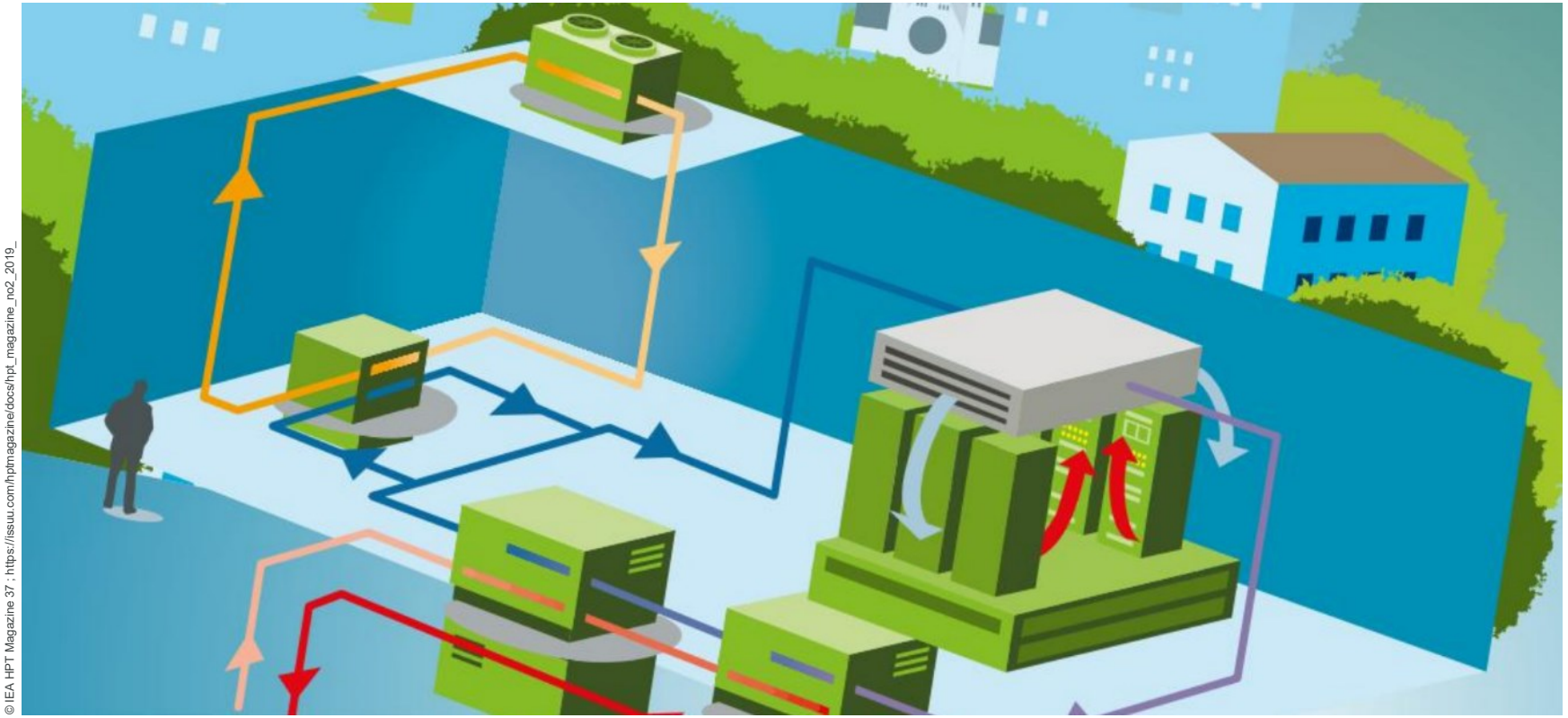
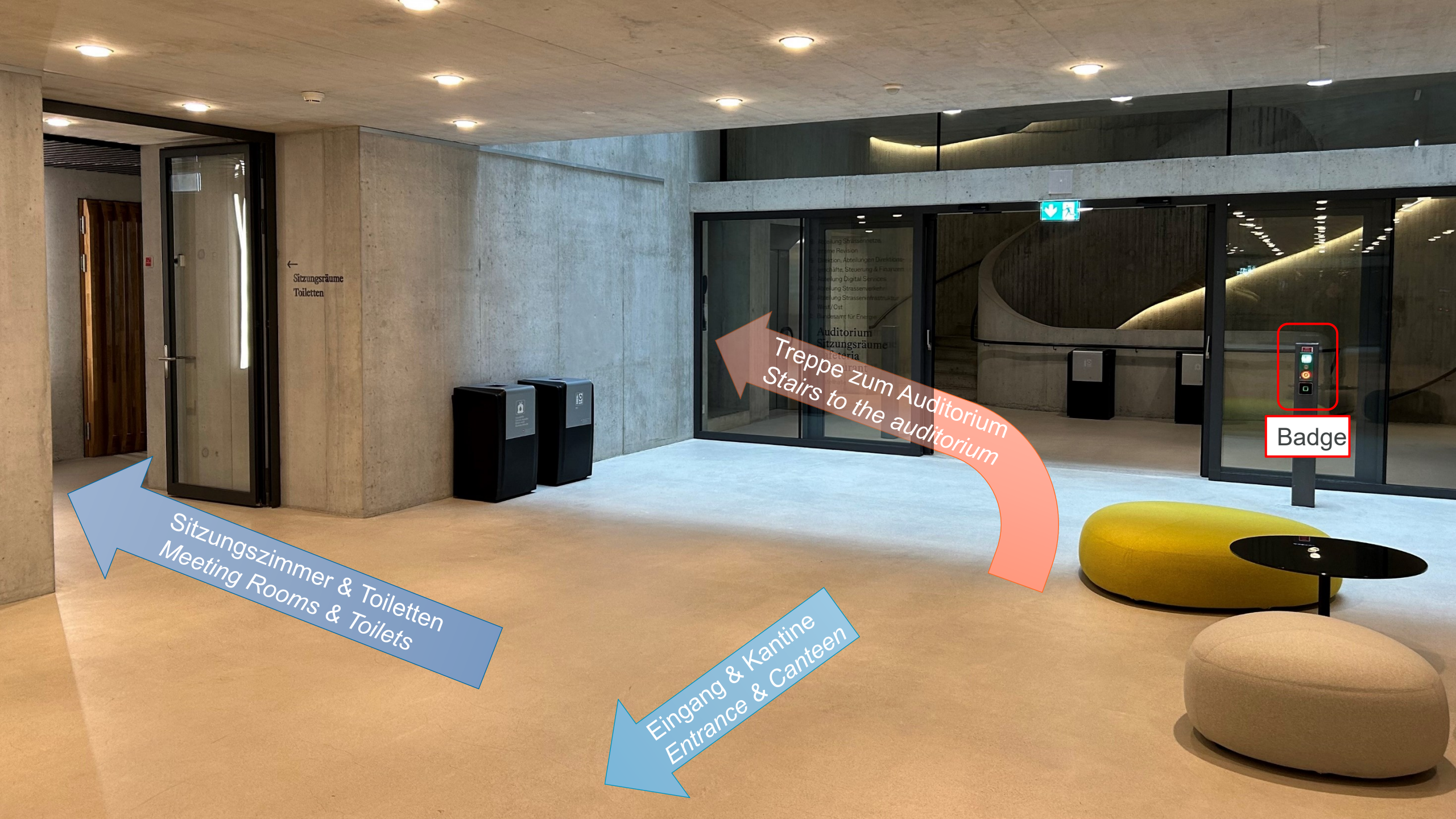
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Energie BFE
Office fédéral de l'énergie OFEN
Ufficio federale dell'energia UFE
Swiss Federal Office of Energy SFOE



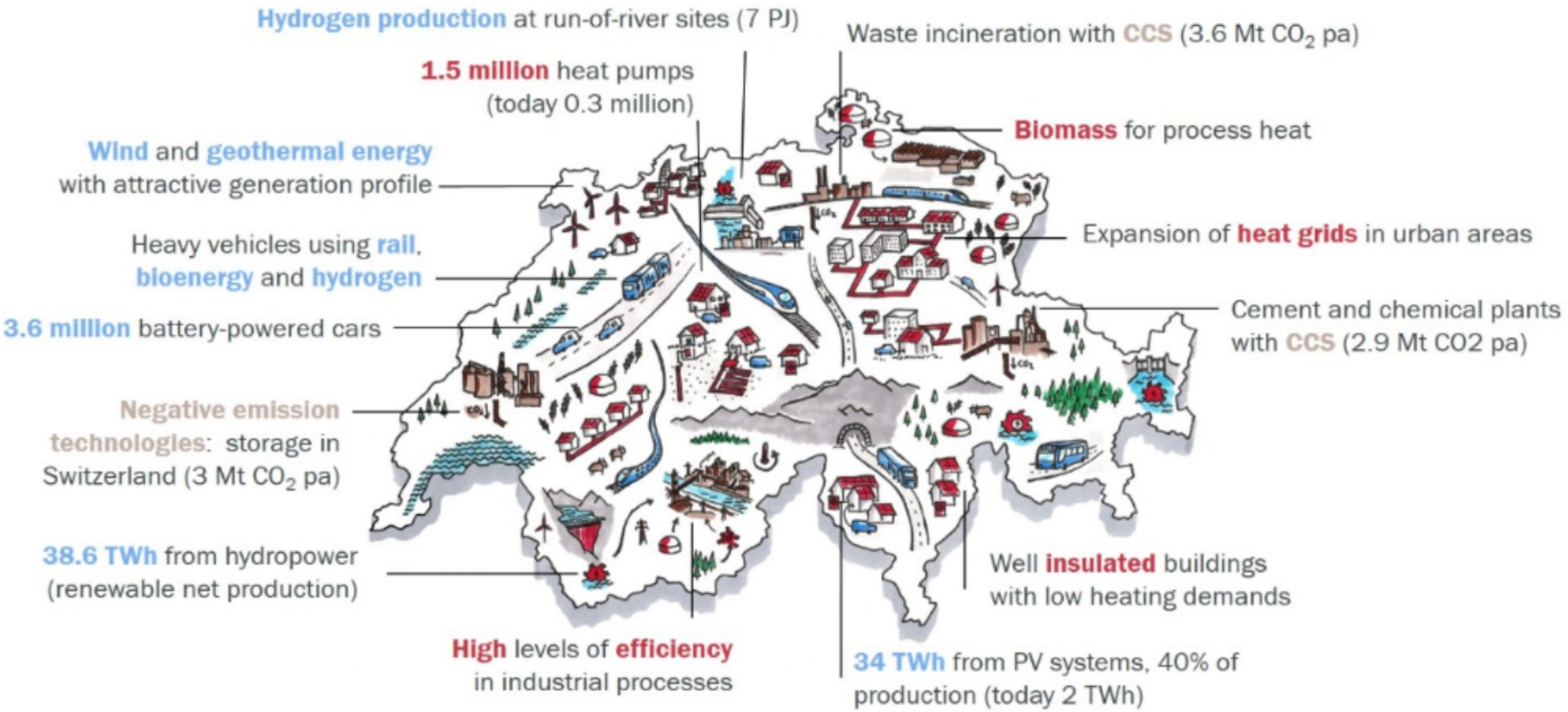
HIGH TEMPERATURE HEAT PUMPS
ESSENTIAL TO ACHIEVE NET-ZERO GOALS


Sitzungsräume
Toiletten
Auditorium
Sitzungsräume
Treppe zum Auditorium
Stairs to the auditorium
Badge
Sitzungszimmer & Toiletten
Meeting Rooms & Toilets
Eingang & Kantine
Entrance & Canteen

HIGH TEMPERATURE HEAT PUMPS
ESSENTIAL TO ACHIEVE NET-ZERO GOALS

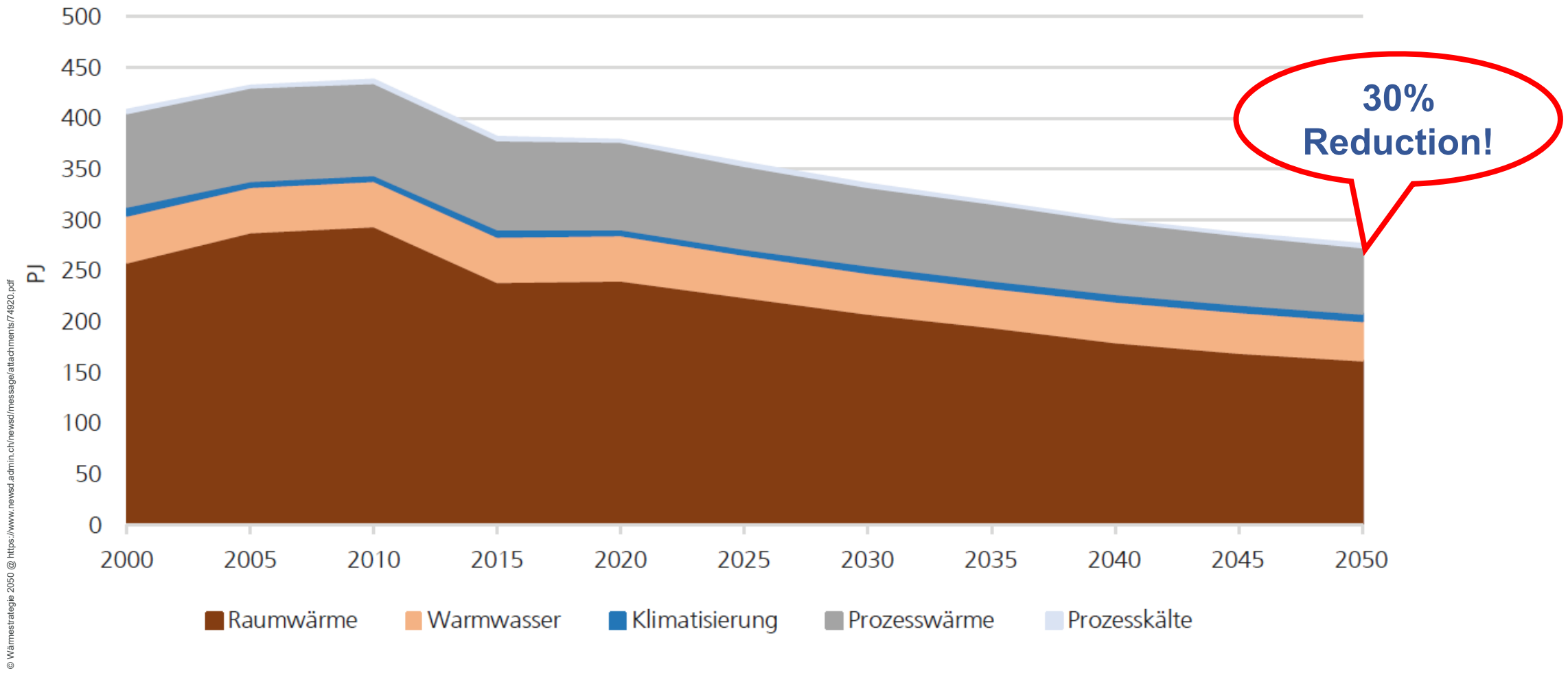
- Net-zero in Switzerland
- Defossilization of Process Heat
- SFOE Support Possibilities
- Networking & Cooperation

NET-ZERO: A CLIMATE NEUTRAL SWITZERLAND



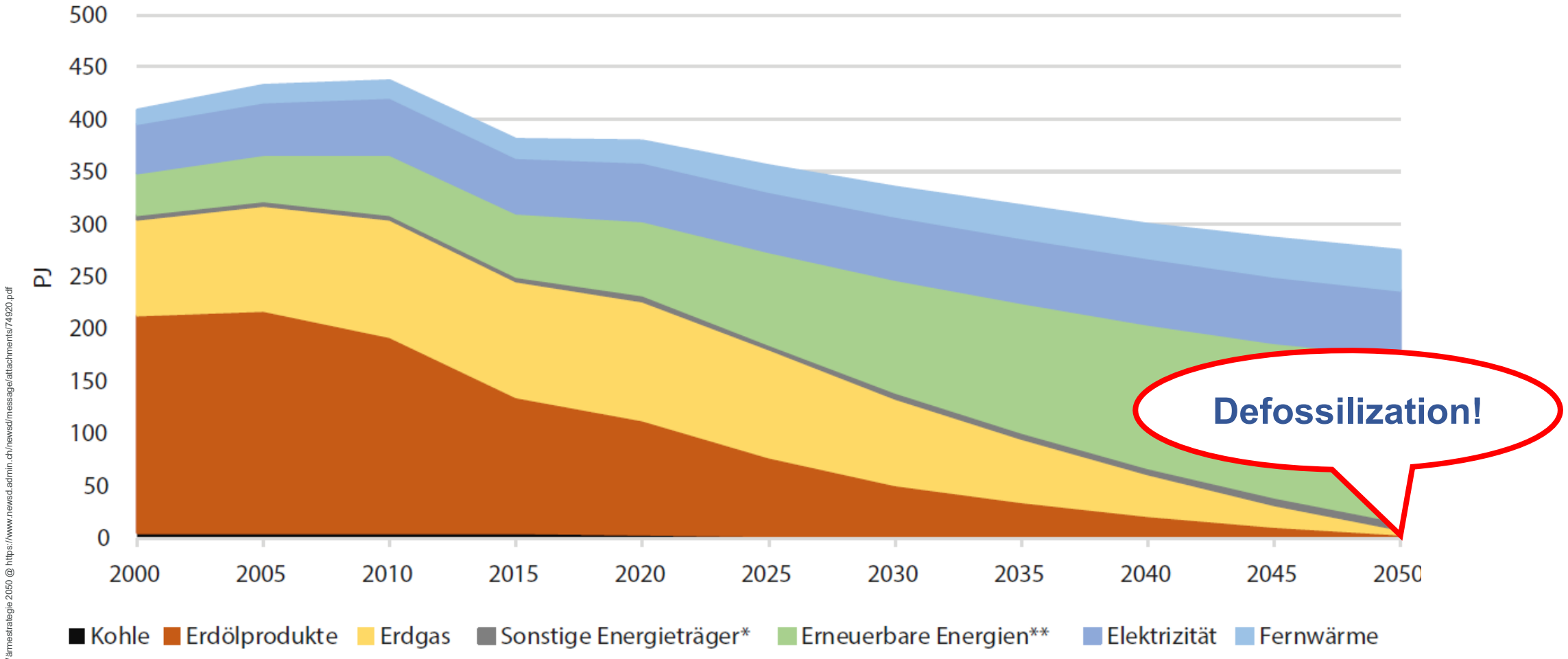
https://www.bfe.admin.ch/bfe/en/home/policy/energy-perspectives-2050-plus.html/

REDUCED ENERGY CONSUMPTION



© Wärmestrategie 2050 @ https://www.newsd.admin.ch/newsd/message/attachments/74920.pdf

SHFT TO RENEWABLE ENERGY



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TOWARDS NET-ZERO IN INDUSTRY

Rethink	Process Simplification, Scheduling, Electrification, Utility Redesign, …..
Reduce	Process Integration Energy Efficiency Measures, ….
Recover	Waste Heat Recovery (w/ Thermal Networks) Waste Heat Upgrade / Utilization
Replace	Renewable Heat Sources Renewable Electricity

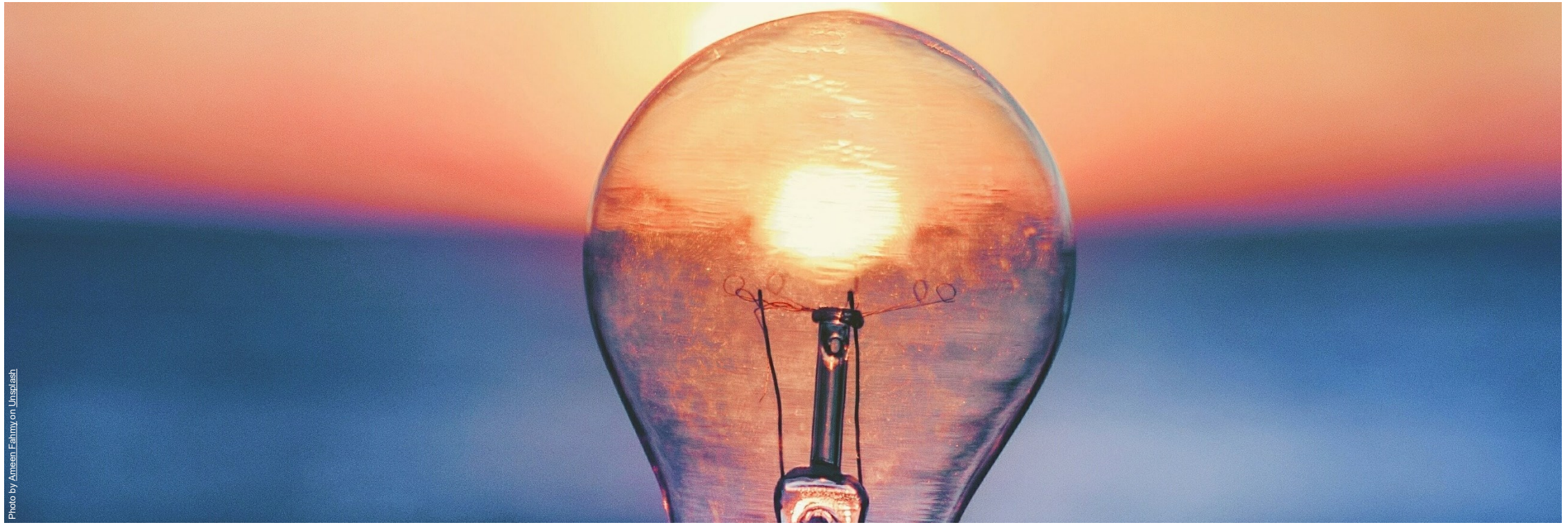
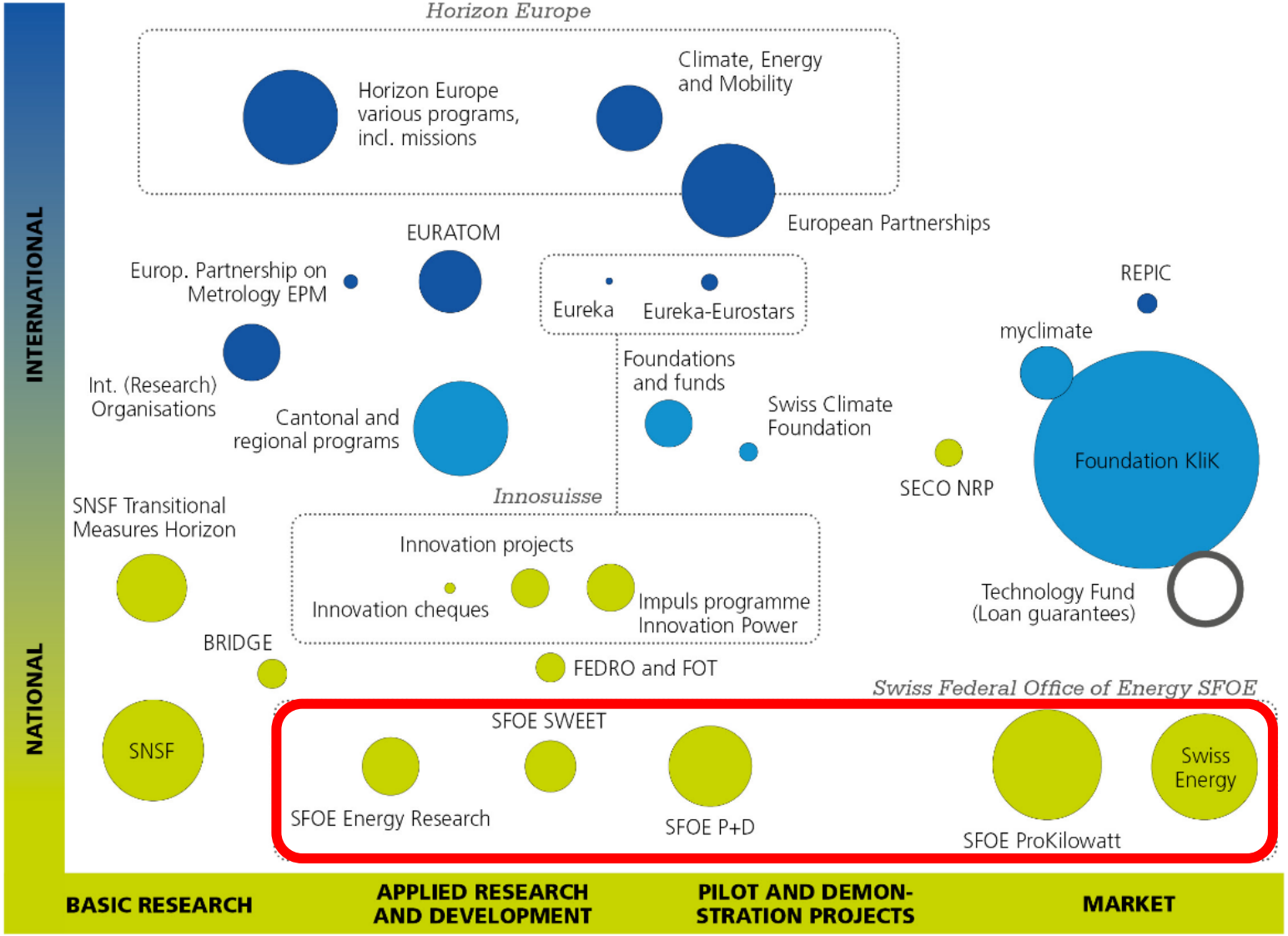


Photo by Ameen Fahmy on Unsplash

SFOE CO-FUNDING OPPORTUNITIES

INNOVATION PROMOTION



Overview & Full report online

SFOE RESEARCH PROGRAMMES

Energy efficiency


Buildings and cities


Mobility


Industrial Processes

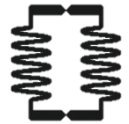

Grids


Electricity technologies


Combustion based energy systems


Fuel cells


Batteries


Heat pumps and refrigeration

Renewable energy


Solar heat and heat storage


Photovoltaics


Solar energy at high temperature


Hydrogen


Bioenergy


Hydropower


Geothermal energy


Wind energy


Dam safety

Economy and society


Energy – Economics – Society

Websites of all research programmes

FUNDING
ENERGY RESEARCH PROGRAMMES

Key Facts

Target groups
Companies, universities, research institutions

Budget/year
18 Mio. CHF

New projects/year
approx. 100

Funding rate
approx. 20-100%
of direct project costs, case specific (principle of subsidiarity)

Criteria

Innovative content
Publication of new, universally valid findings

Application orientation
- Reduction of energy consumpion and GHG emissions
- Expansion / integration of renewable energy
- Flexibility of security of supply

Probability of success
Excellence; competences and experience of the project team; methodology and schedule; costs/benefits

Procedure

1. Check whether projects meet all criteria
2. Contact the programme management and if applicable submit a project sketch
3. Submission of a complete application form

Calls for proposals (top-down) or open project submissions (bottom-up) are possible

Further information can be found in the directive.

FUNDING
PILOT AND DEMONSTRATION PROGRAMME

Key Facts

Target groups
Companies (incl. start-ups & SME), universities, research institutions

Budget/year
25 Mio.

New projects/year
20–25

Funding
40%
of non-amortisable supplementary costs

Criteria

Innovative content
Piloting generates new, universally valid findings

Application potential
Energy potential, realistic implementation approaches, multiplication potential

Probability of success
Competencies and experience of the project team, methodology and schedule

Procedure

1. Consult the information on the website as well as in the directive
2. Contact the programme management and submit a project sketch
3. Submission of a complete application form
4. Implement project

Calls for proposals (top-down) or open project submissions (bottom-up) are possible

Further information can be found in the directive.

FUNDING
SWEET PROGRAMME FOR CONSORTIA

Key Facts

Funding rate

approx. 50-80%

Budget (until 2032)

136.4 Mio.CHF

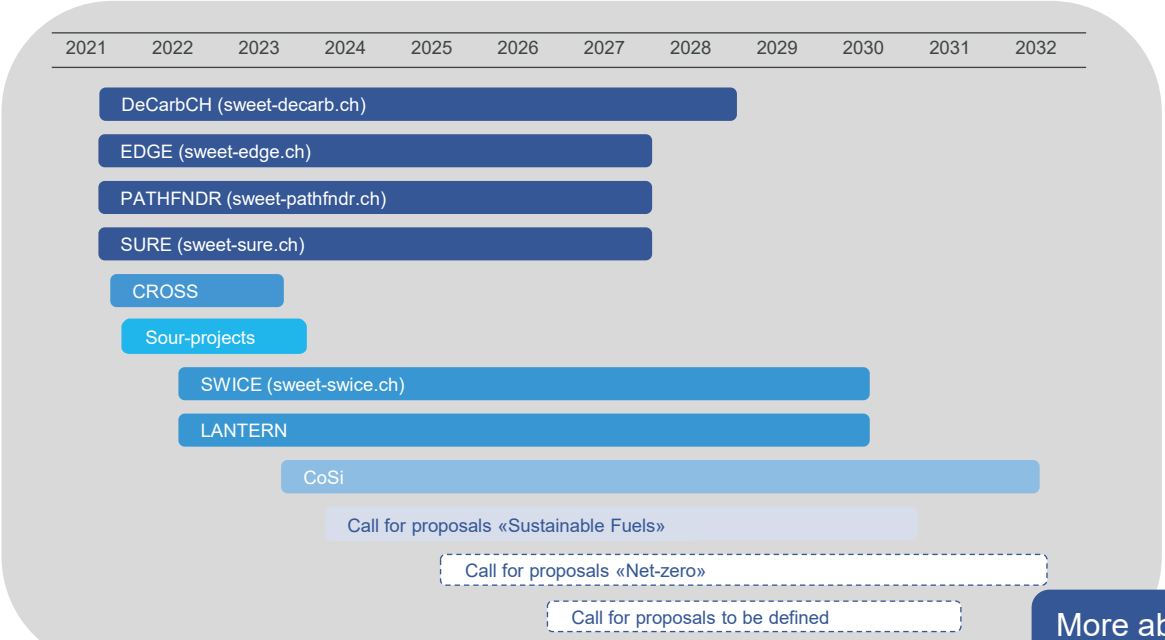
New consortia/year

approx. 1-2

Programme duration

2021-2032

sweet swiss energy research for the energy transition



More about SWEET online

SWISS ENERGY SUPPORT FOR ENTERPRISES

- Decarbonization Roadmpas
- Energy Consulting for SMEs
- Pinch Analyses
- High Temperature Heat Pumps
- NEW:

  Decarbonization of process heat

  Call for proposals open until July 15, 2023

Call for proposals online

HEAT PUMP NETWORKING IN SWITZERLAND

Save the date:

June 14, 2023 @ Burgdorf

Annual Conference

of the SFOE Research Programme

on Heat Pump and Refrigeration Technologies

Register @ https://www.fws.ch/news-aus-der-waermepumpenforschung-29-tagung-in-burgdorf/

Visit us @ www.bfe.admin.ch/research-heat-pumps-and-refrigeration

IEA HEAT PUMPING TECHNOLOGIES

ANNEX 35

Application of Industrial Heat Pumps (IHP)

ANNEX 48

Industrial Heat Pumps, Second Phase

ANNEX 58

High-Temperature Heat Pumps

This Annex gives an overview of available technologies and close-to-market technologies regarding high-temperature heat pumps. The need for further RD&D developments will be outlined. In order to maximize the impact of high-temperature heat pumps, this Annex also looks at process integration by development of concepts for heat pump-based process heat supply and the implementation of these concepts.

ANNEX 59

Heat Pumps for Drying

The proposed Annex aims to structure and describe the numerous possibilities and advantages of heat pump integration in dryers. Both state of the art and innovative solutions in industrial, commercial and household applications will be investigated and described.

visit https://heatpumpingtechnologies.org

High temperature heat pumps are essential to achieve net-zero goals.

Thank you for joining us today and on the journey ahead!