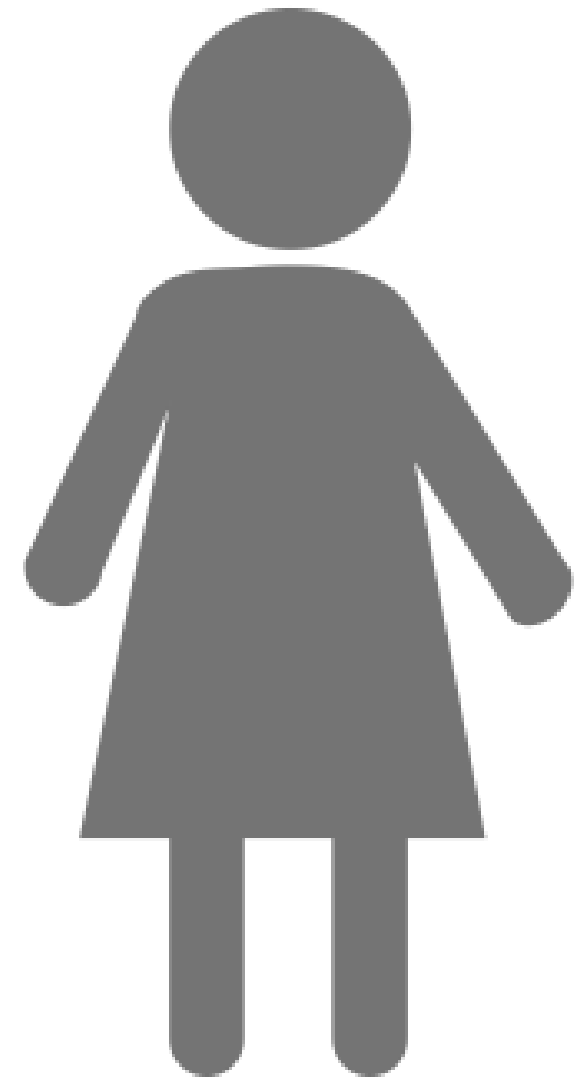
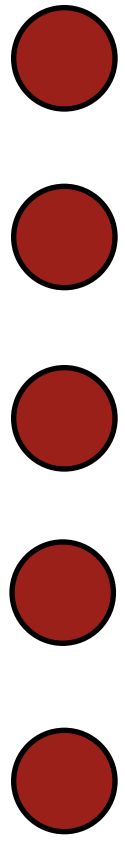


COLLABORATION IS THE KEY



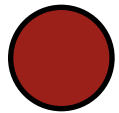
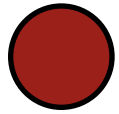
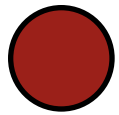
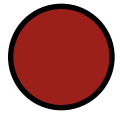
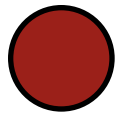
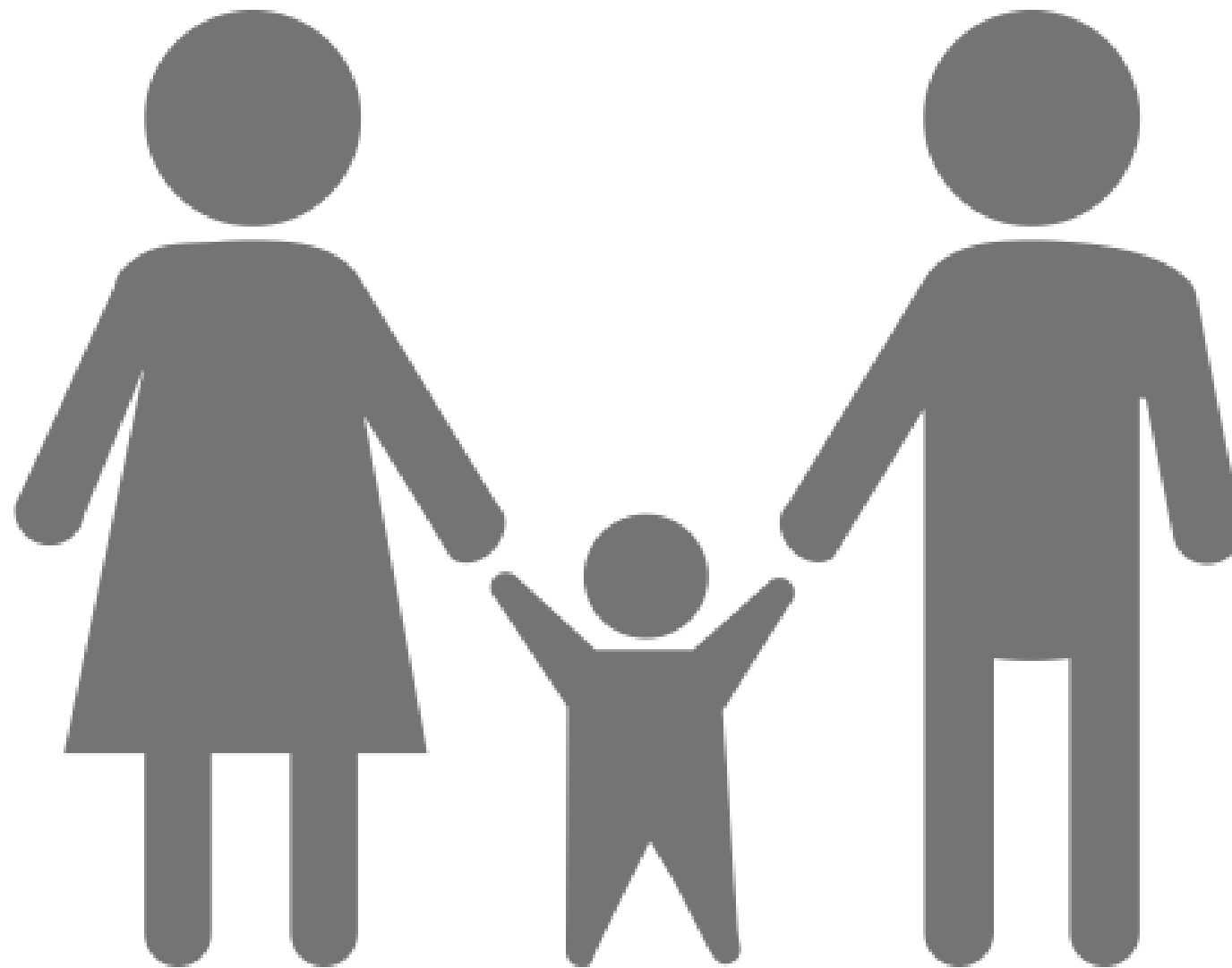


TOGETHER WE.....





YIELD FRUITFUL RESULTS!





THANK YOU!

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- Nina Rangel Ortiz, Mexico



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REYKJAVIK UNIVERSITY

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