

HIGHWAYS FOR KNOWLEDGE, COOPERATION AND ENERGY

Johanna Rust | Moritz Schäfer
Ruhr-Universität Bochum | Germany



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ENERGY? LIFE!



Energy:

- fundamental component of a nation's welfare
- the chance and possibility of each human being to empower his individual abilities.

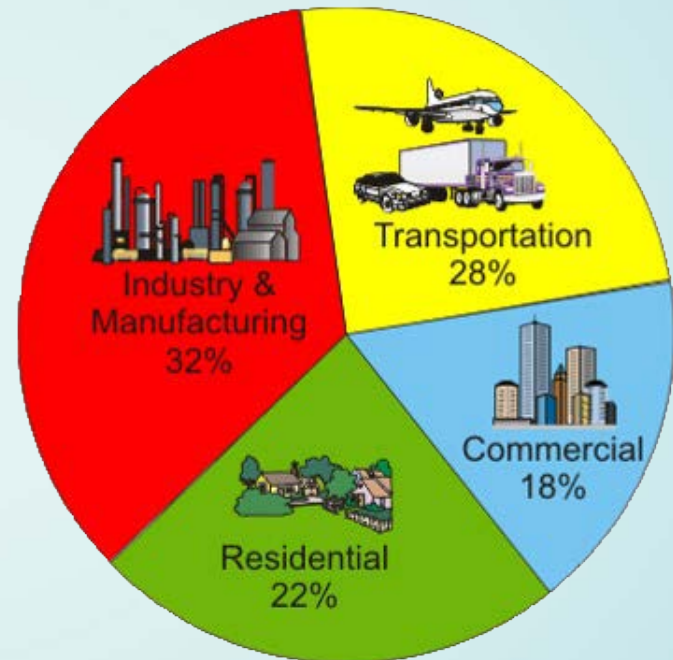


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Energy is central pillar of

- Production
- Consumption
- Global economic wealth

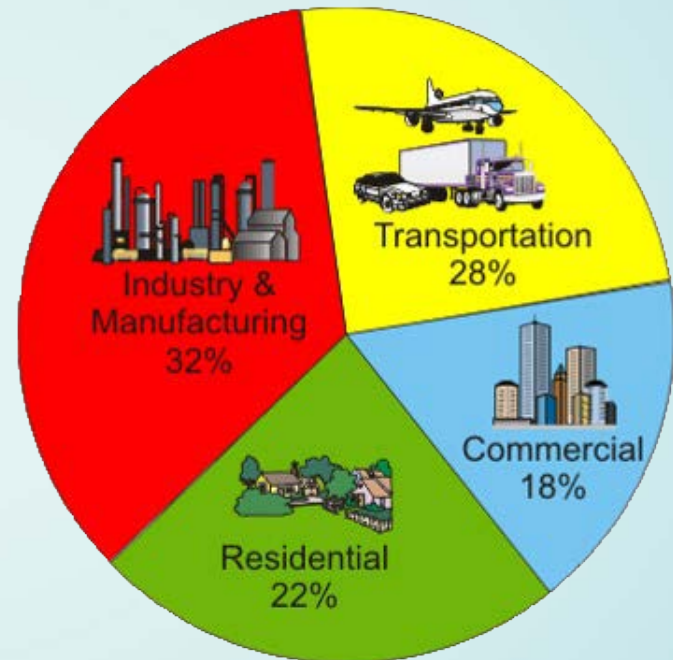


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Energy is central pillar of

- Production
- Consumption
- Global economic wealth



↪ Adjustment is going on

ENERGY? LIFE!



Energy is central pillar of

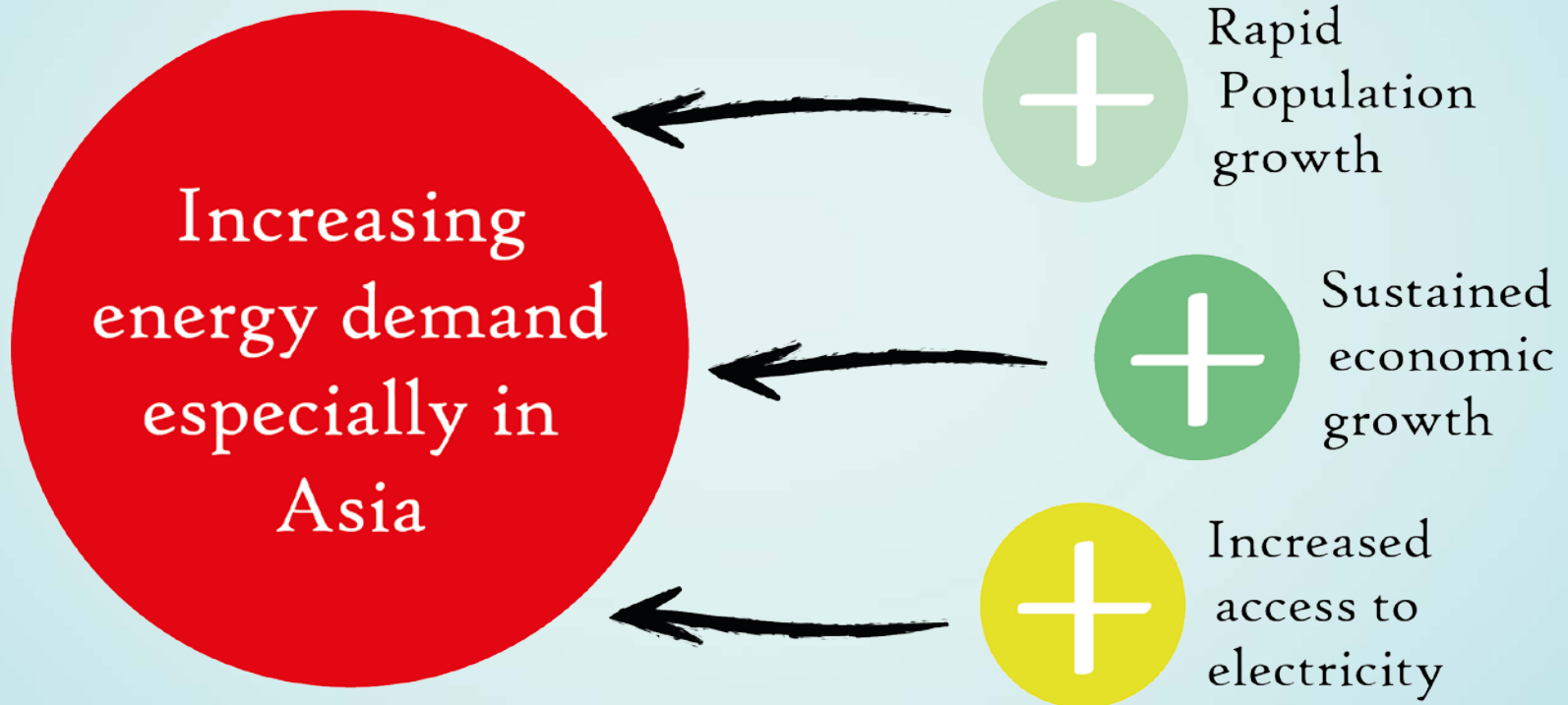
- Production
- Consumption
- Global economic wealth

Tendencies:

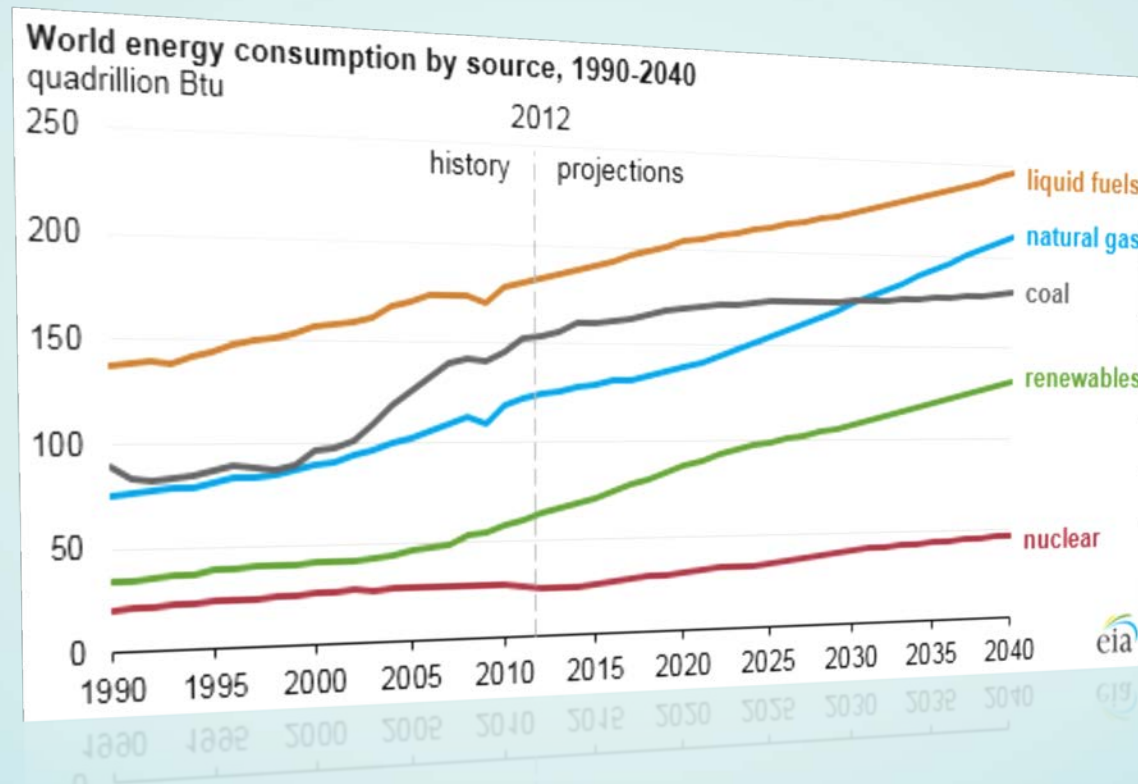
- Climate change
- Increasing volatility in oil and gas markets
- Geopolitical changes



ENERGY DEMAND + FACTORS



ENERGY DEMAND + FACTORS



→ Energy consumption will grow by 48% until 2040



ENERGY DEMAND + FACTORS



Vast potential for renewable energy

Challenge:

- Secure sufficient funding
- Feasible concepts



ENERGY DEMAND + FACTORS

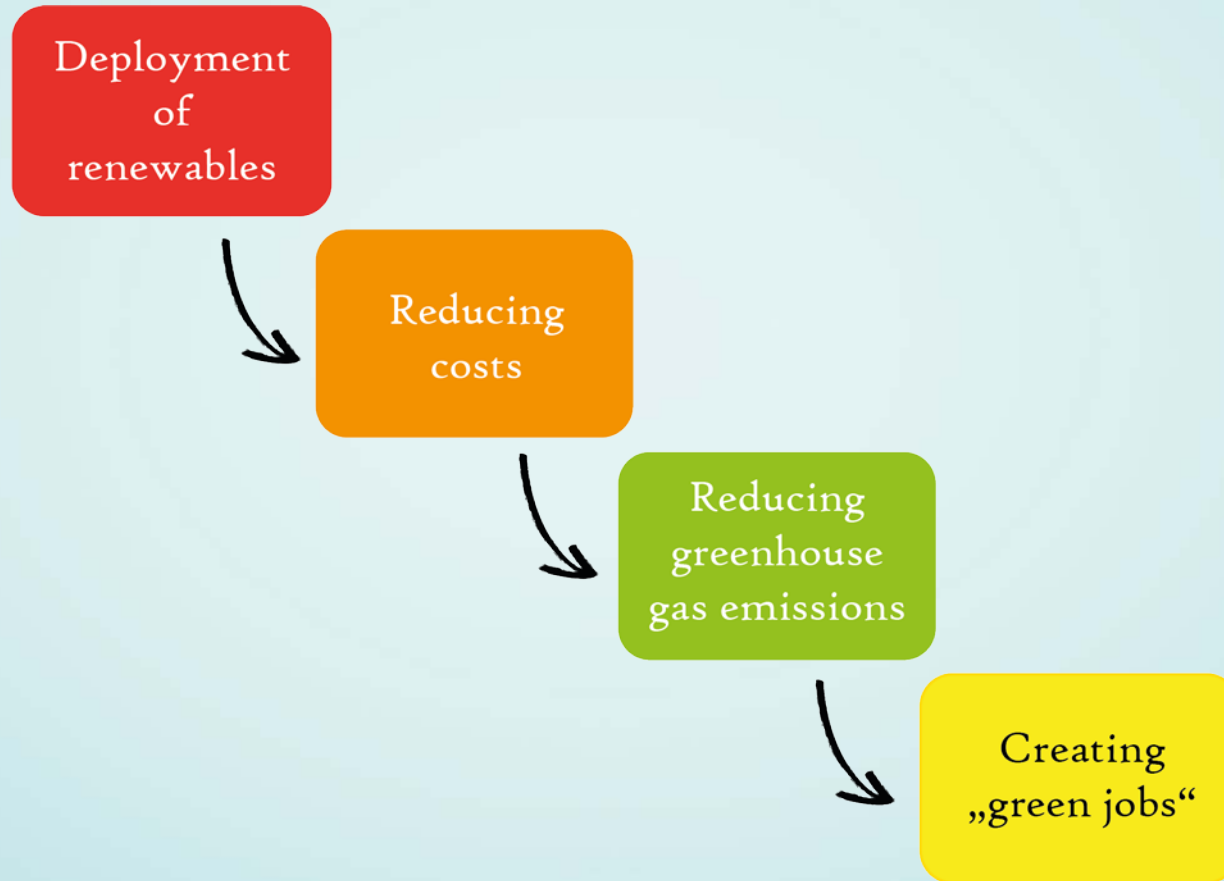


80% of global energy consumption is based on fossil fuels (IEA, 2017).

Necessity for a stable policy landscape that provides economic and regulatory support for renewable energy development.



ENERGY DEMAND + FACTORS



GLOCALITY FOR A NEW WAY OF LIFE

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Providing answers to upcoming bottlenecks in global energy issues → interconnectedness

„Glocality“ → contextualizing global aspects and grasp them in a concept

GLOCALITY FOR A NEW WAY OF LIFE

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„Glocality“ → contextualizing global aspects and grasp them in a concept

→ Multidimensional process of globalization + local and regional consequences and contexts = shaping responsibility

GLOCALITY FOR A NEW WAY OF LIFE

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„Glocality“ → contextualizing global aspects and grasp them in a concept

- Multidimensional process of globalization + local and regional consequences and contexts = shaping responsibility
- Interplay between global and local knowledge, religions, cultures etc.

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Challenge: „deployment of effectiveness“
→ Enlargement in form of „energy highways“



Example now:
→ Central Asia

ENERGY HIGHWAYS

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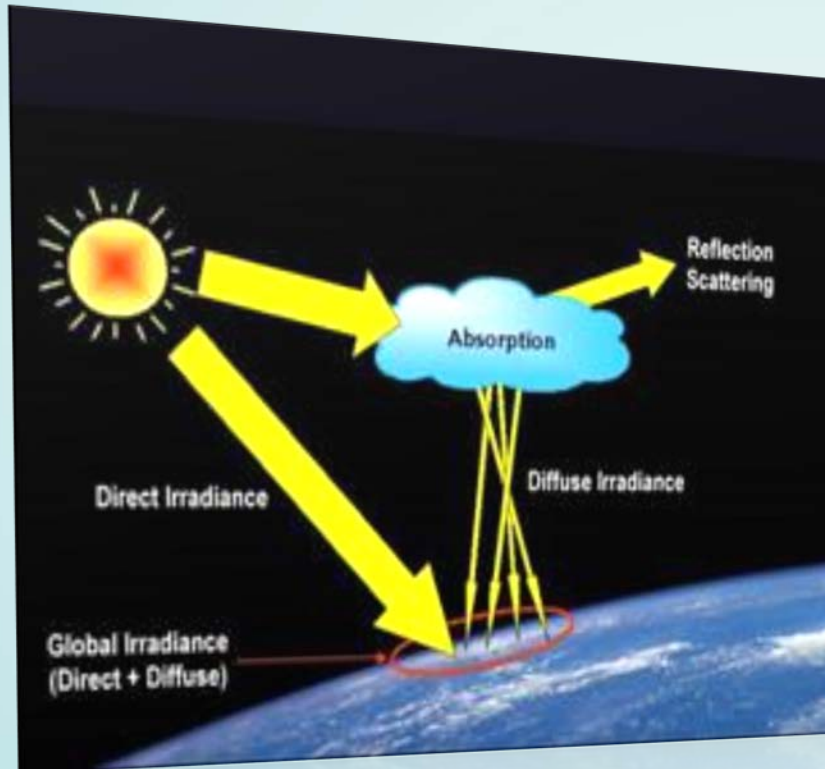
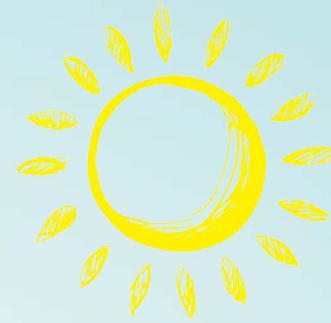


Resource consumption
needs new thinking

→ Aral Sea is diminishing

→ But: great potential in
this region

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Hours of sunshine in
Kazakhstan:

→ 2.200 to 3.000
per year

Direct solar irradiance:

→ 1.690 to 1.980
kWh/m²/year

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Central Asia is a perfect region to generate more energy than is needed → transportation to other regions



ENERGY HIGHWAYS



Geographical and regional differences how it will look like

Key point: power transmission over long distances

→ Using already existing infrastructure



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Key point: power transmission over long distances

- Using already existing infrastructure
- Sharing costs
- Knowledge exchange
- Transfer of technologies

} advantages

ENERGY HIGHWAYS



Key point: power transmission over long distances

- Using already existing infrastructure
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ENERGY COOPERATIVES

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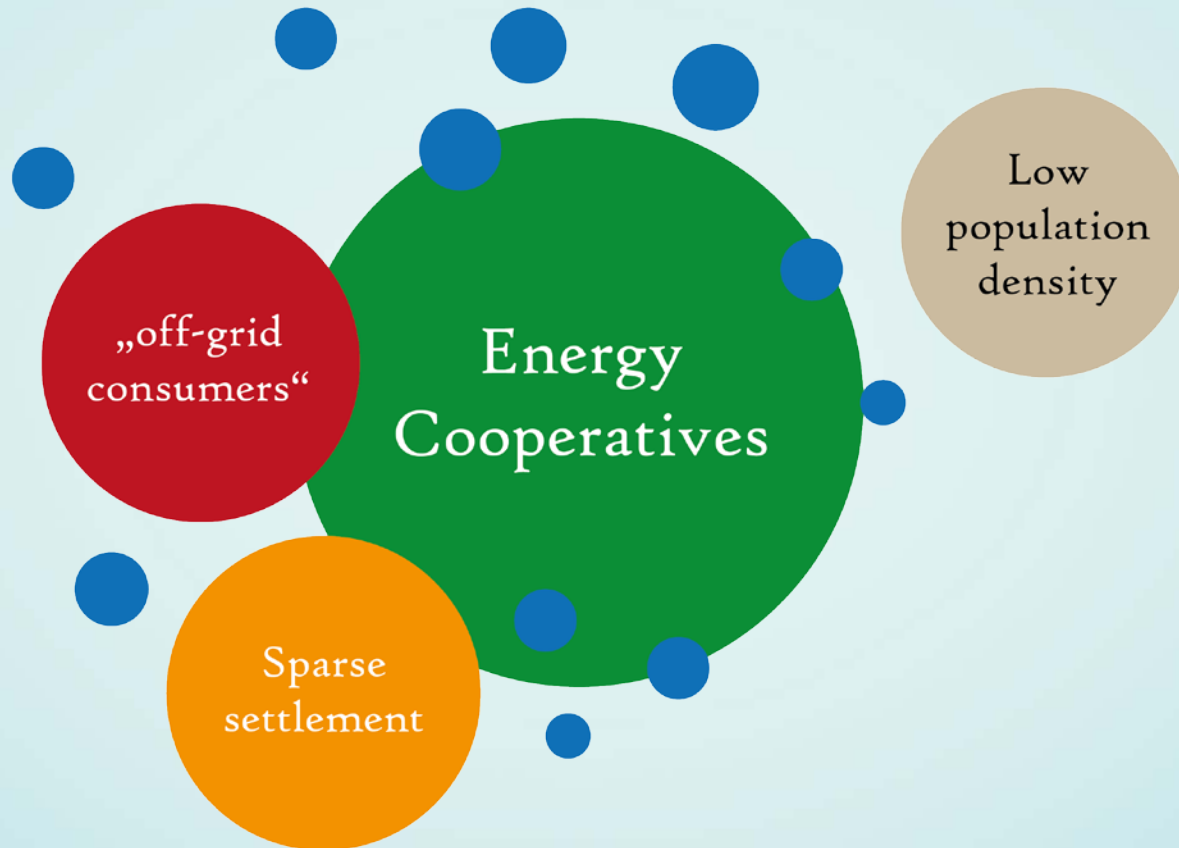


„Incentivise cost-efficiency“



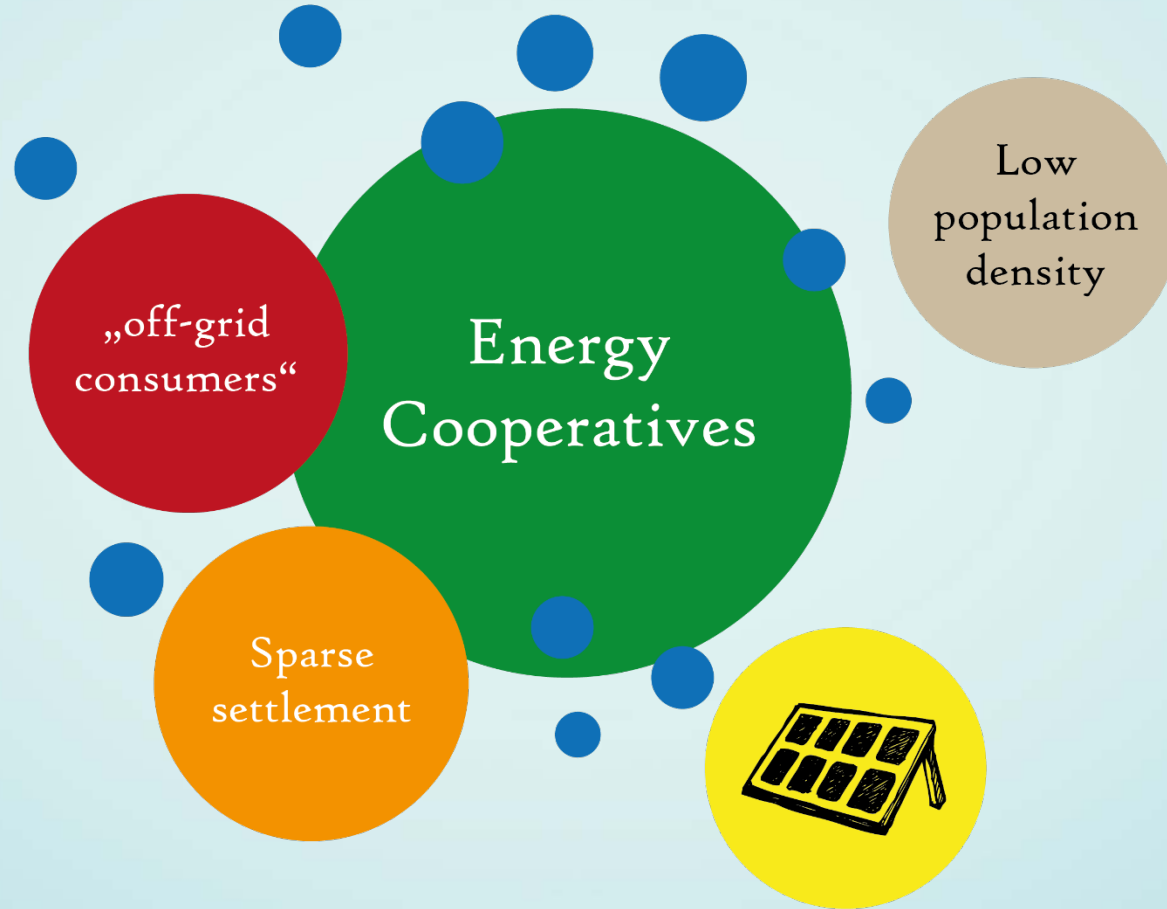
„Energy Cooperatives“

ENERGY COOPERATIVES



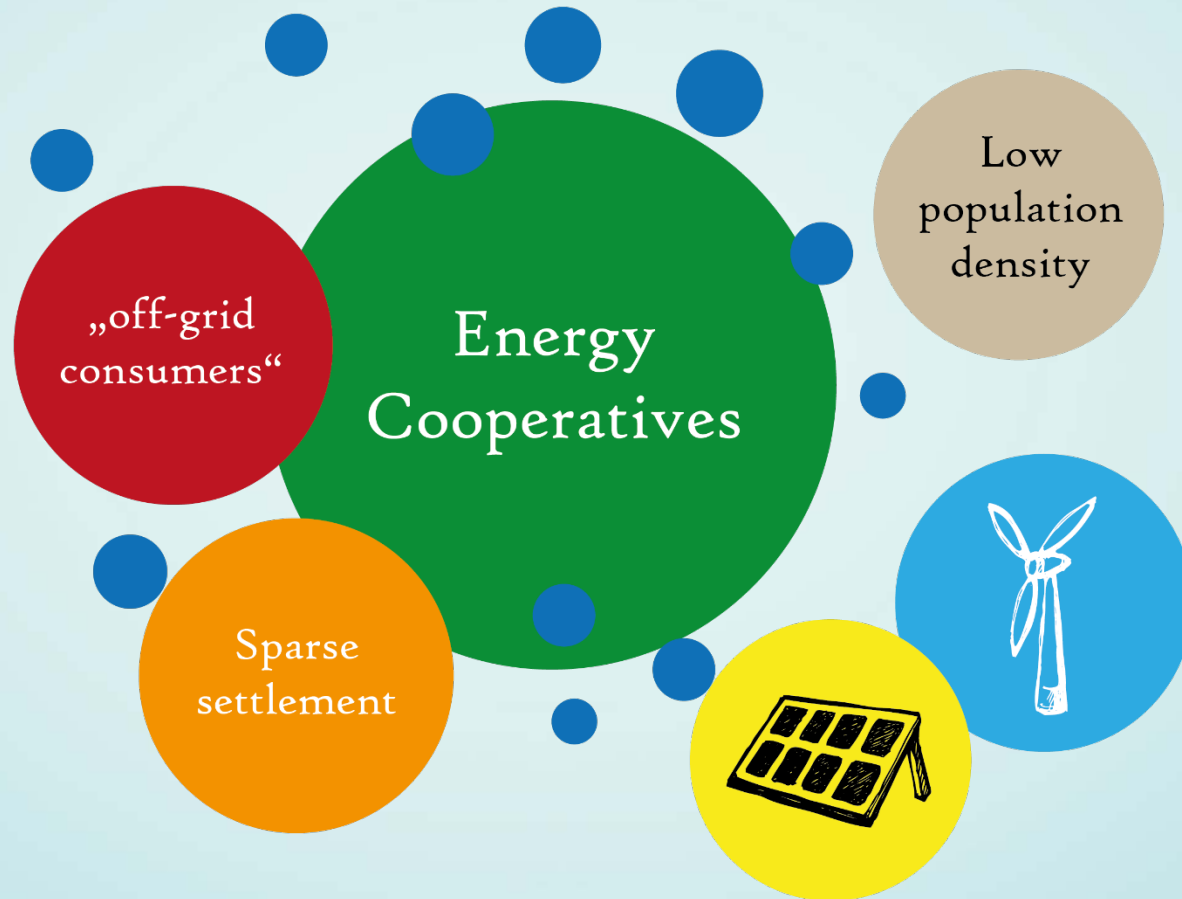
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ENERGY COOPERATIVES

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ENERGY COOPERATIVES

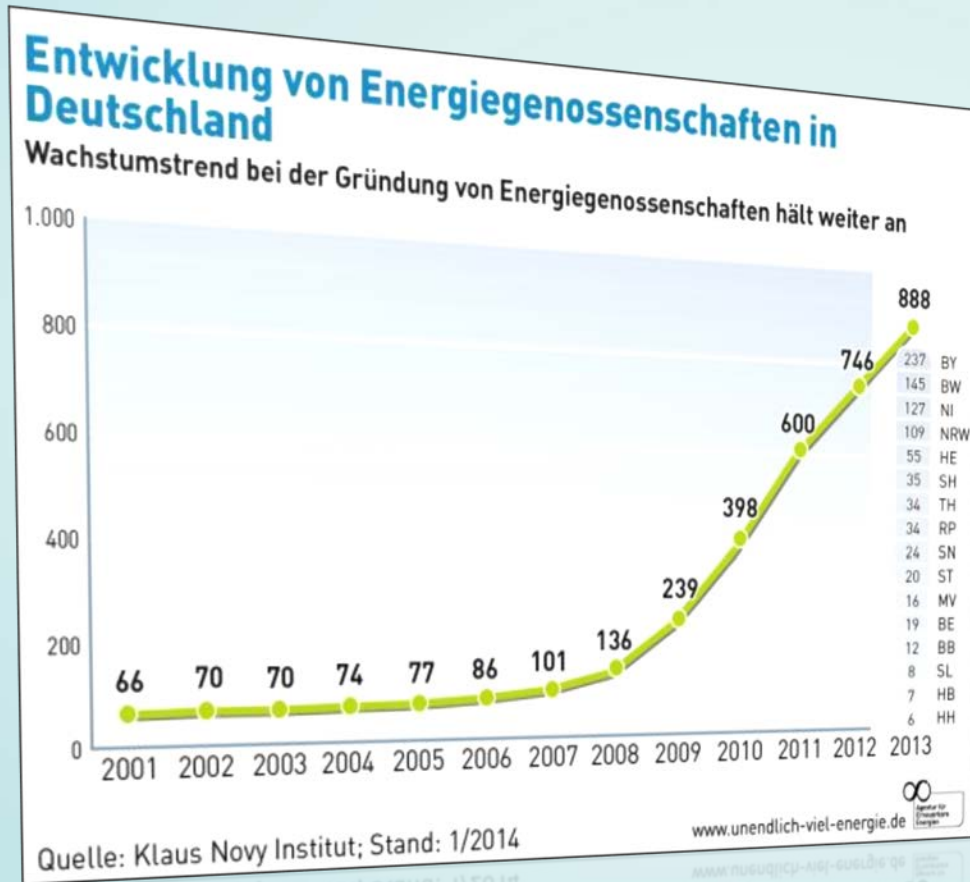
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Ability &
Responsibility



ENERGY COOPERATIVES

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Germany:



More than 800
cooperatives in
energy issues

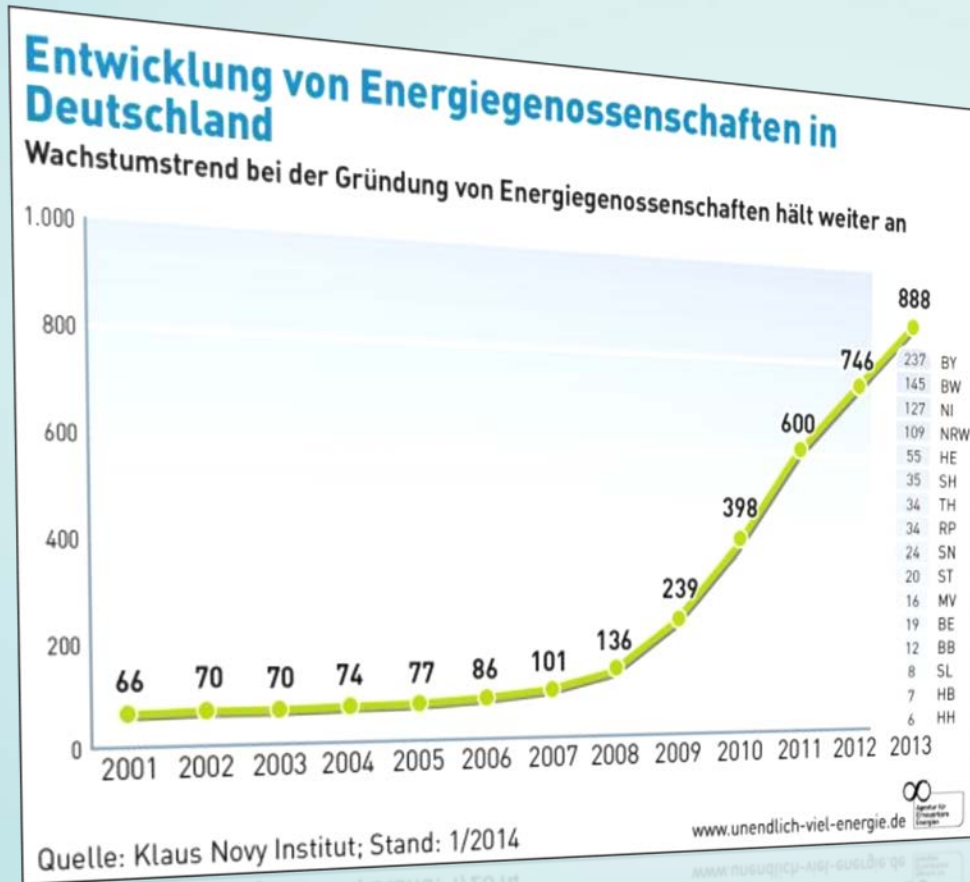
→ EU law

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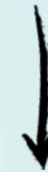


ENERGY COOPERATIVES

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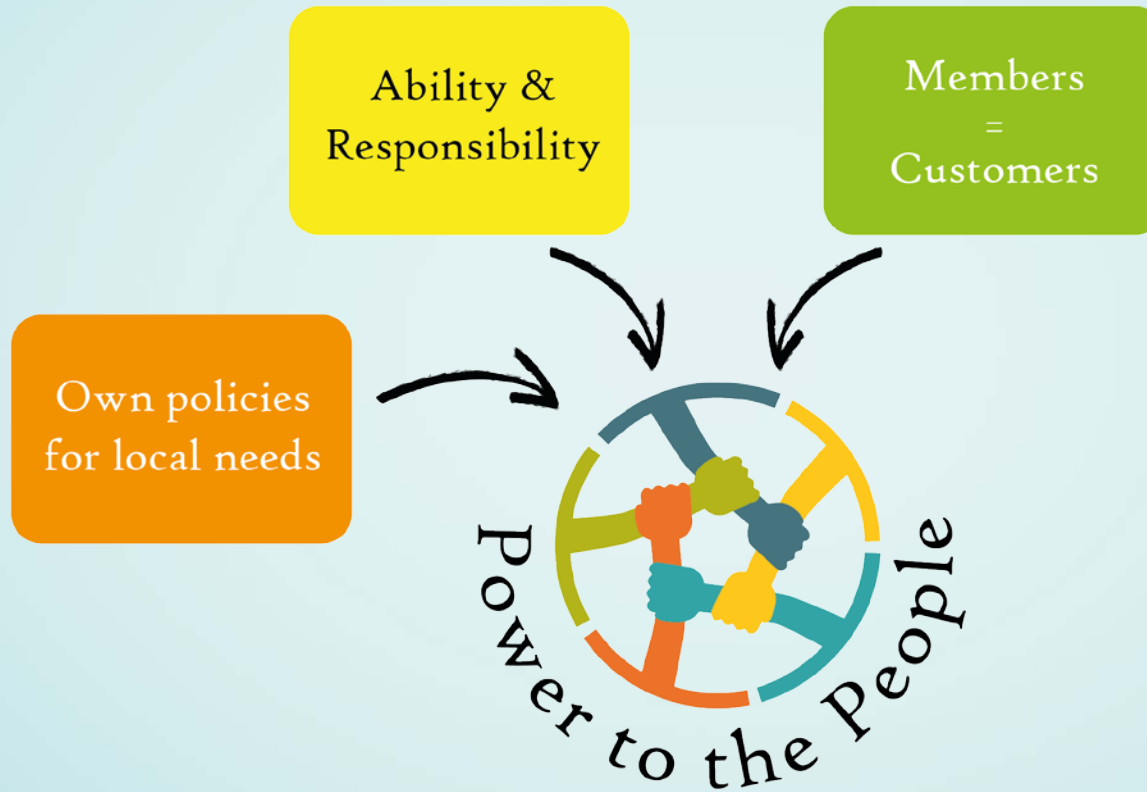
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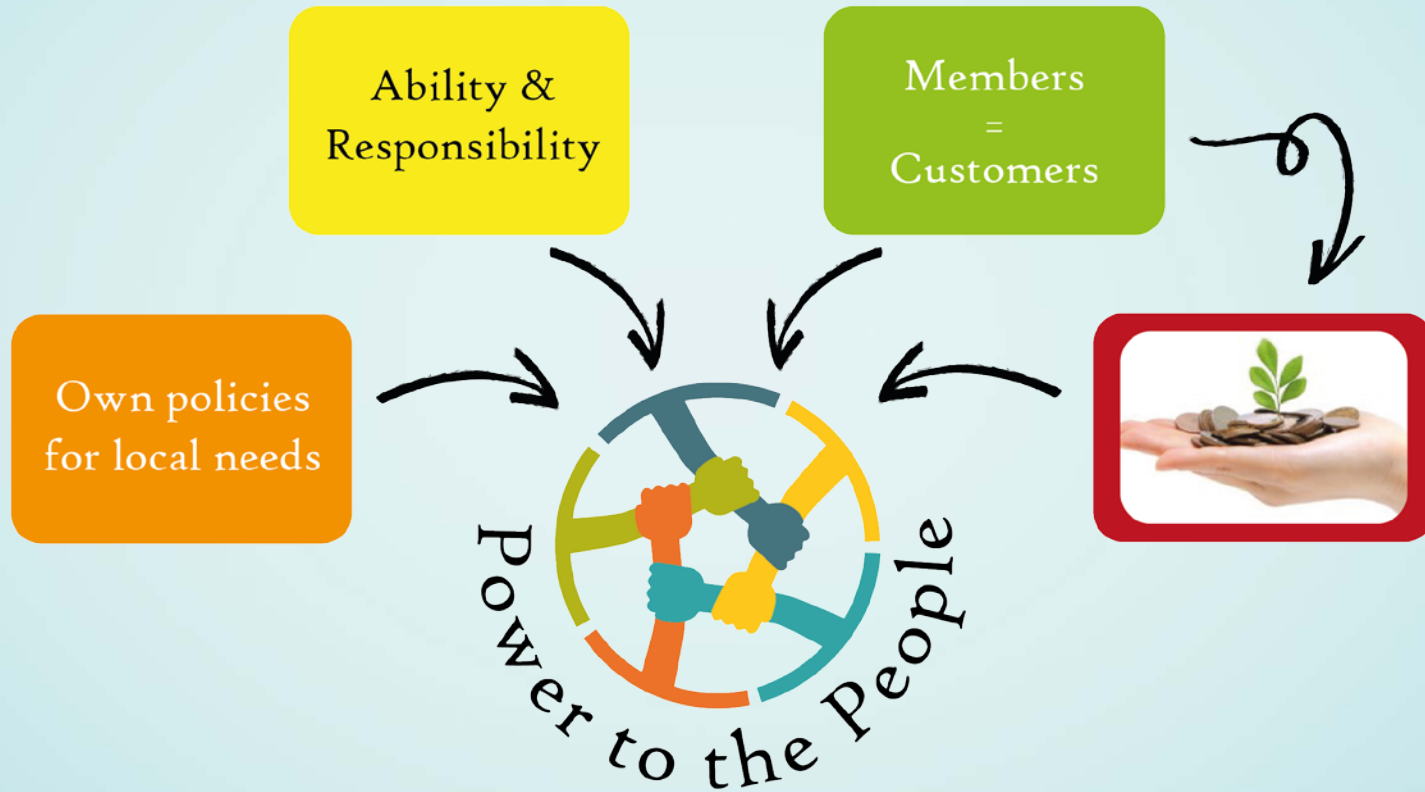
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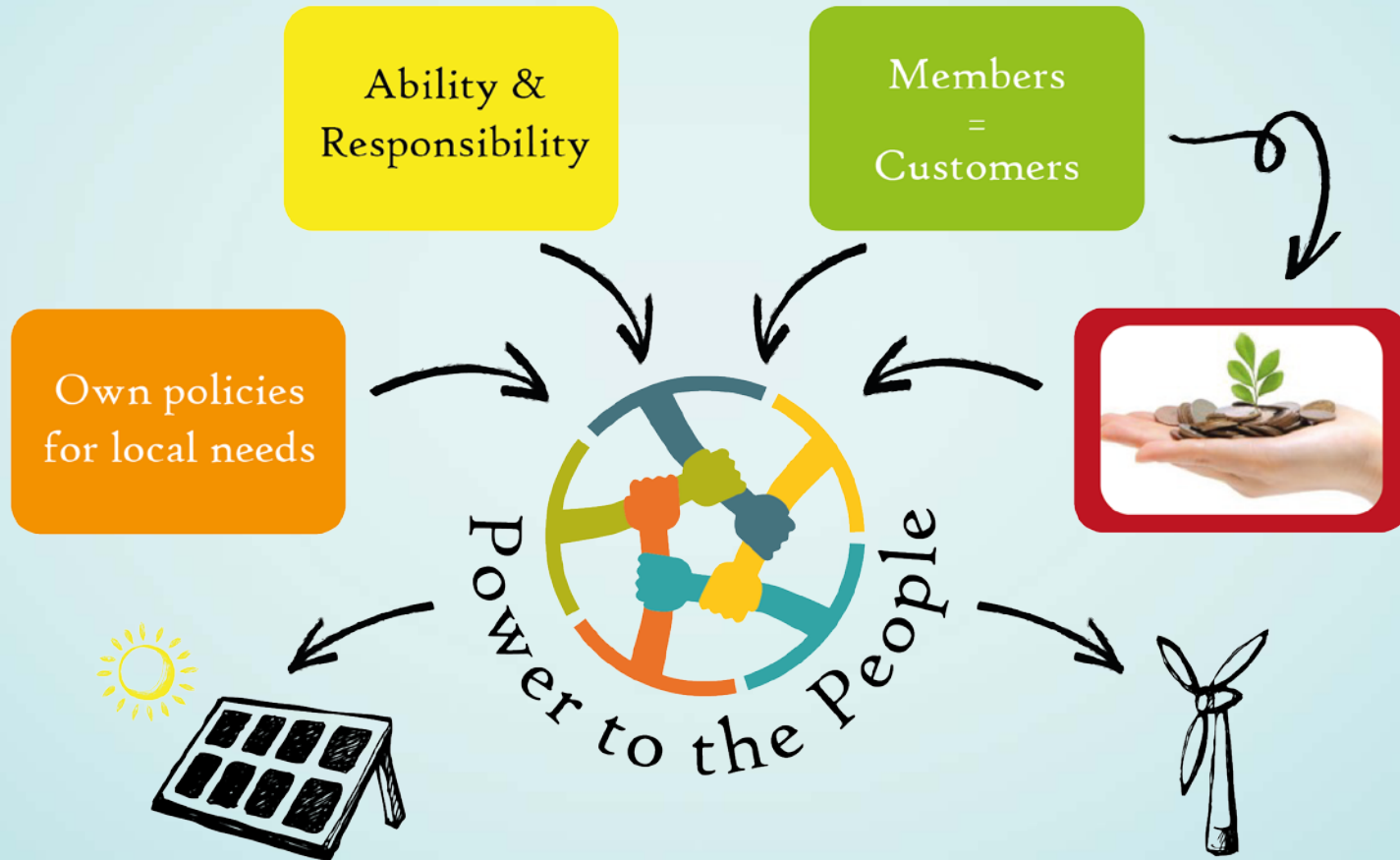


ENERGY COOPERATIVES

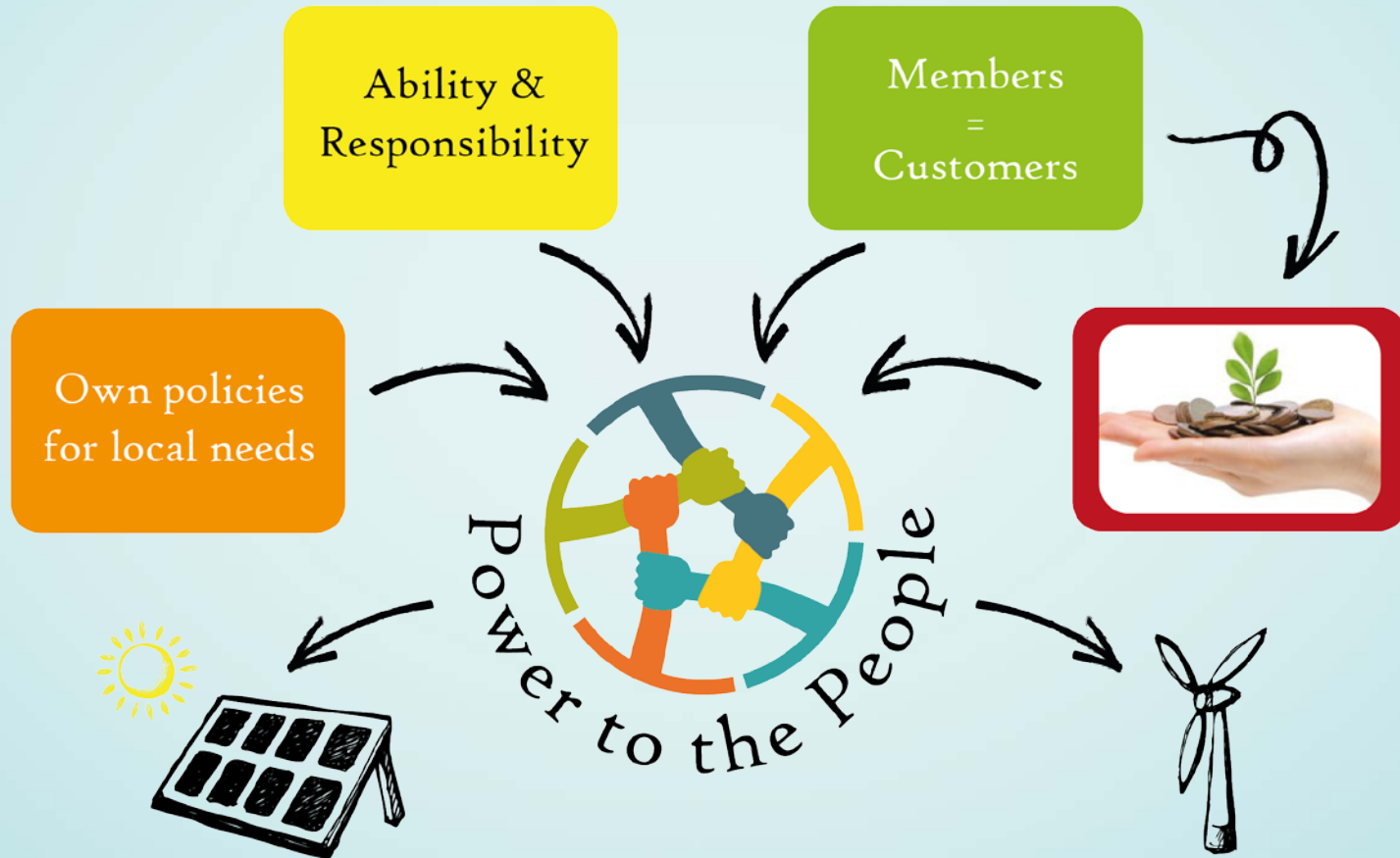
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ENERGY COOPERATIVES



ENERGY COOPERATIVES



SUSTAINABILITY

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Brundtland Commission in 1987:

Sustainable development is defined as „meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.“

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High-level
knowledge
exchange



Already
existing
infrastructure

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High-level
knowledge
exchange



Already
existing
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HIGHWAYS FOR KNOWLEDGE, COOPERATION AND ENERGY



Morocco: Noor I, production volume of 160 MV



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Morocco: Noor I, production volume of 160 MW

Energy cooperatives → management and coordination



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Morocco: Noor I, production volume of 160 MW

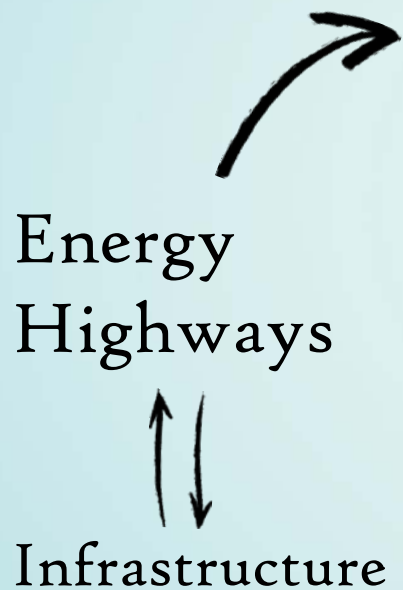
Energy Highways



far-reaching
infrastructure lines

Energy cooperatives → management and coordination

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HIGHWAYS FOR KNOWLEDGE, COOPERATION AND ENERGY



Energy
Highways
↕
Infrastructure



Energy
Cooperatives
↕
Knowledge

Thank you!



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