



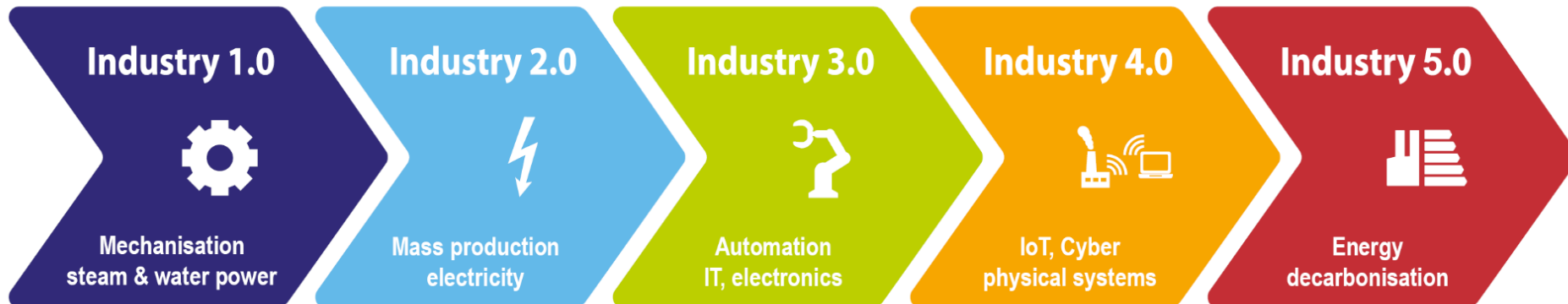
Industry 5.0

Competitiveness through the energy transition

Christiane Egger
OÖ Energiesparverband
christiane.egger@esv.or.at

Industrial Revolutions

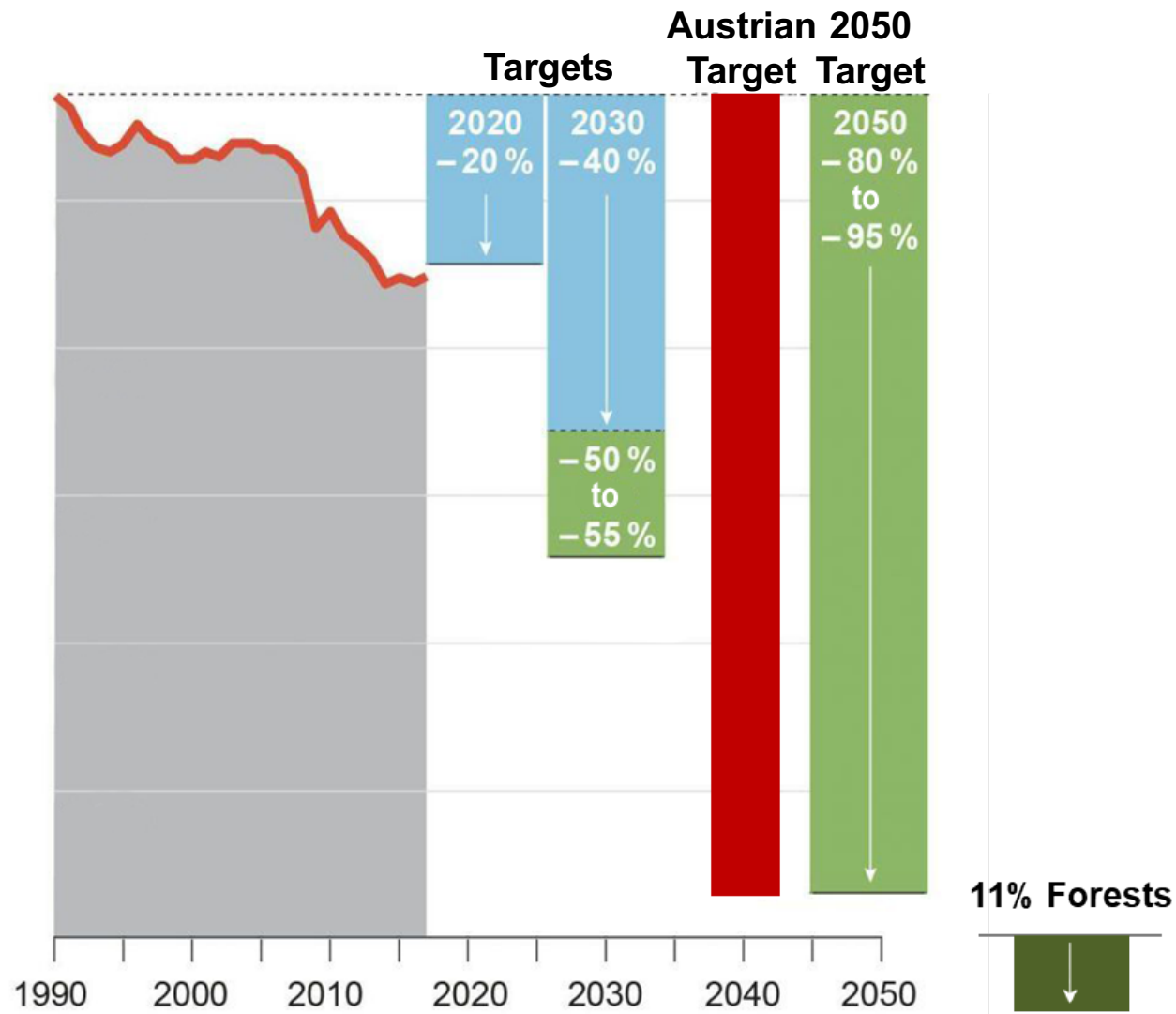
INDUSTRIAL REVOLUTIONS



© Christiane Egger, OÖ Energiesparverband

Industry 5.0: Independence from fossil fuels is a decisive factor for competitiveness

The European Green Deal



Game changer: Climate Neutrality for Industry



**From incremental,
step-by-step
improvements **to**
-> working back from
this end goal!**

The region of Upper Austria



Capital: Linz
Population: 1.5 million



Industrial & rural:
25% of Austrian industrial exports
50% live in small municipalities

Upper Austria as European leader in the energy transition

**competitiveness and quality of life through
decarbonisation (and not: despite of)**

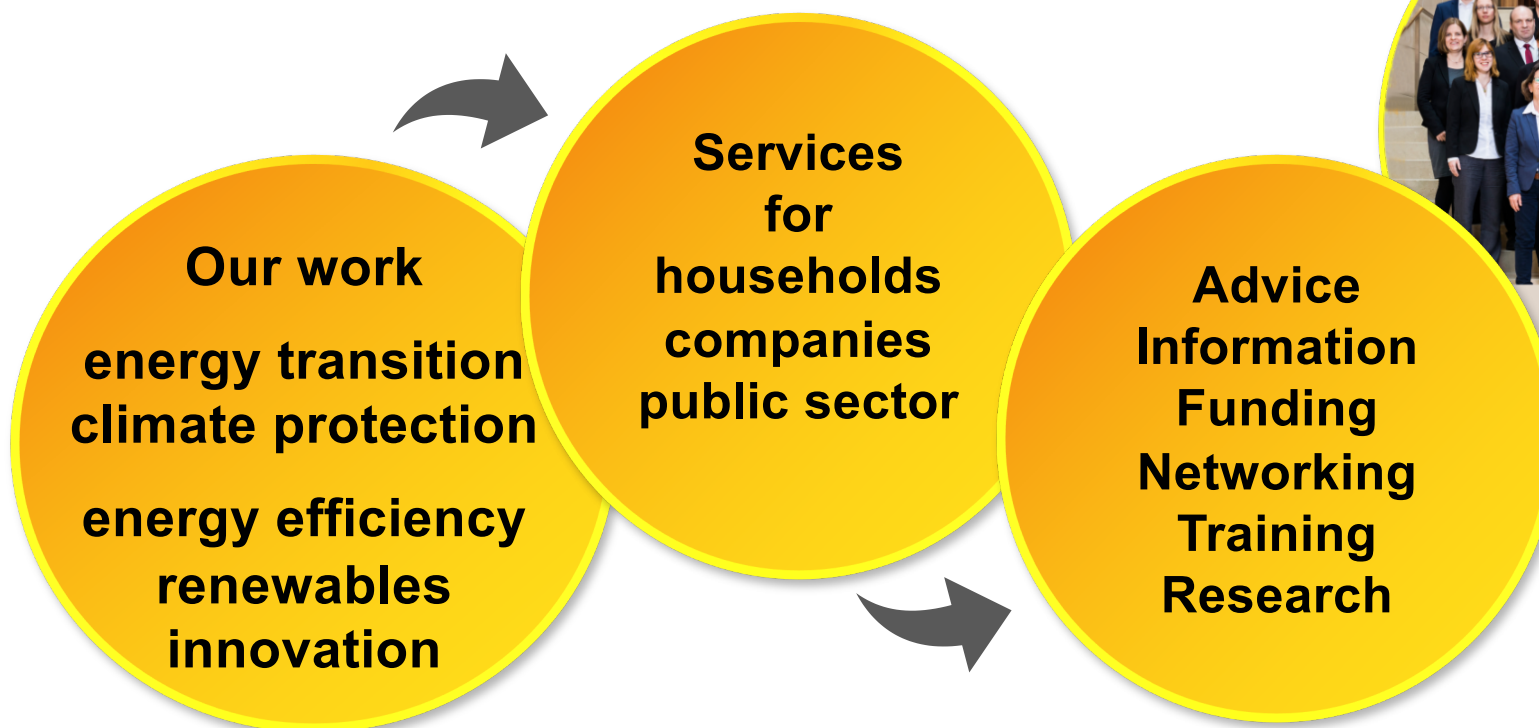
**tackling energy in buildings,
manufacturing and transport**

**market leadership
in innovative energy products and services**

**innovation - investment - involvement
engaged public bodies, citizens and businesses**

OÖ Energiesparverband

The Energy Agency of Upper Austria



The Cleantech-Cluster Upper Austria (CTC)

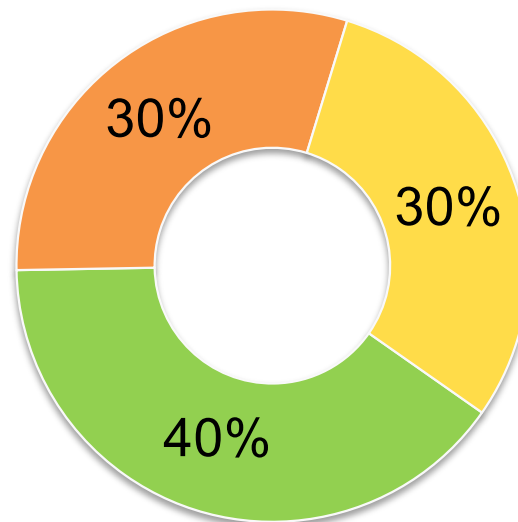
Network of energy & environmental companies with 250+ partners



Sustainable energy investments in Upper Austria: 2.3 billion Euro annually

**building energy
efficiency**, e.g.
insulation,
efficient windows

**renewable
energy**



**industrial energy
efficiency
and CHP**

Investments in **energy
efficiency**:
1.7 billion Euro/year

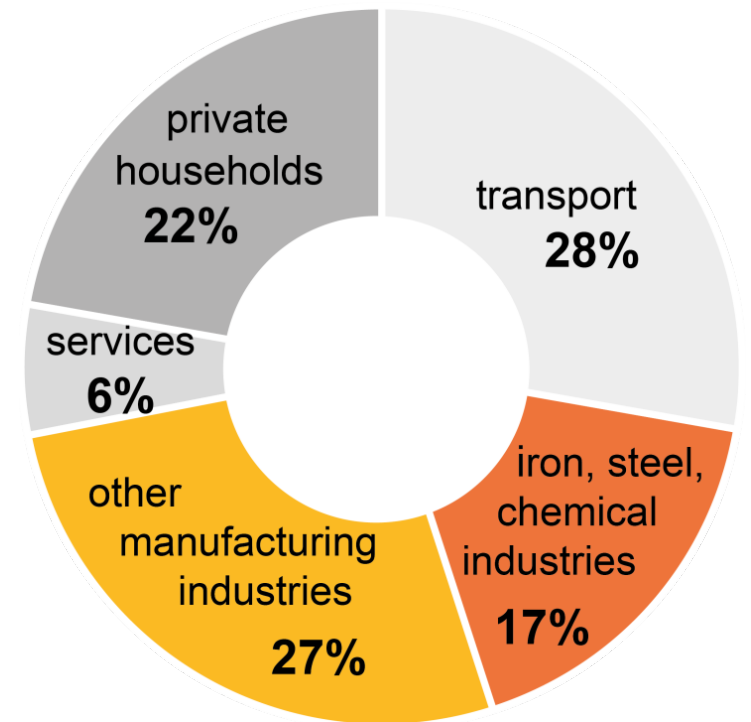
Investments in **renewable
energy**:
0.6 billion Euro/year

For Upper Austria, the industrial energy transition is critical...

Critical for the success of the energy transition:
Manufacturing = 44 % of total energy consumption

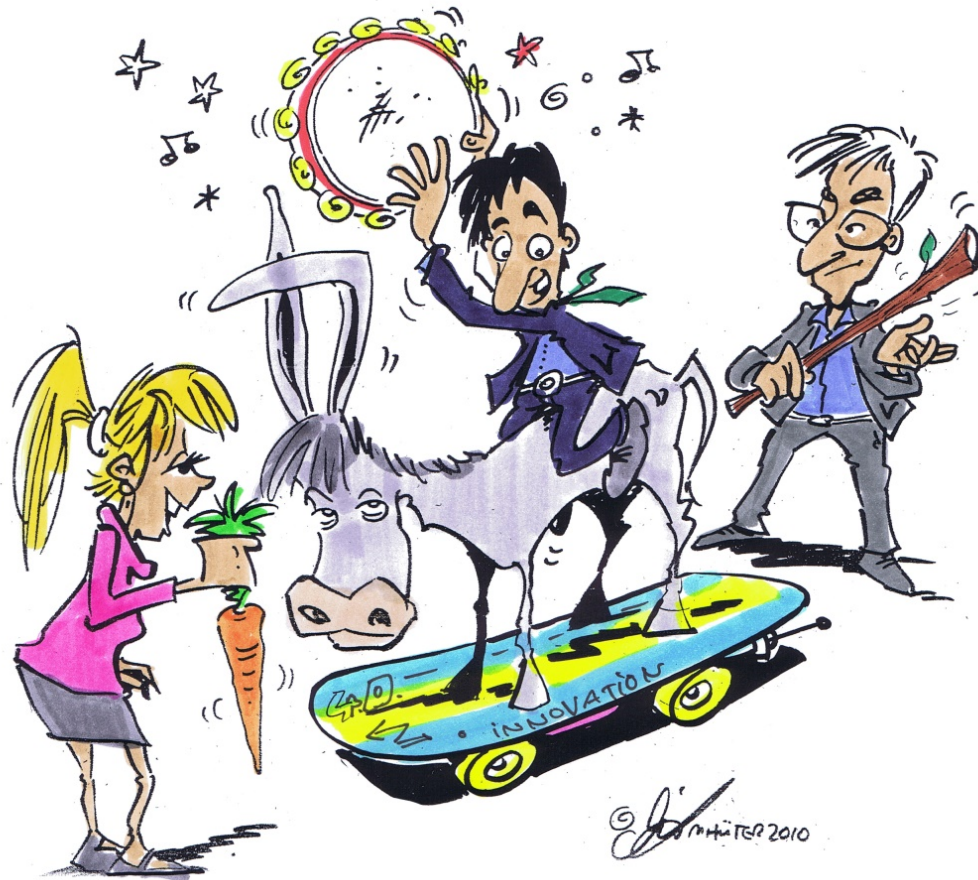
Critical for competitiveness and employment
Industrial production: 40 % of regional GDP

Industrial GHG emissions: stable since 2005
decarbonisation = economic growth (32 %)



**Sectoral final energy consumption
Upper Austria**

Upper Austria's policy approach: Carrots, sticks and tambourines **and innovation!**



Our programmes for the industrial energy transition (examples)

Leaders Pilot programme with 16 pioneer companies

Energy and Climate Balance New tool to assess GHG emissions

Industrial Microgrids
Innovation programme for energy exchange among industrial companies

NEFI R&D platform for industrial decarbonisation

Subsidies for energy efficiency and renewable investments, up to 50 % funding (combined national and regional programmes)

Banning oil heating in new buildings



Initiative "Industrial Energy Transition Leaders"

How to make climate neutrality happen in practice?

ENERGY
TRANSITION
LEADERS

Target:

- Understand how companies can **strategically approach climate neutrality**
- How they can make it **part of their normal business practices**
- **Develop methods and tools** for replication

Approach

- Cooperation with 16 companies able and willing to do develop and test methods together with us
- Pilot project (Step1: for one year)

Our 16 Industrial Leaders

ENERGY
TRANSITION
LEADERS

Staff: > 25,000 (average: 1,500)

Turnover: > 7 billion Euro (average: 400 million Euro)

Production sites: > 40 in Europe, US and Asia

Retail/distribution sites: > 400

bellaflo
DIE WELT DER GRÜNEN NUMMER 1



Fronius

KEBA
Automation by innovation.



Miba

OBERMAYR
Holzkonstruktionen

ÖkoFEN

PENEDER ►►
FAST FORWARD

Resch & Frisch
AM LIEBSTEN IMMER.

REXEL

RUBIG
DRIVING SUCCESS

SPARKASSE
Oberösterreich

starlim ►

sterner ►

TIGER

WEBER-HYDRAULIK

"The new normal" for Leaders

- LED
- PV
- heat recovery
- renewable building heating (heat pumps/biomass)
- high-efficiency standards for construction/renovations
- free cooling systems
- green electricity supply
- energy management systems
- (some) electric cars
- dedicated energy teams

The next big steps

- (fully) electric fleets
- renewables for industrial processes (heat/cold)
- flexibilisation of energy systems
- re-design of processes
- new procurement policies
- decarbonisation of external logistics
- energy/CO₂ as a KPI
- large-scale staff involvement
- harnessing the added value of the energy transition!

R&D Platform NEFI: New Energy for Industry

- Innovation network and national hub for industrial energy system (8 years programme)
- Focus: technologies for the decarbonisation of industrial energy systems
- Solutions "made in Austria" to secure Austria's position as an industrial location.
- Geographic focus on the 2 industrial regions (Upper Austria and Styria)
- Currently, 10 on going sub-projects, approval of more is in the pipeline



NEFI Project "Industrial Microgrids"

- tests the energy exchange between companies
- develops new business models in 3 test beds
- creates inputs in Austrian implementation of the Clean Energy Package
- a unique platform of:
 - industrial companies
 - providers of (new) energy services
 - research
 - the public sector



Industrial Energy Efficiency Conference: 25 February 2021

Focus

- Energy efficiency and economic recovery
- Competitiveness through the energy transition
- held in the context of the European Energy Efficiency Conference and World Sustainable Energy Days 2021
- Trade Show with 1,600+ exhibitors

Call for Papers & Speakers
12 October 2020, www.wsed.at





Our vision: Industrial Energy Transition Leaders

ENERGY
TRANSITION
LEADERS

We show how companies are phasing out fossil fuels and thereby increase their competitiveness and profits.

We accompany and showcase pioneer companies that work successfully on this vision.

We support Upper Austrian companies in the development of products and services for the industrial energy transition.

Companies, public organisations and researchers work together on a vision of a "**climate neutral economy**", thus creating an **innovation ecosystem** for the industrial energy transition in Upper Austria.