

Location Presentation

Sustainability and Green Technologies in Austria

BMK, Departement V/7, Integrated Product Policy, Environmental Management and
Technology
Vienna, November 2022

Austria: Facts and Figures

- 9 million inhabitants
- Surface area 84,000 km²
- Federal Republic with 9 States



Austria: The land of majestic mountains, clean air, clear water, music and environmental technology



BMK/Alexander Haiden

Leading global position under Environmental Performance Index of Yale & Columbia University 2021

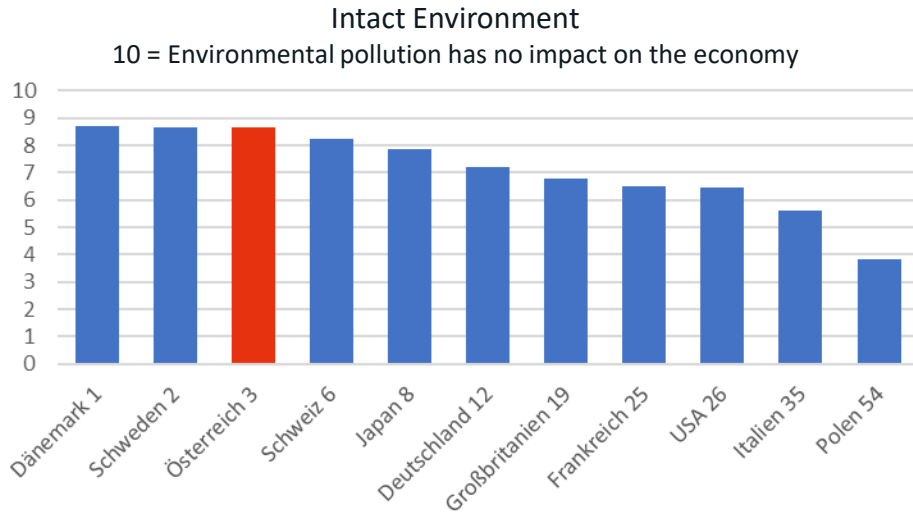
COUNTRY	RANK	EPI SCORE	10-YEAR CHANGE
FILTER BY REGION: ALL REGIONS			
Denmark	1	77.90	14.90
United Kingdom	2	77.70	23.00
Finland	3	76.50	21.00
Malta	4	75.20	25.40
Sweden	5	72.70	15.80
Luxembourg	6	72.30	13.50
Slovenia	7	67.30	8.60
Austria	8	66.50	7.20
Switzerland	9	65.90	8.20

“Overall EPI Ranking”

8th position out of 180
countries assessed

1st position in the Waste
Management category -
“threats of solid waste to
human and environmental
health”

Stunning countryside supported by strong ties to natural environment and strict environmental legislation



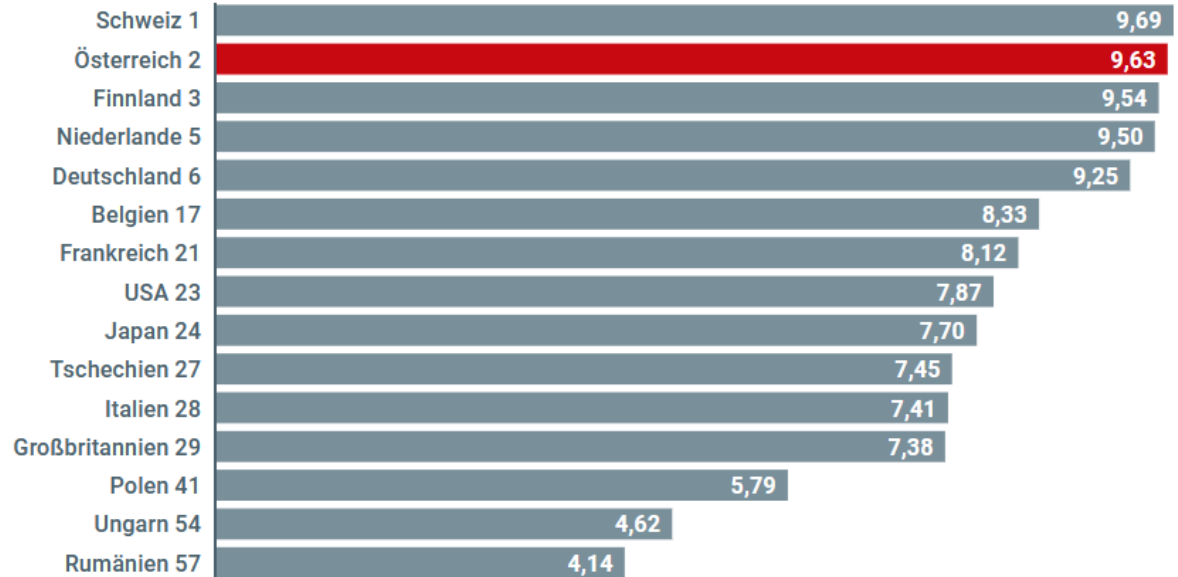
IMD World Competitiveness Yearbook, 2018 modified

www.ecotechnology.at

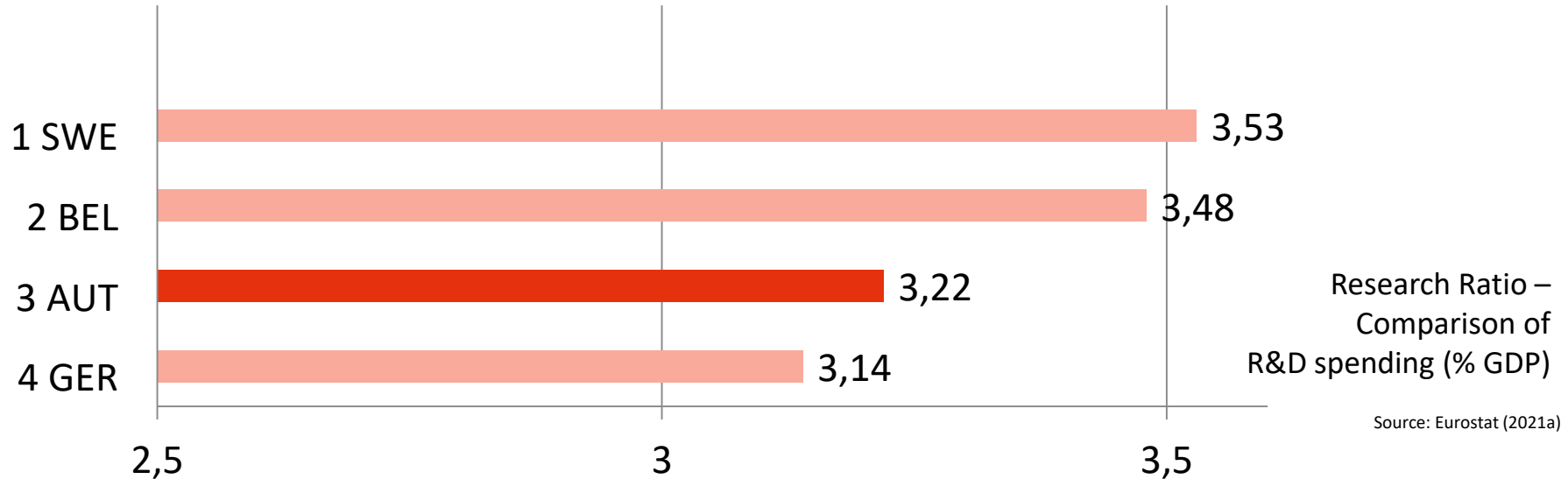


Stunning countryside supported by strong ties to natural environment and strict environmental legislation

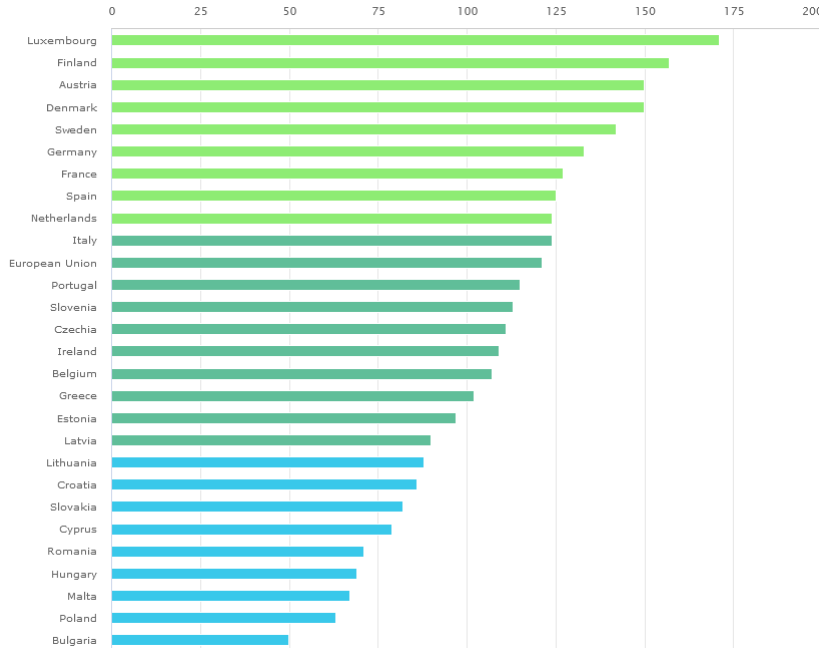
Unrivalled quality of life
10 = Quality of life is very high



Research creates excellence in environmental technology and renewable energy



Austria is a leader in Eco-innovation



European Commission, Eco-innovation index, status 2022

5 Dimensions

- Eco-innovation inputs
- Eco-innovation activities
- Eco-innovation outputs
- Resource efficiency
- Socio-economic results

European grants underpin cutting-edge research



ECR-Grants in Horizon 2020 per
1 million inhabitants, 2020

Source: European Commission (2021b)

Environmental legislation and targeted promotion of innovative environmental technologies

Leading position in development, use & export of innovative environmental technologies

This position is further secured and strengthened by:

- Targeted export promotion
- Research and training programs
- Grants and funding
- Strengthening of the domestic market



BMK, Alexander Haiden



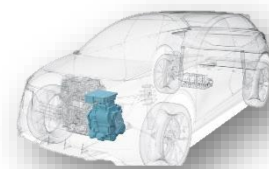
BMK/Alexander Haiden



Saubermacher



Ringhofer, Climate-Fund



MAGNA International Europe AG

Strong initiatives for economy and environment



BMK/Alexander Haiden

- **Strategic Initiatives**
 - Government targets for climate neutrality
 - Environmental Technology Master Plan
 - RTI Circular Economy initiative
- **Awareness raising initiatives**
 - “klima:aktiv” climate protection campaign
 - National Award for Environmental and Energy Technologies
 - Austrian Ecolabel
 - EMAS
 - Mission 11
 - Ministry of Climate Action and Energy – Green Tech Summit
- **Investment Initiatives**
 - Sustainable public sector procurement
 - Environmental support

Ambitious targets of federal government

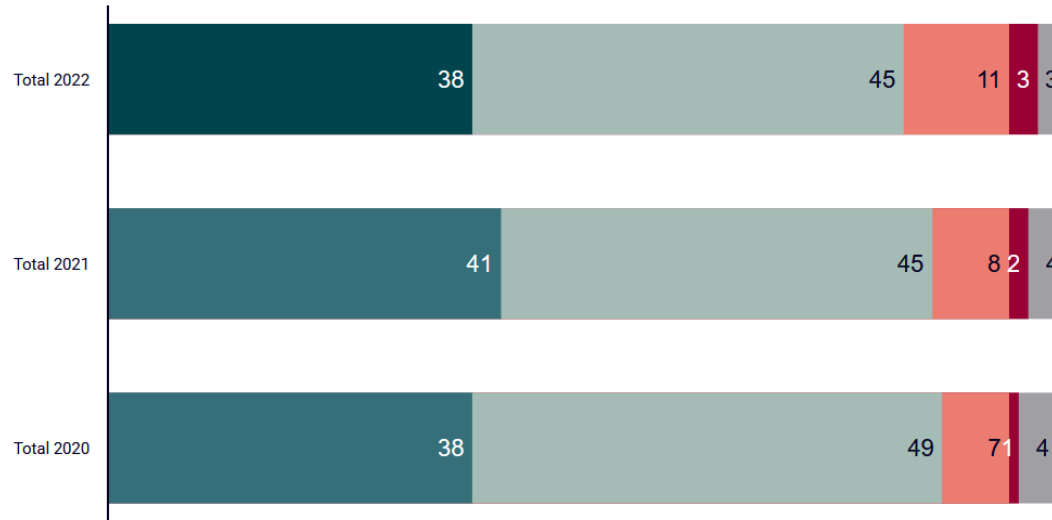
- By 2030 Austria plans to transform to 100% renewable energy for power generation
- By 2030 Austria plans to reduce greenhouse gas emissions by 40% (base year 1990)
- By 2040 Austria plans to become climate neutral



Climate Protection Minister Leonore Gewessler presents a key element in the fight against the climate crisis, image: BMK/Cajetan Perwein

High consensus amongst population for climate targets

How do you rate the government's plan to make Austria climate neutral by 2040?



Source: Gallup Institute; 2022 in Austrian Energy (figures in %)

Citizens Climate Panel – Protecting the climate together

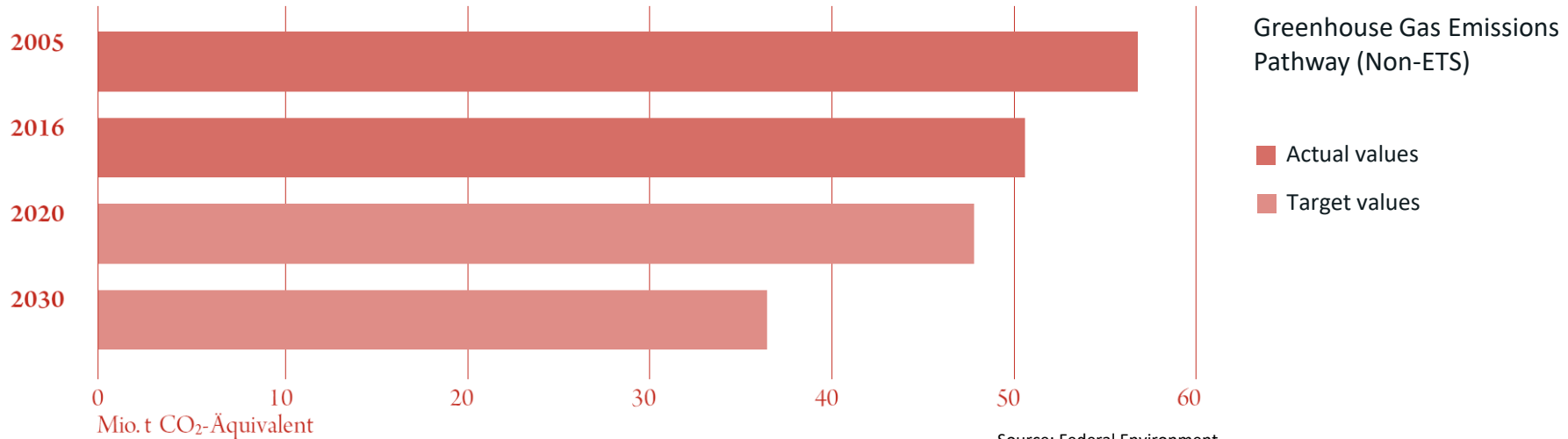


<https://klimarat.org/wp-content/uploads/Klimarat-Endbericht-WEB.pdf>

- Recommendations on achieving targets: Climate neutrality by 2040
- Random selection to best reflect Austria
- Result: About 100 concrete recommendations and general principles for climate policy action

Climate protection in Austria – greenhouse gas targets

Decarbonisation by 2050 – exit from the fossil energy industry



Source: Federal Environment Agency

Implementation of the Paris Climate Agreement in Austria

- **Austria is a leader in ratifying the Paris climate agreement**
 - Austria is one of the first countries in the world to lodge ratification with the UN.
- **In Katowice, 196 states agreed on a common set of rules for implementation**
 - Austria is participating in the negotiations of the “High Ambition Coalition”.
 - This group has given a significant impetus to the negotiations.
- **In Glasgow 2021, key outstanding decisions were taken for implementation of the Paris Agreement**
 - Commitment to the 1.5 degree target, help for poorer countries, help after climate damage, etc.
- **"National Energy and Climate Plan" (NECP) as framework for implementation of Paris climate targets**

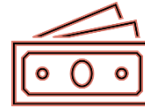
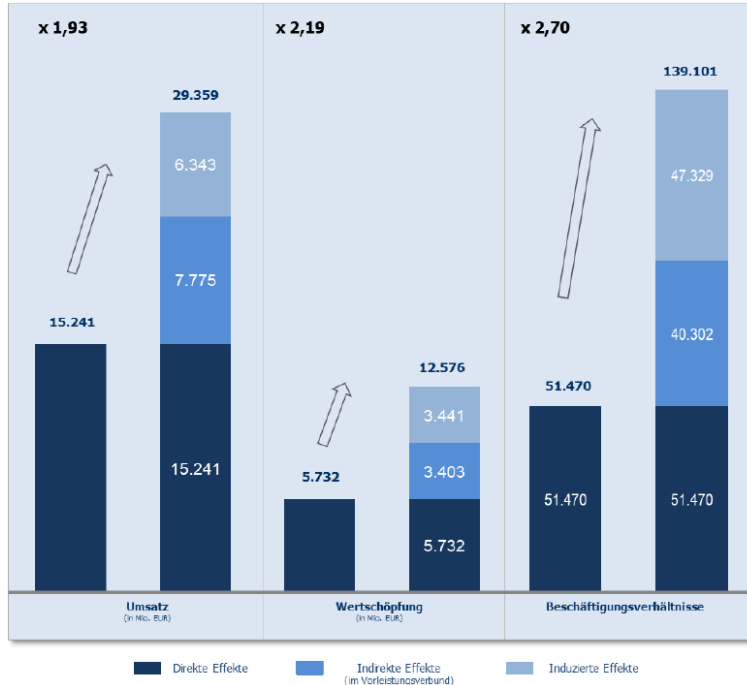
RTI Circular Economy initiative

- **Funding from the BMK ministry for the energy transition and circular economy**
 - Target 1: Intensifying use of products
 - Target 2: Improving use of resources
 - Target 3: Closing material cycles





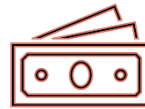
Economic impact of environmental technology companies



€ 15.24 bn annual turnover

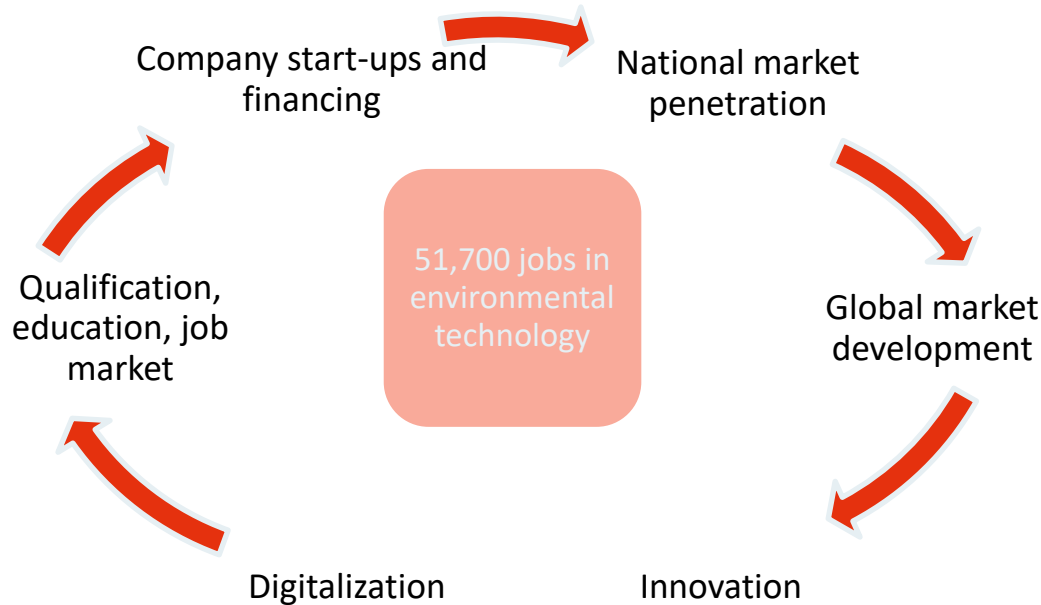


51,700 employees in 2,700 companies (macroeconomic effects: 139.000 employees)



€ 5.73 bn directly generated added value (macroeconomic € 12.58 bn)

Eco-Tech jobs – WIN-WIN for environment and economy



Driver: Eco-Tech Master Plan (MUT)

National Award 2021 Environment and Energy Technology



Category Environment, Climate and Energy



Hargassner GmbH for project “Emissions reduction with state-of-the-art biomass heating” <http://www.hargassner.at/>

Category Research and Innovation



AEE – Institute for Sustainable Technologies for project “Ammonia-to-Power” <http://www.aee-intec.at/>

Category Circular Economy & Resource Utilisation



Herka GmbH for project “TEX2MAT – New processes for the recycling of textile waste with a multi-material composition” <http://www.herka-frottier.at/>

Operational environmental protection – eco-investment with high payback



E.g. Fleischerei Großfurtner (meat processors) ([Weblink](#))

- Cascade heat utilisation at the Utzenaich site
- Biogas plant generates energy from slaughterhouse waste
 - Up to 2022: 40% of power and 50% of heat requirement
- Waste prevention and sustainable resource management

Target by 2024:

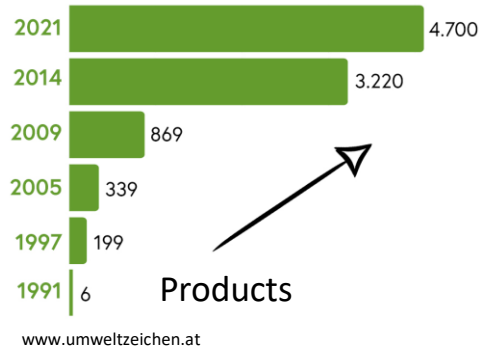
- 8,000 t savings in CO₂ & complete energy self-sufficiency
 - Second CHP plant since May 2022
 - Photovoltaic system from autumn 2022



Austrian Ecolabel



- 1990: Introduction of the Austrian Ecolabel
 - The first reliable government guide made available to consumers, to easily identify environmentally friendly products



Categories (by year of introduction)

- 1990: Products
- 1996: Tourism businesses
- 2002: Educational sector
- 2010: Green meetings and events

EMAS – sustainable development for business and public sector



- A voluntary instrument aimed at continuous improvement in environmental performance
- Ecological and economic weaknesses in organisations are eliminated
- Energy and costs are saved
- Private companies and public organisations participate in the program

Ministry of Climate Action and Energy – Mission 11

Motto: Together we save 11% energy!

A key contribution to climate neutrality in Austria by 2040, through household energy savings.

Energy saving tips by category:

- Heating
- Hot water
- Power consumption
- Mobility

www.ecotechnology.at

www.mission11.at



Ministry of Climate Action and Energy (BMK) – Green Tech Summit



- Bi-annual, high-level meeting of CEOs in the renewable energy and eco-tech sector with the climate protection minister
- Ideas and proposals for high-impact energy and environmental technology in Austria

Climate and Energy Fund

The primary catalyst for BMK promoted research



- Established in 2007 on the basis of Climate and Energy Fund Act
- Aim of restructuring the Austrian energy system
- € 1.9 bn for innovative research and demonstration projects
- 200,000 projects funded to date

Environmental Technology Export Initiative

Presentation of Austria's innovative strength abroad



Thöni Industriebetriebe; biogas plant in the UK

- Established in 2005 to strengthen export orientation, particularly amongst SMEs
- 19 countries visited since then
- Over 200 companies have already participated

Environmental Aid – a success story spanning 25 years



- Set out in the Environmental Aid Act 1993
- In 2021 alone: 34,000 projects funded
 - This will realise more than 507,000 t of savings in CO₂ per year over the long term
 - Energy savings of 920 GWh per year
 - Investment of nearly € 1.7 million
 - Securing 9,200 green jobs

Energy Flagship Regions



Green Energy Lab

Austria's largest innovation laboratory for a sustainable energy future

www.greenenergylab.at



WIVA P&G

Hydrogen Initiative – Flagship Region Austria Power & Gas

www.wiva.at

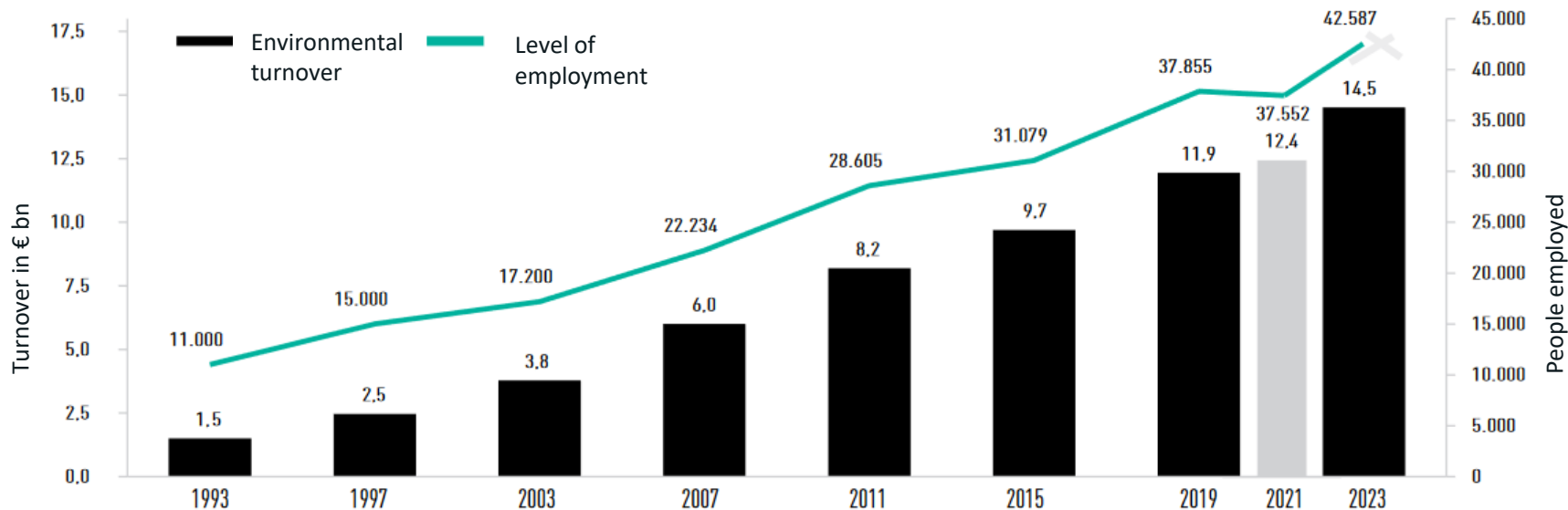


New Energy for Industry

Decarbonisation of the energy-intensive industry "Made in Austria"

www.nefi.at

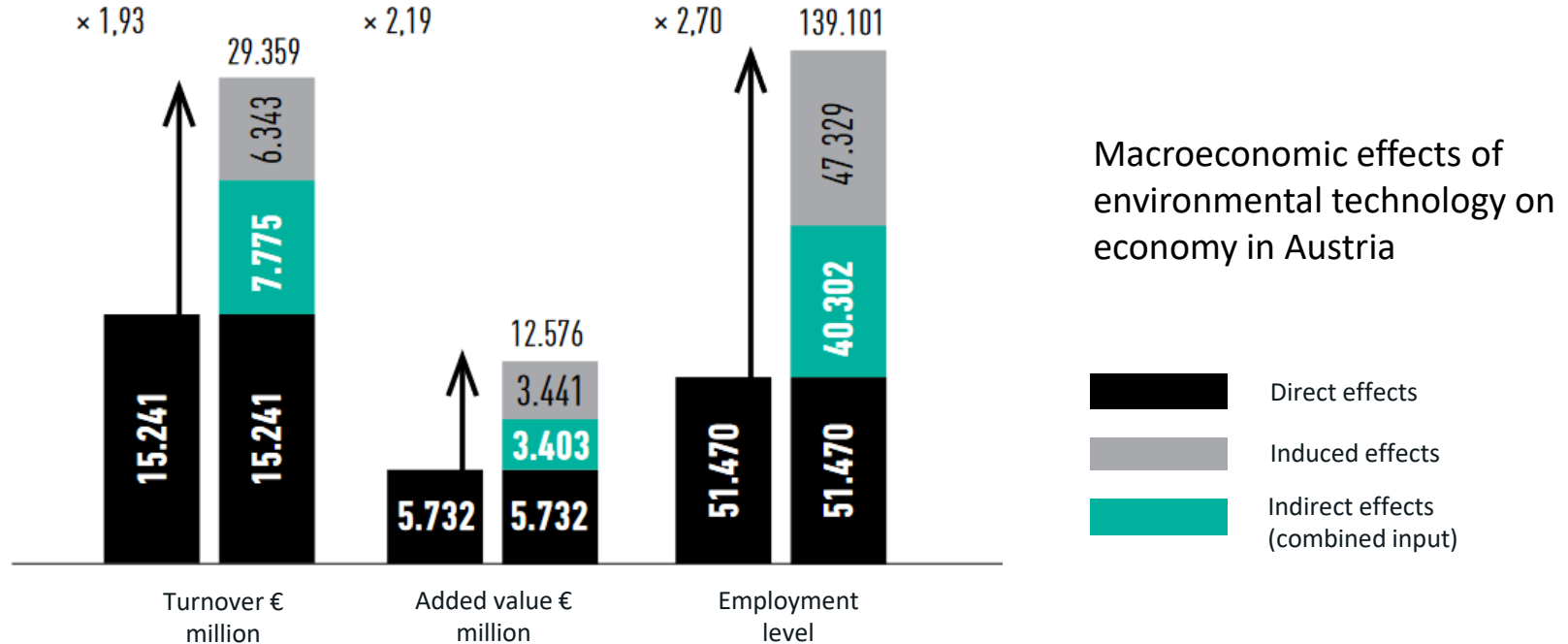
Measurable impact of Austrian environmental policy



Source: IWI/P-IC: Survey on Austrian environmental technology 2020 Corona crisis assessment 2016/2017/2020, IWI projections, WIFO (1995, 2000, 2005, 2009, 2013)

Dynamic structural comparison of eco-tech sector based on selected absolute figures including forecasts

Massive impact of environmental technology on whole economy



Source: IWI (2020) based on Statistics Austria (2016c)

Renewable Energy Technologies



Green Tech Cluster

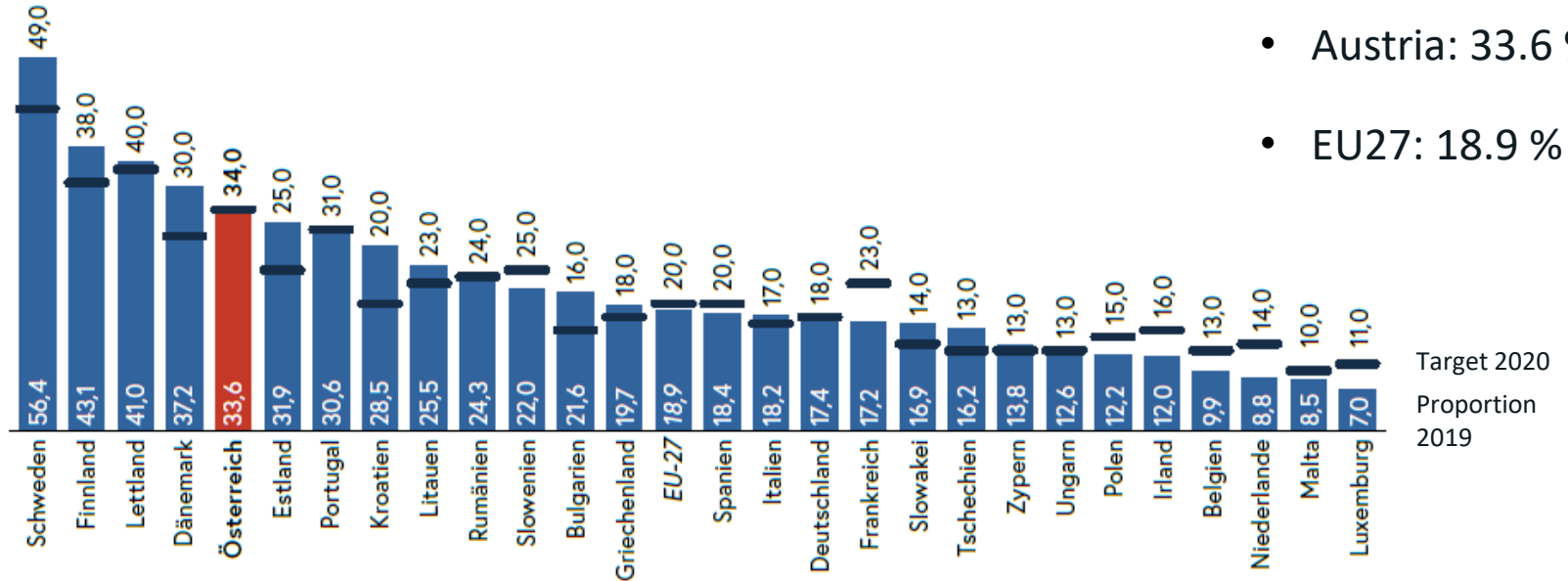
Renewable energy

Measurable results in employment and environmental protection

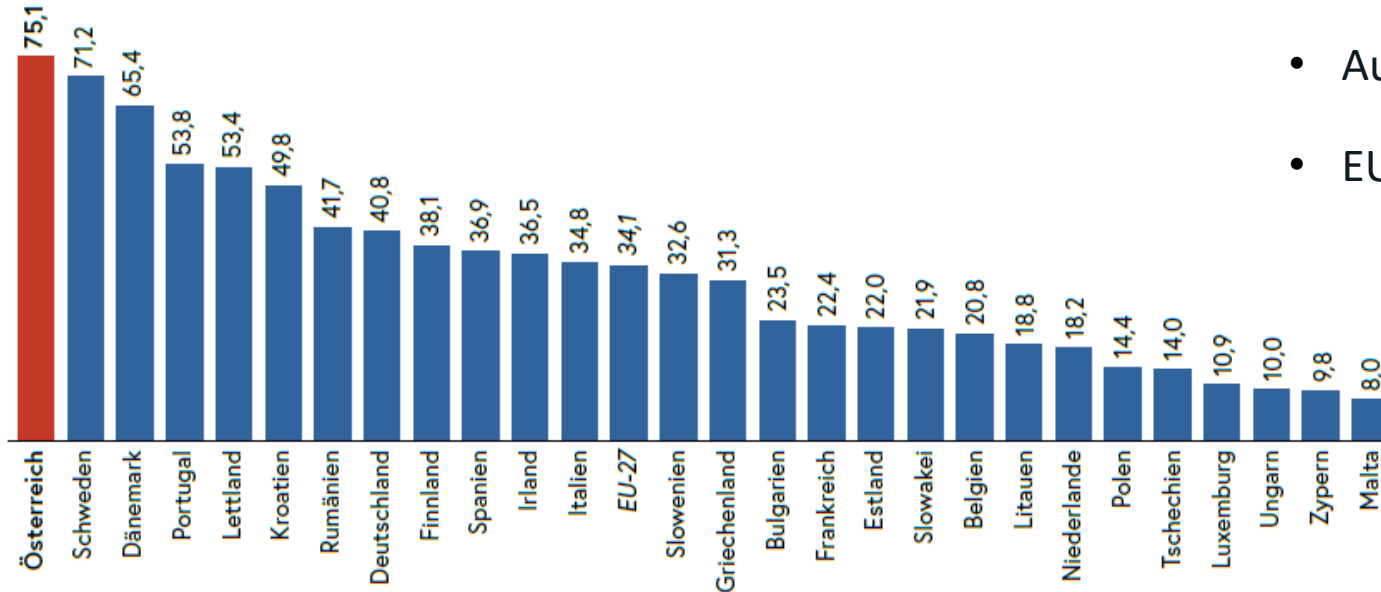


- 33.6% renewables in total energy consumption (2021)
- 75.1% in power generation (2021)
- Alone in 2020:
 - Avoidance of 30.8 million tonnes CO₂ equivalent
 - Sales in this sector € 8.1 bn
 - Around 44,300 jobs

Extremely high share for renewable energy (gross total energy consumption)



Extremely high share for renewable energy (gross power consumption)



- Austria: 75.1 %
- EU27: 34.1 %

Storage and Hydrogen are key technologies

Expansion of renewable
and secure power supply



Image: Wien Energie GmbH, Ian Ehm (for Final Report on Storage Initiative)

Austrian Storage Initiative

Lithium-ion storage for mobility, Image:
Samsung SDI Battery Systems GmbH



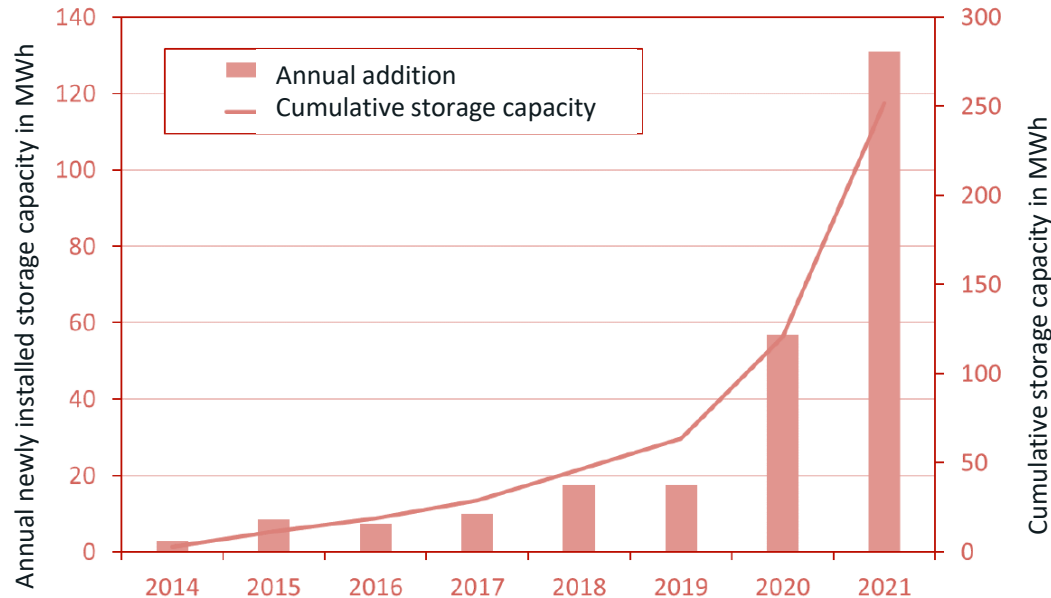
Sorption storage, AEE INTEC



Hydrogen filling station, OMV

- Storage is key for complete renewable energy supply
- Research in storage technologies – a key strength of Austrian innovation
- Development of storage for new areas of application
- High temperature, seasonal storage, modular pump storage, hydrogen/methane etc.
- Austria has significant technological expertise in storage

Battery storage systems in combination with photovoltaics



**PV battery storage capacity
in MWh that can be used in
Austria by 2021**

+ 109% in one year

University of Applied Sciences Vienna 2022 in reports from energy and environmental
research 21a/2022 BMK

Hydrogen as a hub for coupling sectors



www.fronius.com/de/solarenergie/installateure-partner/produkte-loesungen/energieloesungen-gewerbe/gruener-wasserstoff-mit-sonnenenergie-solhub

- Storage of PV power by conversion to green hydrogen using electrolysis
- As a fuel for hydrogen powered vehicles
- Seasonal storage and conversion into electricity and heat using fuel cells
- SOLHUB Awarded the National Award²⁰¹⁸ for Environmental and Energy Technology

Verbund – Hydrogen Innovation Hub Mellach



<https://www.sunfire.de/en/news/detail/green-hydrogen-for-gas-turbines-in-mellach>

- The last coal-fired power plant in Austria, at Mellach, was closed in 2020
- Electricity provider Verbund now operates a pilot plant for hydrogen production
- High temperature electrolysis and fuel cell
- This means that electricity and heat can be generated on site from hydrogen

Hydrogen to decarbonise the steel industry



www.h2future-project.eu

- As part of the EU-funded research project H2FUTURE, Voestalpine has built the world's largest industrial hydrogen pilot plant
- A key step to decarbonisation of steel industry through green hydrogen
- VOEST is planning for CO₂ neutral steel production by 2050

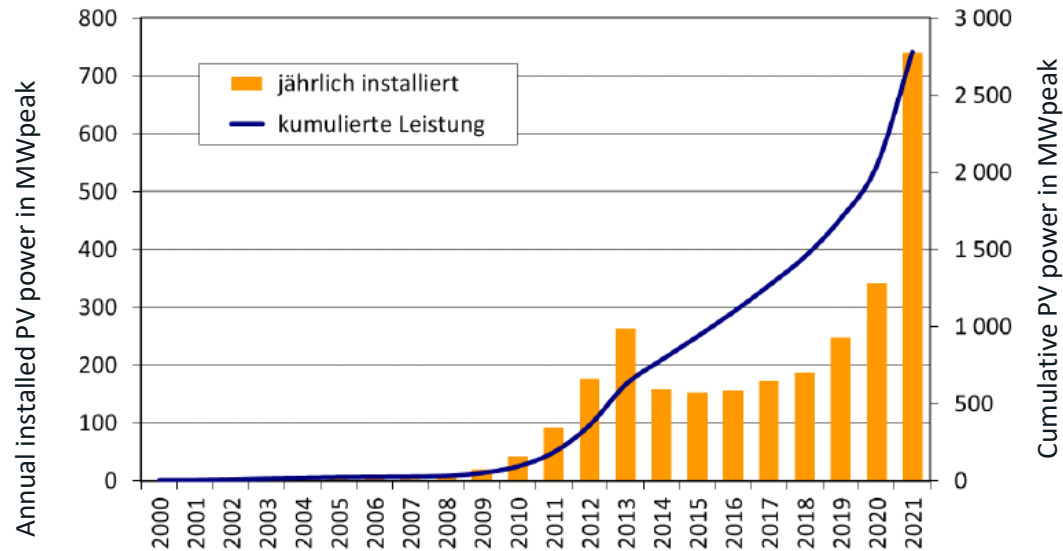
Photovoltaics

A key element of energy transition – world leader in niche market for building integrated PV



Source: Ertex Solar

Dynamic growth and ambitious funding



Reports from energy and environmental research 21a/2022 BMK
Renewable energies 2020, development in Austria, BMK 2022

Plants in operation in 2021

- 2,783 GWh power generation
- Reduction nearly 1 million tonnes CO₂ equivalent

Fusion of aesthetic architecture and sustainable energy by Austrian companies



Solar Thermal and Solar Cooling

Heating for Austria –
Cooling for the hottest
parts the world

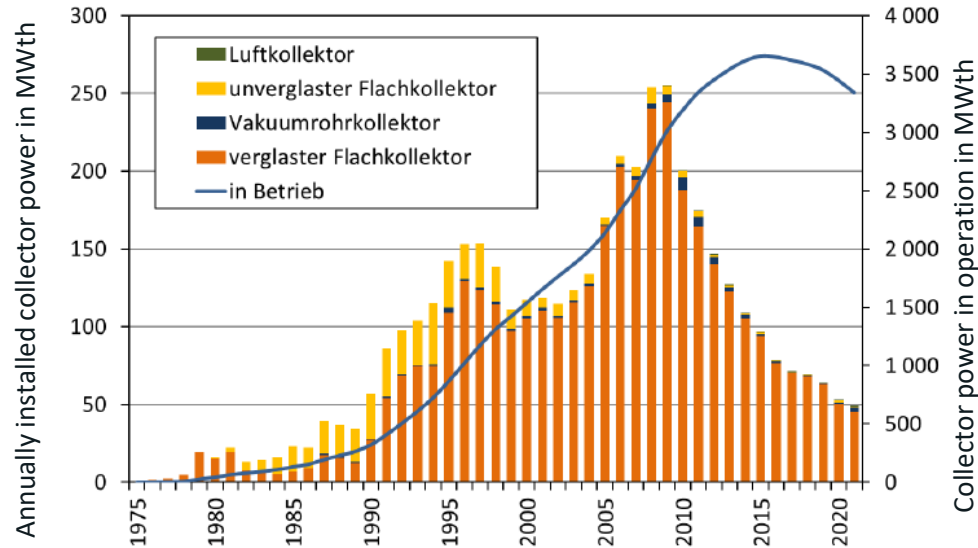


A pioneering force in the formative period of solar thermal energy



- Ambitious research programs led by government ministries from 1977
- Europe's largest, most advanced collector production established 1978
- Funding support from 1992 and a broad solar campaign from 1999
- As a pioneer in funding, Austria has been able to capitalise on market growth in other countries from the developed industrial base
- A fixed component of new residential buildings in Austria for a long time
- Focus updated to local and district heating systems and solar heat for industrial processes

Development of Austrian solar thermal energy market



Reports from energy and environmental research 21a/2022 BMK
Renewable energies 2020, development in Austria, BMK 2022

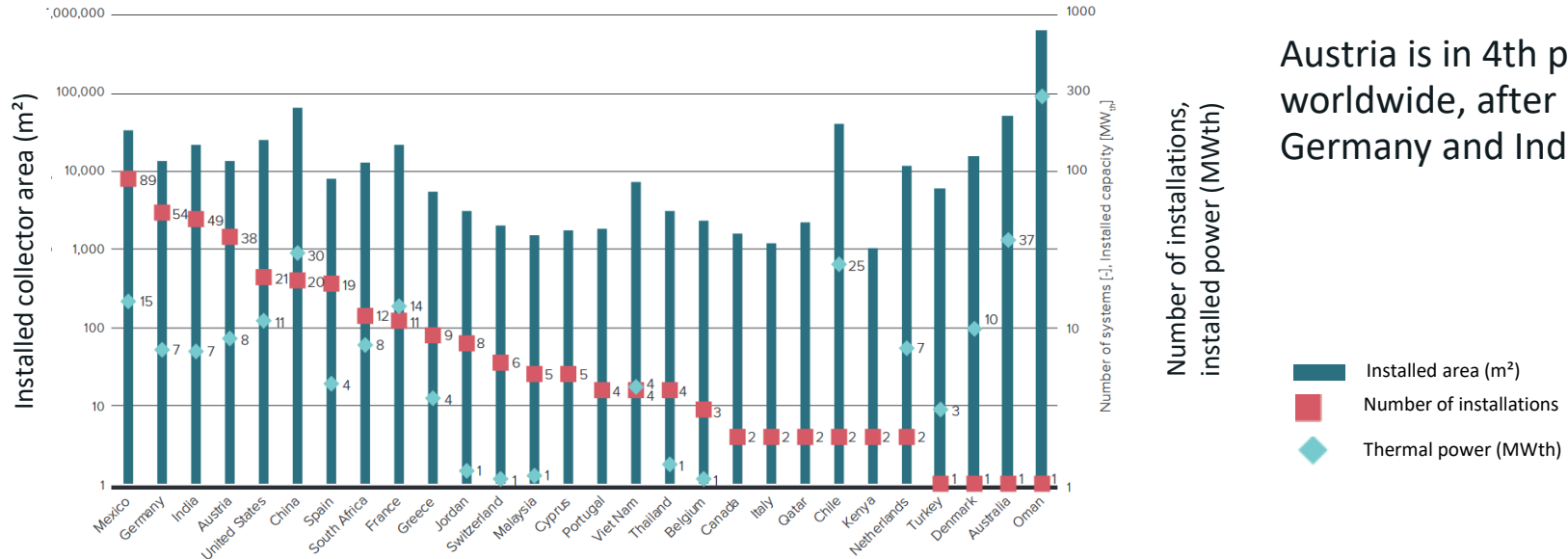
- At the end of 2021, a collector area of 4.8 million m² was in operation
- In 2021 alone: 369,917 t CO₂ saved / 2,131 GWh heat produced
- Export rate of 92% for thermal collectors

Leading global position in installed collector area for large system solar district heating



Austria is in 4th position worldwide, after Denmark, China and Germany

Leading global position in installed systems for solar process heat



Austria is in 4th position worldwide, after Mexico, Germany and India.

Some of the largest projects in solar thermal energy and cooling from Austria

PepsiCo, Phoenix



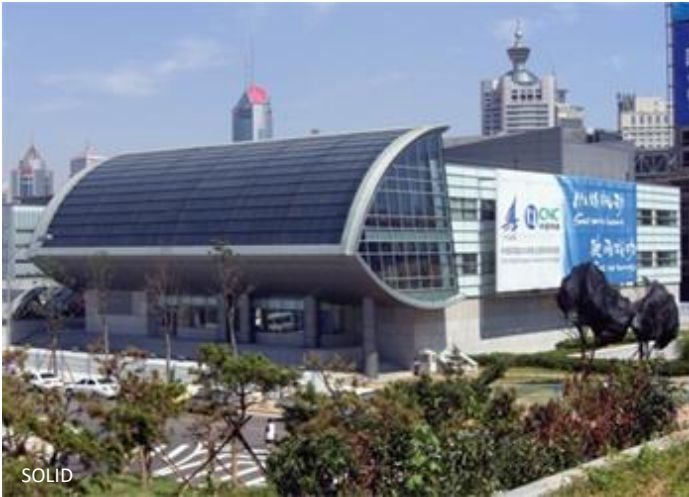
High School Arizona



Digicel Jamaica



Some of the largest projects in solar thermal energy and cooling from Austria



- Solar thermal system for 2008 Olympic Games in Peking
- Hot water, heating auxiliary support and solar cooling as an architectural feature

<https://www.aee.at/zeitschrift-erneuerbare-energie?id=322>

Heat pump

Highly efficient use of
electricity for heat
production



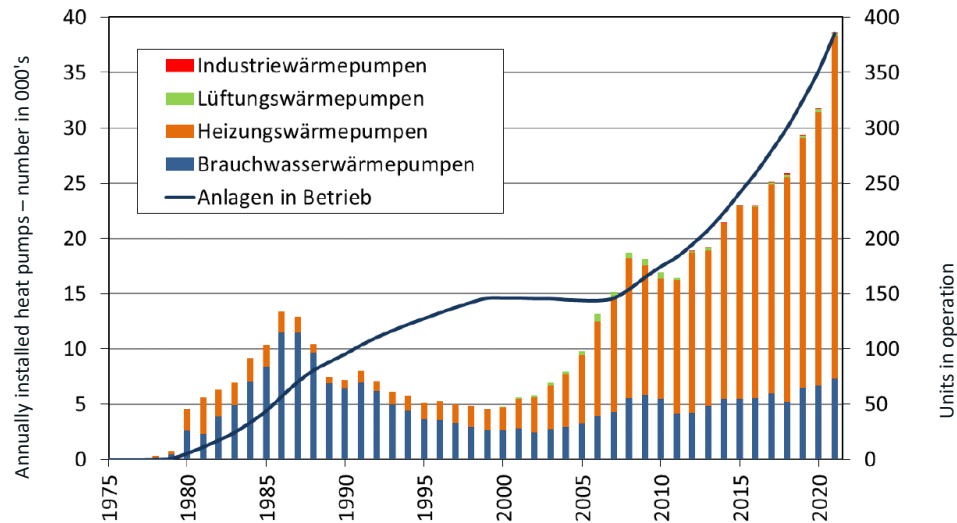
Austria's electricity mix coupled with excellent heat pump technology for maximum emission savings



Heliotherm

- Total heat pump sector sales 2021:
 - € 1,015 million
 - 2,160 employees in this field
- By 2021 over 380,000 heat pumps had been installed in Austria
- In 2021 alone, 872,384 t of CO₂ emissions were avoided

A country of heat pumps opening the space for innovation



Development of Austrian heat pump market from 1975 to 2017 – in units

Driver: Building control regulation through increasing building energy efficiency and market development of photovoltaics (often used in combination)

Reports from energy and environmental research 21a/2022 BMK
Renewable energies 2020, development in Austria, BMK 2022

Current areas of research in heat pump technology



- Austrian technology leaders have a **high R&D ratio**.
 - For example: OCHSNER heat pumps 6%
www.ochsner.at
- Austrian technology leaders **experience strong growth**.
 - iDM Energy Systems employs approximately 500 people
www.idm-energie.at
- Heat pump systems suitable for single-family homes to large building systems and industrial applications
- Award winning companies with high R&D ratio and high growth

National Award²⁰¹⁸ Environmental and Energy Technologies



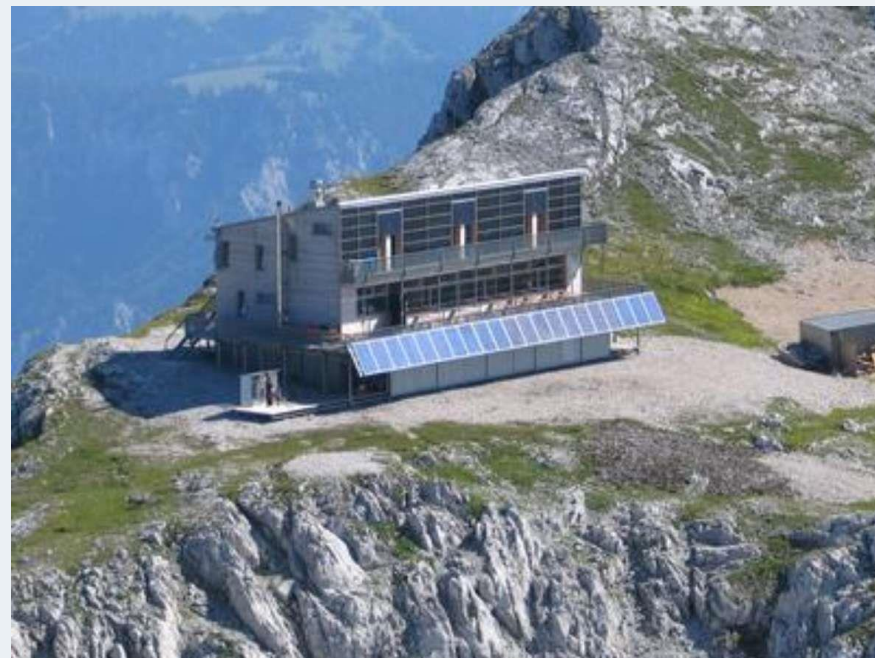
www.ecop.at

www.ecotechnology.at

- In the Environment, Climate and Energy category, ecop won an award in 2018 for its novel industrial rotary heat pump design
- The pump uses rotation as a physical process to generate heat or cold
- The initial applications are now successfully up and running

Passive houses

The highest density
of passive houses
around the world



Robert Freund (OEGUT at www.nachhaltigwirtschaften.at)

Reducing heating demand in a harsh climate to near zero is quite a special achievement



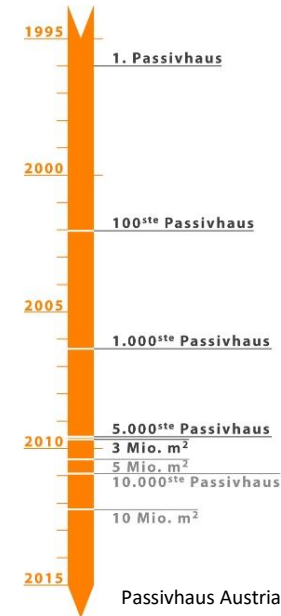
- 17% of CO₂ emissions come from heat demand in the building sector
- 12 million m² of passive house living space in Austria
- Equivalent to annual heating oil savings of 140 million litres
- Target strategic research programs
- Reference projects
- Lowering the heating demand of buildings through building regulations and grants

Every fourth passive house built is in Austria

AUSTRIA HAS WORLD'S HIGHEST DENSITY OF PASSIVE HOUSES

- Concept was proactively taken up as early as 1994
- First passive house built in 1996
- By 2010: around 6,000 passive houses in Austria
 - Compared to 50 in the whole of North America
- By 2013: around 14,000 passive houses in Austria

*(estimated by IG Passive House Plus, no subsequent records)



The Austrian House presented as a gift to Canada as a gift at the Olympic Games

Austria brings energy expertise to the Saudi Arabian desert

- Ground breaking lighthouse project: the Sheikh Zayed Desert Learning Center
- Building-integrated photovoltaics, solar cooling, building control, LED technology, planning, passive house technologies



<http://estidama.upc.gov.ae/szdlc/>

- Austrian building technology

Certifications

- LEED (USA)
- ESTIDAMA (Arabic Green Building Seal of Approval)

Solar decathlon: International awards for building design

- US Department of Energy international, university sustainable construction competition
- Vienna University of Technology received 1st place in 2013 in the building the future category



Vienna University of
Technology,
Solardecathlon.at



Vienna University of
Technology,
Solardecathlon.at

Austria: The highest quality of life internationally and pioneer of the Smart City

- Vienna has been voted the city with the highest quality of life for the tenth time (Mercer Study 2019)
- 10% of all Smart City projects in the EU are in Austria



Biomass – (Pellets)

Extensive Austrian forests and
advanced biomass technology
for global markets



Austria: A land of forests and country of innovative biomass technology



- Almost 50% of the federal territory is covered by forest
- 30 million cubic metres regrow every year
- 17% of all heating systems are based on biomass (wood)

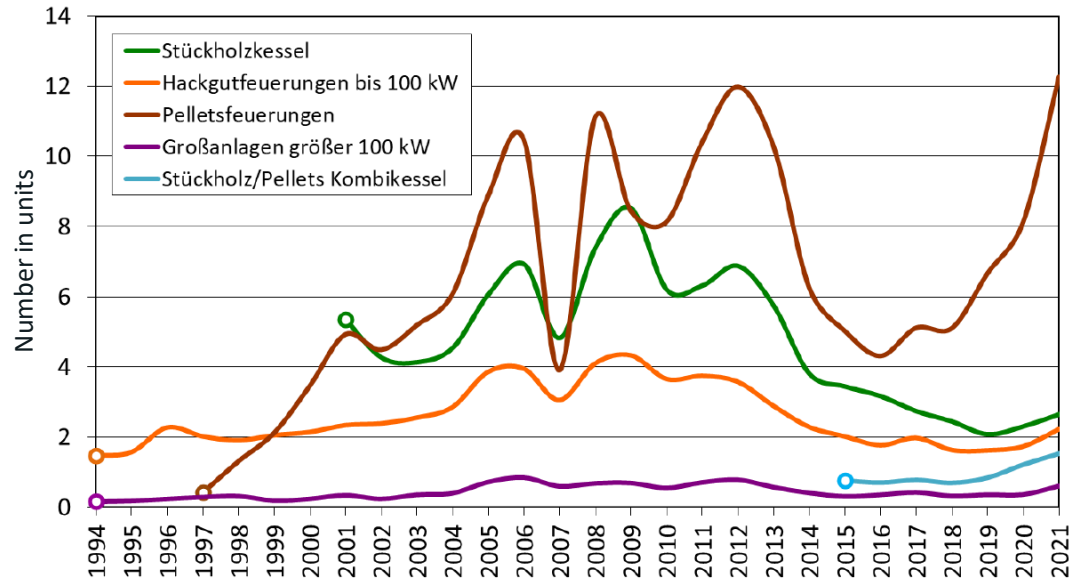
Biomass use creates jobs and lowers emissions



The use of biofuels
in 2021 yielded:

- 10.2 million tonnes of CO₂ savings
- Industry sales turnover of € 1,567 million
- 18,000 jobs
- Trend: further growth

Biomass boiler development in Austria



Reports from energy and environmental research 21a/2022 BMK
Renewable energies 2020, development in Austria, BMK 2022

- Sales turnover € 1,712 million
- Impact on employment 7,000 FTE

Austria plays a leading role in global pellet production and pellet boilers



- Export rate for boilers approx. 70%
- 2/3 of the pellet boilers installed in Germany come from Austria
- The leading manufacturers of pellet production plants are Austrian

Biomass for industrial heat generation



- Example: plant in Tallinn, Estonia
- Energy now generated with biomass replacing natural gas
- 10MW power generation, 37 MWh thermal

www.urbas.at

www.ecotechnology.at

Hydroelectric power

A main stay of domestic
power generation and
global technology
leadership for Austria



BMNT, Alexander Haiden

Hydroelectric power – success derived through public awareness and strict statutory control



- Broad acceptance amongst the population due to environmentally compatible power stations
- Environmentally compatible use of hydroelectric power based on Water Framework Directive
- Firmly rooted in the regional economy

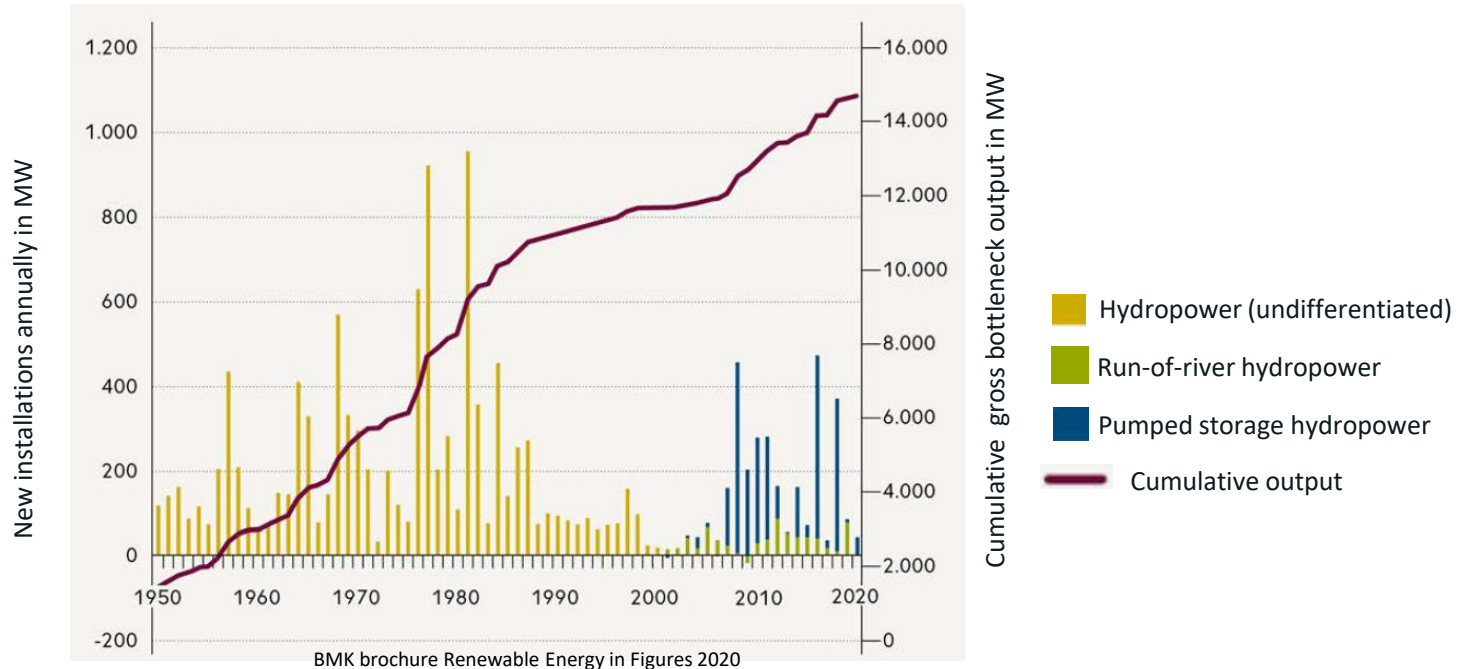
Philipp Schönaauer in Österreichs Energie (<https://oesterreichsenergie.at/unser-strom/erneuerbares-oesterreich>)

Hydropower in Austria – the main stay of sustainable power generation

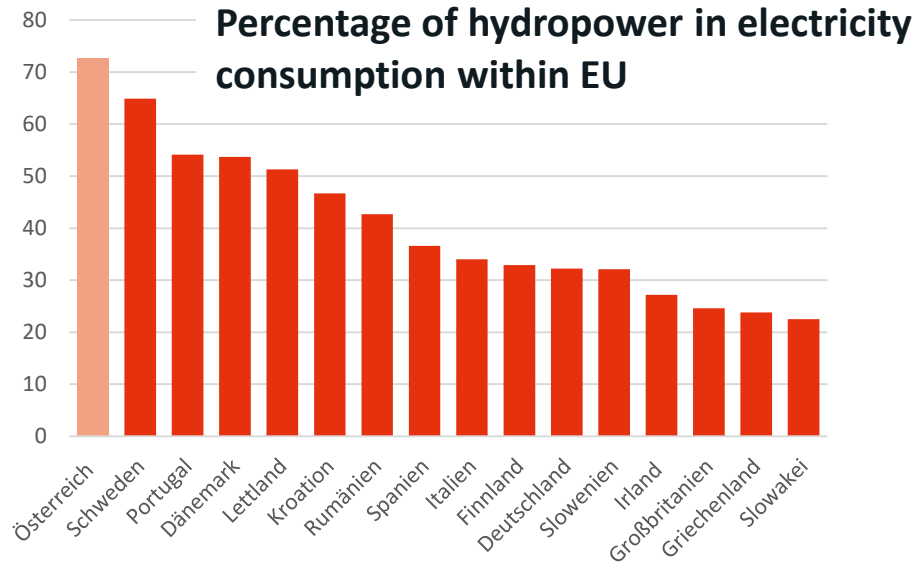


- Sales turnover € 2 bn
- 6,171 jobs
- Potential for expansion of hydropower by 2030: around 8 TWh

Hydropower in Austria – Development since 1950



Austria – a leader in hydropower generation



- Total capacity of 14.6 GW
- 162 large scale and some 3,000 small hydroelectric power stations
- Equivalent savings of 6 million t CO₂
- High level of expertise in planning, construction and operation

Austria guarantees security of supply

- Pumped storage power plants for efficient energy storage
- Grid compensation for daily/seasonally fluctuations of other renewable energy sources
- Installed pumped storage capacity of around 8,500 MW



Successful global position in hydropower plant components based on many years of experience

- Austrian turbines installed in the world's largest power plants
 - Large projects in Turkey, India, Norway, South Korea, Sri Lanka, Iran, and Guatemala
- Turnkey power plants from Austria exported to all corners of the globe
- Area of greatest current relevance: Upgrading and refurbishment of existing plants around the world

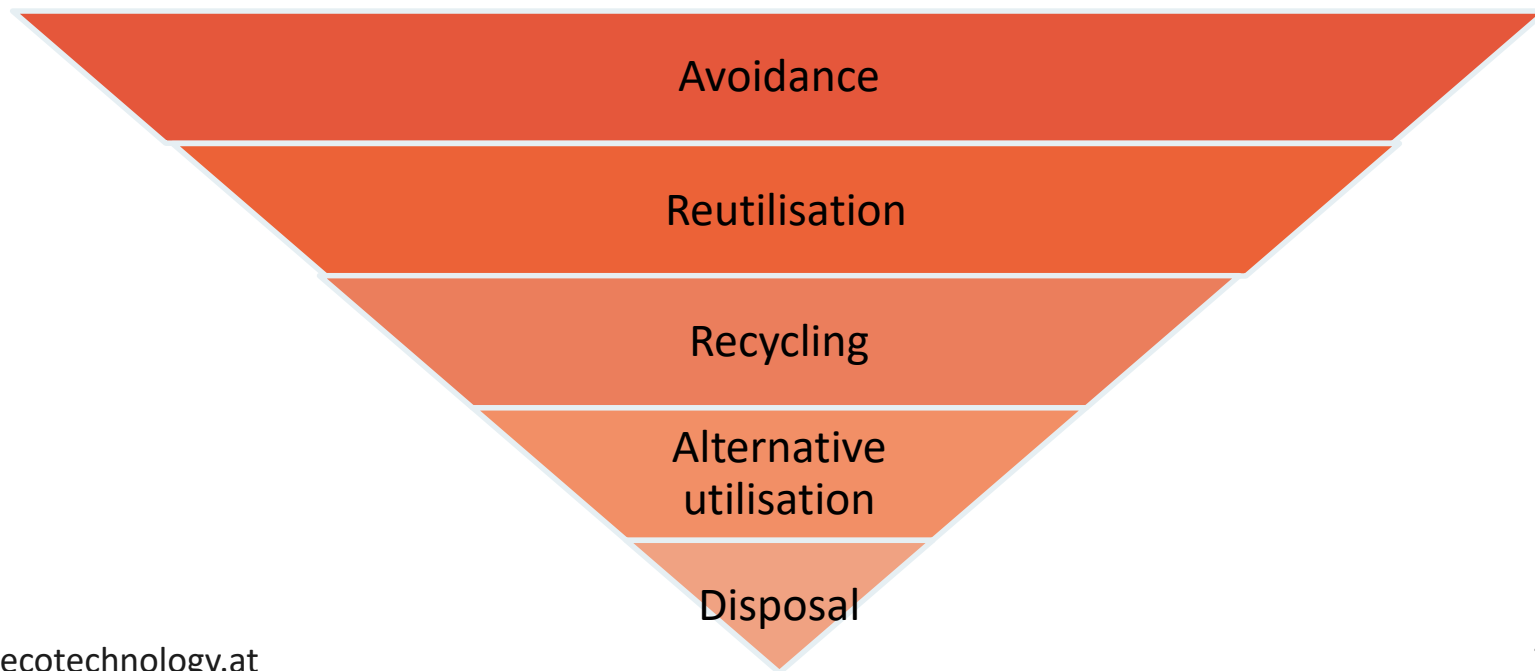


Waste Management and Circular Economy

Converting waste to
valuable resources with
Austrian product and
service innovation



How waste management in Austria works



The successful strategy for prevention and recovery



- Closing material cycles
- Driving eco-innovation forward
- Responsibility of the producer
- Informing the general public
- Substitution of materials
 - NAWARO Action Plan from BMNT ministry
- Monitoring of material flows
- Development and promotion of clean production processes
- Return and recycling systems

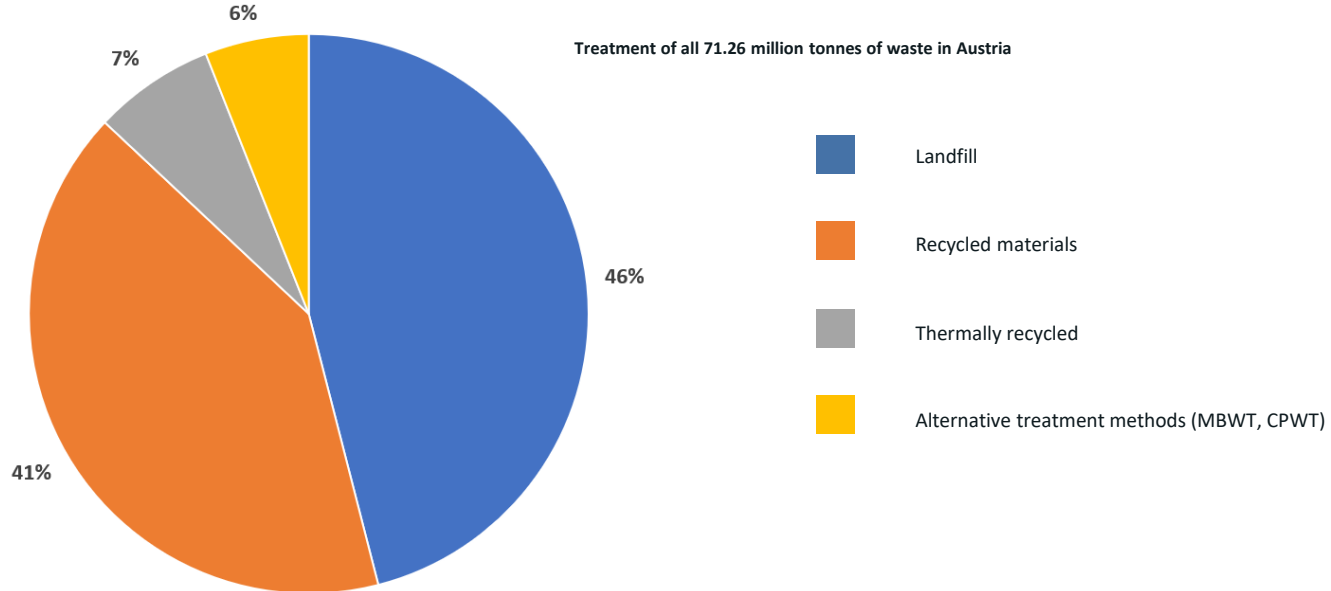
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South Korea	6	72.00	3.00
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Norway	9	70.70	3.40
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“threats of solid waste to human and environmental health”

In 2nd place out of 180 countries assessed

Waste generated in Austria: shares, exploitation, use



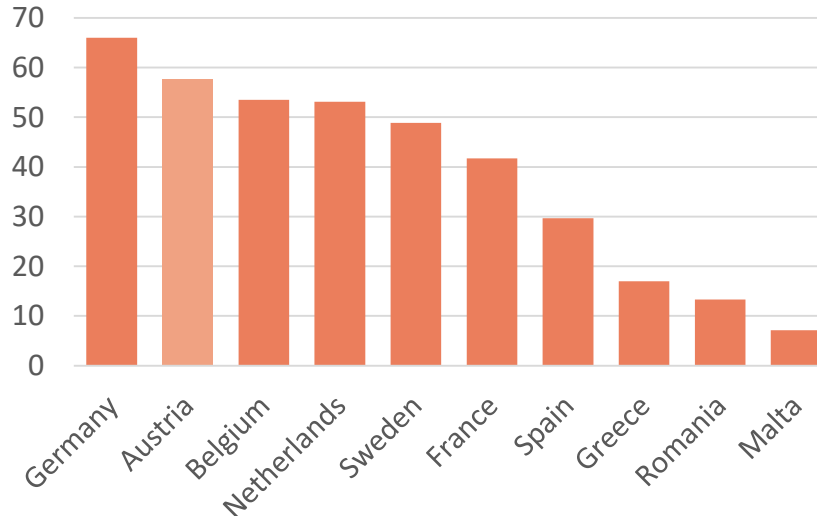
Innovative legislation and raising awareness about unique collection systems and technologies



- Waste Management Act in which disposal is not subsidised
 - Precautionary approach
- Public relations to anchor waste prevention and separation within the population

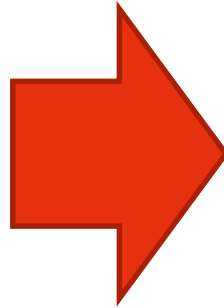
Waste Management – Austria is amongst the leaders in recycling in Europe

Recycling rate for municipal waste in EU



Waste becomes a resource

Separate collection of recyclable waste streams such as biogenic waste, packaging waste, construction waste, etc.



Waste Management Act creates a successful recycling system



ARA

- More than 1 million t of packaging and waste paper are collected every year
 - 96% of all packaging in market circulation
 - 90% converted to new products or packaging
 - The rest is thermally recycled (e.g. district heating)
 - Virtually no landfill any more
- Equivalent of over 530,000 t CO₂ saved annually

Waste management initiatives for citizens

One-way deposit

- Will apply to bottles and cans from 2025
- Uniform deposit of 25 cents
- Environmental protection by avoiding littering

A contribution to achieving the EU collection target of 90% by 2029

Repair bonus

- To curb e-waste
- 1,200 repair shops have already registered
- Also serves as a labour market initiative to increase employment

Added value of € 3.8 million with around € 1.6 million paid out in subsidies

Thermal treatment and energy recovery instead of landfill



- Incineration for municipal waste:
 - 2.6 million t/a
- Other plants for thermal recycling:
 - 1.6 million t/a
- Prerequisites: Appropriate legal basis and standards e.g.
 - Waste Incineration Ordinance
 - Rules for sampling, sample preparation and analysis

From domestic market innovation to global leader in recycling plants



- World market leader in plastics recycling plants
- World market leader in glass recycling plants
- Global player in biomass shredding, separation and sorting
- World market leader in mobile processing plants for demolition waste and rubble

Water pollution control

Clean rivers and lakes and
the best quality drinking
water due to the latest
technology



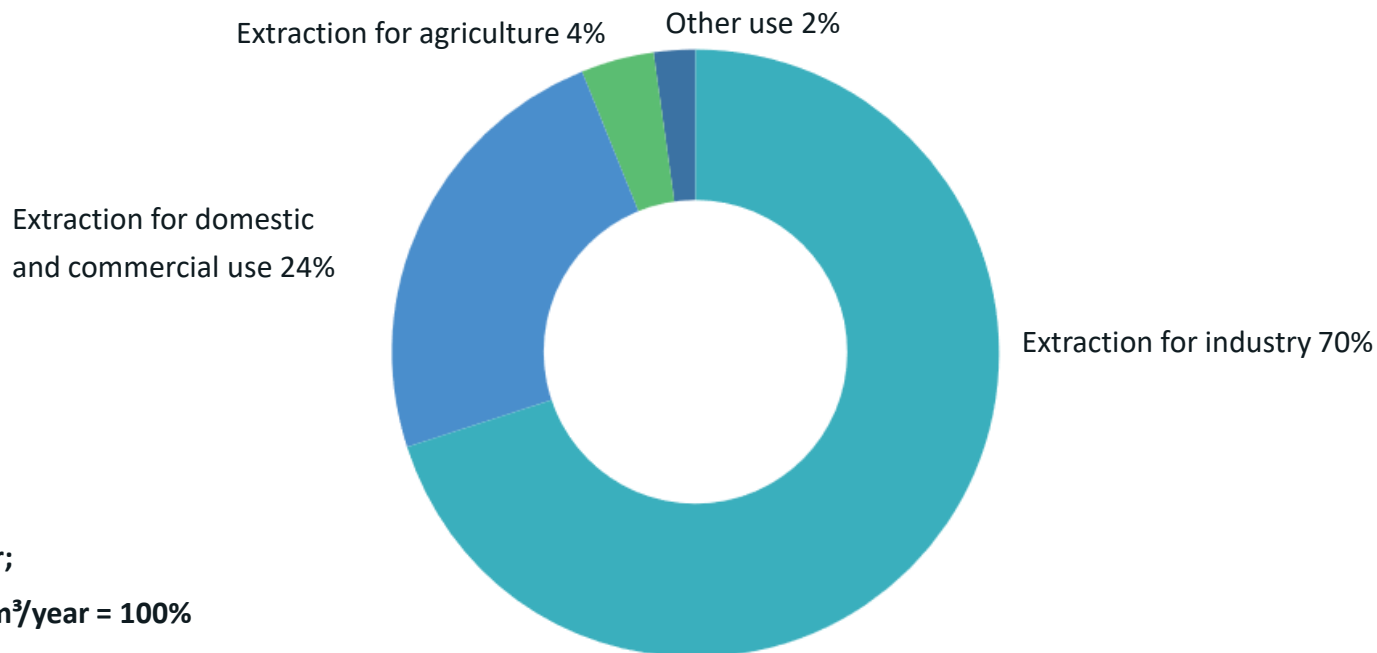
BMK/Alexander Haiden

Legislation ensures outstanding quality and stimulates economic growth



- Comprehensive measures for water pollution control since 1960
- € 50 billion in funding since 1960 for public wastewater, mixed and rainwater drains and wastewater treatment plants
- Expertise established in Austrian companies and new technologies developed in accordance with strict legislation
- Around 12,000 green jobs in urban water management, water ecology and flood protection

Use of water resources in Austria



In km³/year;

total 3.1 km³/year = 100%

www.ecotechnology.at

Water resources: Responsible use and innovation for best water quality and supply



- Within water management, domestic companies generate annual sales of around € 300 million
- Drinking water supply: 50% from springs / 50% from groundwater
- 96% of the population is connected to the public sewage system
- More than 600 municipal treatment plants (> 2,000 inhabitants) clean the wastewater
- BOD > 98%
- COD > 95%
- Nitrogen > 81%
- Phosphorus > 91%

An abundance of water can be a hazard – risk management to protect the population and the economy

- Two hundred-year level floods in 2002 and 2013 with highest water level of Danube in 2013
 - Austria's increasing exposure to climate change
- Damage in 2013 significantly lower by forward-looking risk management
 - Flood protection works are closely coordinated between neighbouring states



2000 jobs directly linked to these actions.

Air pollution control



Air Pollution Control – an important economic factor in Austria

- Air pollution control technology: Production of equipment, technologies and specific materials
 - Catalyst manufacture is the most significant area of production
 - Dust collectors & dust collection systems
 - Aerators
- Austrian companies offer a variety of solutions
 - Filter systems, catalytic post-treatment systems, thermal recuperators, methods for emission reduction and particulate filters for cleaning the exhaust gases arising from different industrial processes, vehicle exhaust emissions inspection



CTP-Air Pollution Control



CTP-Air Pollution Control

Air pollution – industry and clean air go hand in hand

Nitrous oxide reduction system saves equivalent of
150,000 t of CO₂ annually



Europe's cleanest sinter plant

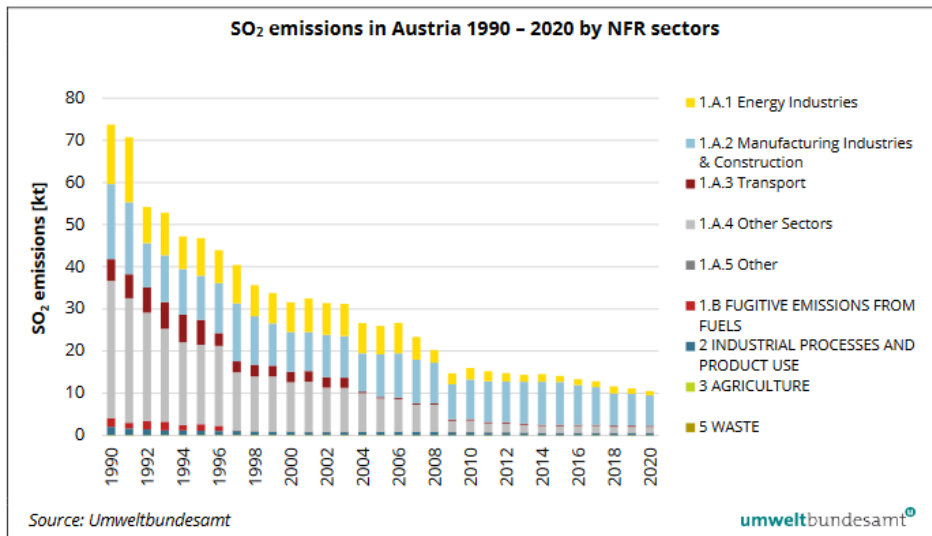


Best air quality demonstrates the success of Austrian environmental policy

- Annual air pollutant inventory by the Federal Environment Agency
- BMK initiatives such as “Getting out of oil and gas”, “Energy.Free.Space”, “World Clean Air Day”
- Pollution Control Act-Air (IG-L), Emission Act-Air (EG-L), Emission Act for Boiler Equipment (EG-K)

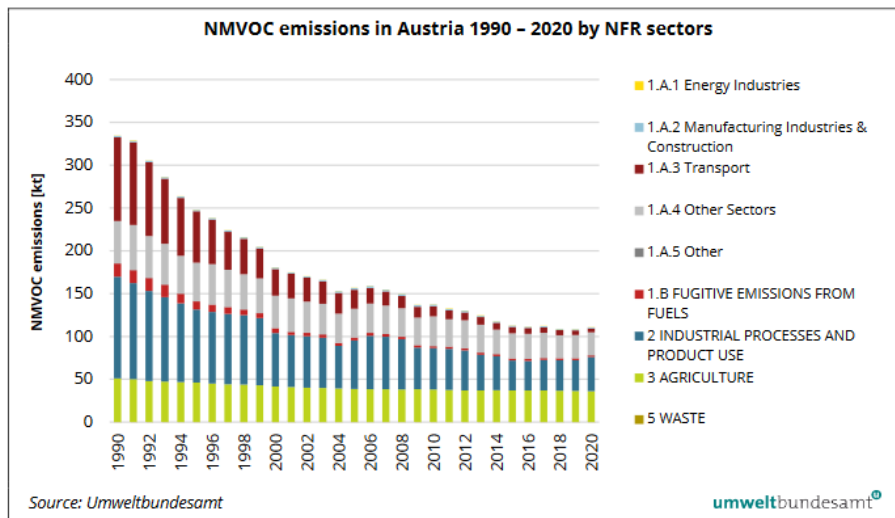


Best air quality – significant reduction in emissions in recent years



- Sulphur dioxide (SO₂), nitrogen oxide (NO_x), ammonia (NH₃) and non-methane organic compounds (NMVOC)
 - Binding limit within the EU Member States
- Very successful actions: Up to 86% reduction in Austria since 1990
 - SO₂ : reduction by 86% from 1990 to 2020

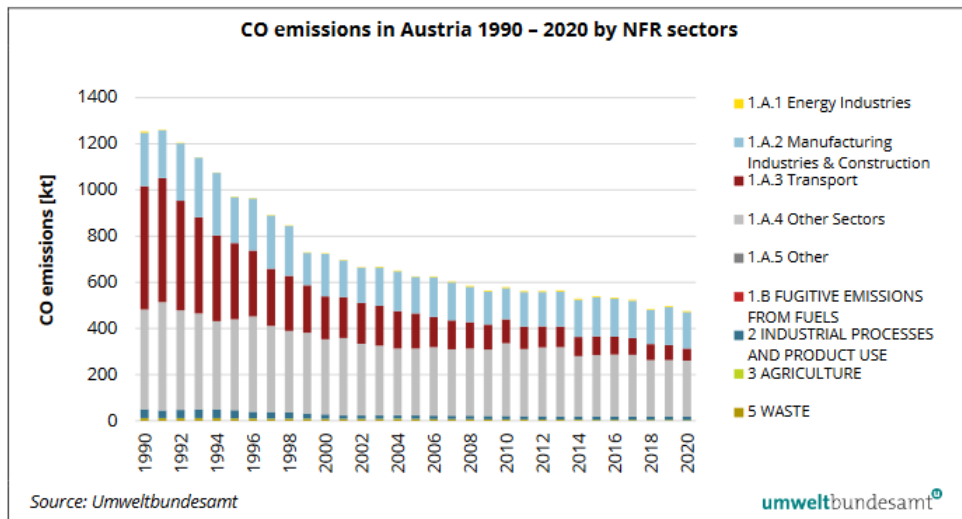
Best air quality – significant decrease in emissions in recent years



- Sulphur dioxide (SO₂), nitrogen oxide (NO_x), ammonia (NH₃) and non-methane organic compounds (NMVOC)
 - Binding limit within the EU Member States
- Very successful actions: Up to 86% reduction in Austria since 1990
 - NMVOC: reduction by 67% since 1990

Austria's Informative Inventory Report (IIR) 2022

Best air quality – significant decrease in emissions in recent years



- Sulphur dioxide (SO₂), nitrogen oxide (NO_x), ammonia (NH₃) and non-methane organic compounds (NMVOC)
 - Binding limit within the EU Member States
- Very successful actions: Up to 86% reduction in Austria since 1990
 - CO: reduction by 62% since 1990



Ambitious Environmental Policy
Successful Companies
A clean environment for ourselves and our children

Thank you for your attention

**Federal Ministry for Climate Action,
Environment, Energy, Mobility,
Innovation and Technology**

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