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ENERGY TRANSITION IN AUSTRIA

FLANDERS INVESTMENT & TRADE MARKET SURVEY

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ENERGY TRANSITION IN AUSTRIA

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CONTENT

1.	Preface.....	4
2.	European Green Deal	4
2.1	Austria's Point of View	5
3.	Energy Transition Index.....	5
4.	Energy Sector in Austria	6
4.1	Energy mix	6
4.2	Energy Consumption per Sector	6
4.3	Leading Energy Companies	7
4.3.1	OMV AG	7
4.3.2	Verbund AG	7
4.3.3	Wien Energie GmbH	7
4.3.4	EVN AG	7
5.	Renewable Energy	7
5.1	Hydropower	7
5.1.1	Projects	9
5.1.2	Biggest players	9
5.2	Hydrogen	9
5.2.1	Projects	10
5.2.2	Biggest players	11
5.3	Wind Energy	11
5.3.1	Projects	12
5.3.2	Biggest players	12
5.4	Geothermal Energy	12
5.4.1	Projects	13
5.4.2	Biggest players	13
5.5	Photovoltaics	13
5.5.1	Projects	14
5.5.2	Biggest players	15
6.	Green Financing.....	15
7.	Mobility	16
7.1	2030 Mobility Master Plan	16
7.2	Projects	16
8.	Approach of Different States.....	17
8.1	Vienna - Vienna	17
8.2	Styria – Graz	18
8.3	Upper Austria – Linz	18
8.4	Salzburg – Salzburg	19

8.5	Tyrol – Innsbruck	19
8.6	Carinthia – Klagenfurt	19
8.7	Lower Austria – St. Pölten	20
8.8	Vorarlberg – Bregenz	20
8.9	Burgenland – Eisenstadt	21
9.	Most Important Organizations	21
10.	(Financial) Support.....	22
11.	Conferences and trade fairs.....	23



1. PREFACE

The idea of energy transition has been around for over 20 years, but it has only gained considerable attention in recent times. In the 1970s, Austria began investing in renewable energy sources like hydropower, marking the start of their energy transition. However, it was in the early 2000s that Austria made serious efforts to shift towards a low-carbon energy system. They established a feed-in tariff system in 2002, offering financial incentives for wind, solar, and biomass energy industries. In 2003, the Austrian Climate Strategy was unveiled, aiming to reduce greenhouse gas emissions and improve energy efficiency. Austria took a significant step in 2012 by adopting their first National Renewable Action Plan to increase the use of renewable energy sources. This plan made Austria one of the first EU member states to combine climate change adaptation strategies with a comprehensive action plan.

Austria's energy transformation has been driven by policy initiatives, technological advancements, and public support. Although the country still has a long way to go to achieve its carbon neutrality goal, it has made notable progress in recent years and is well-positioned to continue moving towards a low-carbon energy system.

The newest Integrated National Energy and Climate Plan for Austria can be found that was launched in 2021 can be found [here](#). A good report regarding the current fact about energy in Austria can be found [here](#).

2. EUROPEAN GREEN DEAL

To encourage the energy transition in Europe, the European Commission introduced the European Green Deal in 2019. Its primary objective is for Europe to become the world's first climate-neutral continent by 2050.

The European Green Deal encompasses several key goals. Firstly, there is REPowerEU, which aims to reduce greenhouse gas emissions to mitigate the impacts of climate change and facilitate the EU's shift towards sustainable and renewable energy sources. This initiative was introduced by the EU Commission as a response to the disruptions caused by Russia's invasion of Ukraine, with the additional aim of reducing dependence on Russian fossil fuels by 2027. Consequently, European countries will be encouraged to prioritize renewable energy.

The second objective is called "Fit For 55." Its aim is to achieve a 55% reduction in gas emissions by 2030. To accomplish this, the EU Parliament passed the EU Climate Law on June 24, 2021, establishing a legally binding target to reduce emissions by 55% by 2030 and attain climate neutrality by 2050.

By 2035, a deadline will be implemented, allowing only zero-emission passenger cars and light commercial vehicles to be newly registered in the EU.

Collectively, these measures will enable the European Union to achieve climate neutrality by 2050.



2.1 AUSTRIA'S POINT OF VIEW

Austria has shown great enthusiasm for achieving climate neutrality, leading them to advance their deadline from 2050 to 2040. However, before reaching that milestone, Austria has set another target: to operate entirely on renewable energy by 2030. To accomplish this, they launched the [#Mission-2030](#), a strategy adopted by the Austrian Federal Government in 2018. This strategy outlines Austria's goals and measures for achieving a sustainable and low-carbon future by 2030. The primary objective of this project is to reduce Austria's greenhouse gas emissions by 36% in 2030 compared to 2005. The strategy encompasses various measures in areas such as energy efficiency, renewable energy, mobility, and agriculture.

Meeting this deadline will require an additional 30,000 GWh of renewable energy annually. As a result, Austria anticipates the installation of an additional 10,500 MW of solar PV, 4,500 MW of wind power, and 1,500 MW of hydropower capacity. Their progress is already noteworthy, as by 2022, they had achieved 80% of their target. Further details on Austria's renewable energy mix can be found in the chapter dedicated to renewable energy.

In response to the pandemic, Austria formulated a [Recovery and Resilience plan](#), which was implemented in July 2021. This plan includes reforms and investments aimed at enhancing Austria's sustainability, resilience, and preparedness for the challenges and opportunities of the green and digital transitions. It consists of 32 investments and 27 reforms that need to be implemented by 2026, with € 3.46 billion in grants supporting these efforts. Approximately 59% of the plan focuses on climate objectives, while 53% is dedicated to fostering the digital transition.

In alignment with the European Green Deal, which stipulates that only zero-emission vehicles can be newly registered starting from 2035, Austria has brought forward this deadline to 2030.

3. ENERGY TRANSITION INDEX

In 2018, the World Economic Forum introduced the Energy Transition Index (ETI) as a tool to monitor the global energy transition. The index assesses 115 countries, including Austria, and measures their progress in this area. Austria has continued to advance and, in 2021, achieved the fifth position, one place higher than the previous year.

The ETI evaluates countries based on two key factors: system performance, which assesses the current status of the energy transition, and transition readiness, which examines the political, economic, and social conditions necessary for successful implementation. Austria received a score of 75% for both factors, with a remarkable achievement of third place in transition readiness. These high scores establish Austria as one of the leading nations in the world's energy transition efforts.

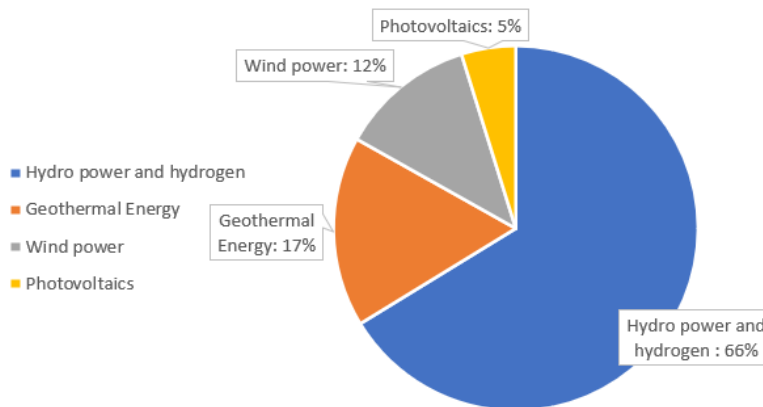


4. ENERGY SECTOR IN AUSTRIA

4.1 ENERGY MIX

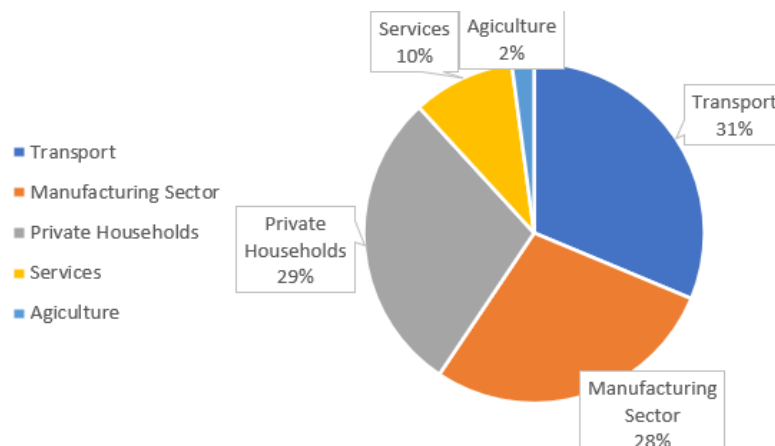
As of 2022, renewable energy accounts for 80% of Austria's total energy generation, positioning the country among the top five EU nations with the highest shares of renewable electricity. Austria's favourable topography plays a significant role, though it is not the sole factor explaining the country's production and utilization of renewable energy sources. Since 2008, the number of contracts supporting green electricity has increased nearly ninefold, and the proportion of subsidized green electricity in final consumption has more than doubled since 2003.

The chart below provides an overview of how the 80% share is distributed among different renewable energy sources. Each segment of the chart is further explored in the "Renewable Energy" chapter.



4.2 ENERGY CONSUMPTION PER SECTOR

Using data from 2022, the chart below illustrates the sectors that consume the most energy in Austria. Notably, the transportation sector emerges as the largest energy consumer, attracting significant attention in Austria's efforts to achieve climate neutrality by 2040. The strategies and plans implemented to address this aspect will be further explored in the dedicated "Mobility" chapter.



4.3 LEADING ENERGY COMPANIES

4.3.1 OMV AG

[OMV](#) is not only one of the largest listed industrial companies in Austria, but also a global energy and chemical group. Their mission is to become - by 2030 - a leading provider of sustainable fuels, chemicals, and materials. They are currently operating in three business areas: energy, fuels & feedstocks, and chemicals & materials. Since they want to contribute to the energy transition in Austria, they made a OMV Strategy 2030, which can be found [here](#).



4.3.2 Verbund AG

[Verbund](#) is Austria's leading electricity company and one of the largest producers of electricity from hydropower in Europe. Close to 100% of their electricity generation comes from climate friendly, renewable hydropower. But not only are they investing in hydropower, but also in hydrogen, wind, and solar power. They constantly have several projects going on throughout the country which can be found [here](#).



4.3.3 Wien Energie GmbH

The largest regional energy supplier, with roughly 2 million customers in and around Vienna is [Wien Energie](#). They produce and supply electricity, natural gas, and district heating while operating several power plants in the region, including biomass and waste-to-energy plants. In 2023, they will be investing € 417 million in their climate protection and thus playing an essential role in the energy transition of Austria.



4.3.4 EVN AG

[EVN](#) provides electricity, natural gas, and district heating to customers in Lower Austria and the surrounding regions. It is a listed, internationally active company for energy, water, and environmental services. Just like OMV, they have a strategy for 2030 in order to contribute to the Austrian energy transition. This can be found [here](#).



5. RENEWABLE ENERGY

As previously said, the goal of Austria is to rely for the full 100% on renewable energy by the end of 2030. In 2020, this percentage was already 80% with hydro power and hydrogen being the leading factor.

Austria is making progress relatively quickly. This can be seen because in 2022, it was the first time there were more renewable heating systems installed than the ones based on fossils. The leading environmentally friendly heating systems are solar and warm water pumps.

5.1 HYDROPOWER

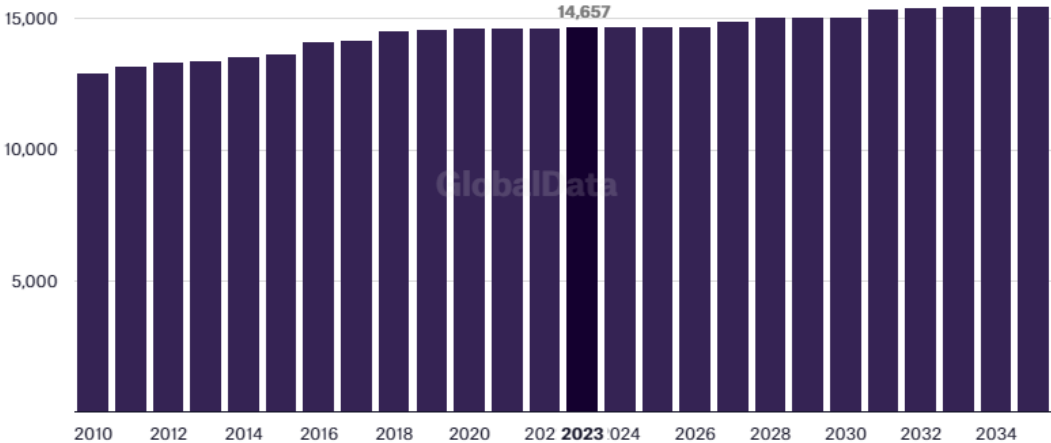
Austria boasts an impressive hydropower sector, with over 3,000 active hydropower plants, making it one of the most advanced in Europe. This substantial number of power plants explains why hydropower holds the largest share in Austria's renewable energy mix. These active plants



contribute approximately 39.8 TWh, which accounts for about 75% of the estimated technical and economic hydropower potential in the country.

To meet the growing power demand, Austria has the potential to develop an additional 6 to 8 TWh of hydropower capacity by 2030. The chart below provides an overview of the historic and projected capacity of hydropower in Austria, showcasing its importance in the energy landscape.

Installed Capacity (MW)



Source: [Power Technology](#)

When looking at the chart we can conclude that even in the past, hydropower played a significant role in Austria.

Below an overview is given of the five biggest operating hydropower plants in Austria.

Plant Name	State / Province or Sea / Water Body	Total Capacity (MW)	Owner	Turbine Manufacturers	Developer
Malta Hauptstufe	Carinthia	730	VERBUND Hydro Power	Andritz Hydro; Voith Hydro Holding	
Kopswerk II	Vorarlberg	525	Vorarlberger Illwerke	Andritz Hydro	EnBW Energie Baden-Württemberg; Vorarlberger Illwerke
Silz	Tyrol	500	Tiwag-Tiroler Wasserkraft	Voith Hydro Holding	Tiwag-Tiroler Wasserkraft
Limberg II	Salzburg	480	VERBUND Hydro Power	Andritz Hydro; Voith Hydro Holding	VERBUND Hydro Power
Reisseck II	Carinthia	430	Energie AG Oberösterreich Trading; KELAG International; VERBUND Hydro Power	Andritz Hydro; Voith Hydro Holding	KELAG International; VERBUND Hydro Power

Source: [Power Technology](#)



5.1.1 Projects

The [Tauernmoos power plant](#) is currently under construction and is planned to be in action by the end 2025. Not only will this power plant produce environmentally friendly electricity, but it will also store large amounts as well.

Verbund together with [Energie Steiermark](#) invested € 79 million into the new [Gratkorn power plant](#) which is planned to generate 54 million kilowatt hours of green electricity every year. The construction started in 2021 and in February 2023 they were halfway through. This all-in order to start the operation in 2024. The latest updates regarding this project can be found [here](#).

There is an interesting two-day trade fair about hydropower called the [Renexpo Interhydro](#). In the 2023 edition, lectures and discussions on the current industry topics were given and some 70 exhibitors, mostly from Austria and Germany had a stand. The full program can be found [here](#). The dates for the next edition are not available.

5.1.2 Biggest players

As can be seen in the picture, with the biggest hydropower plants, [Andritz](#) plays a fairly big role. They are a leading supplier for hydraulic power generation and a member of the [International Hydropower Association](#). The hydro power plants by Andritz have a total of capacity of 13,947 MW in Austria. For more information about hydropower coming from Andritz click [here](#).

With a capacity of 8,417 MW coming from 130 Hydroelectric power plants, [Verbund](#) is also one of the pioneers in Austria. All the projects of Verbund can be found [here](#).

5.2 HYDROGEN

Austria boasts a remarkable presence in the field of hydrogen, with a total of 19 institutes and 313 research workers dedicated to this area. This places Austria in the top league of European countries when it comes to hydrogen expertise, highlighting its crucial role in the energy transition. Hydrogen is primarily anticipated to be utilized in sectors that pose significant decarbonization challenges, including industry (especially the chemical and steel sectors), transport (particularly aviation and shipping), and peak period load balancing. As a result, the prioritization of hydrogen usage will not focus on individual heating or light-duty vehicles.

Austria has established several targets concerning hydrogen. By 2030, the aim is to replace 80% of fossil-based hydrogen with climate-neutral hydrogen in energy-intensive industries. Additionally, Austria seeks to develop a targeted hydrogen infrastructure, strengthen international partnerships for climate-neutral hydrogen, and enhance its innovation and technology potential by focusing on hydrogen technology development. Due to its past dependence on energy imports, Austria places great emphasis on domestic production of green hydrogen.

Forecasts indicate that by 2040, the demand for green hydrogen in Austria will be five times bigger than the current demand. This underscores the projected significant role and increasing importance of hydrogen in Austria’s energy landscape.

The full hydrogen strategy for Austria can be found [here](#).



Extensive research conducted by the [Green Tech Cluster](#), a prominent technology hub focused on climate protection and circular economy, has identified Graz in the state of Styria as a key national hotspot for hydrogen in Austria. Notably, one of the prominent institutions in this region is [Hy Centa](#), the country's exclusive non-academic research facility dedicated solely to hydrogen technology. Hy Centa is actively engaged in research and development initiatives encompassing the generation, distribution, storage, and utilization of hydrogen. Through its projects, Hy Centa contributes to advancing the knowledge and application of hydrogen technology in Austria. More information about their current and finished projects can be found [here](#).

5.2.1 Projects

One of the most significant ongoing hydrogen projects in Austria involves the construction of an electrolyser in Burgenland. This project stands as one of the largest hydrogen initiatives in Europe. It is a collaborative effort between Verbund and Burgenland Energy and is scheduled to start operations in 2026. The project aims to produce 9,000 tons of green hydrogen in its inaugural year, utilizing the abundant solar and wind energy resources available in Burgenland. By 2030, the project's target is to produce 40,000 tons of green hydrogen, marking a significant milestone in the European energy transition. The scale and ambition of this project underscore Austria's commitment to advancing hydrogen technologies and contributing to a more sustainable and low-carbon future. If you want more information about the project, click [here](#).

With the goal of creating a mature hydrogen value chain in Europe, [Hy2Market project](#) was launched in May 2023. This is a cooperation of multiple regions in Europe with Upper Austria playing a big part in the H2 production and H2 as feedstock. The Austrian project partners include [WIVA P&G](#) , [Business Upper Austria](#) , [K1-Met](#), [Prozess Optimal](#), [voestalpine](#), [Austrian Institute of Technology](#), [Montanuniversität Leoben](#) and [Verbund](#). This project, which will help Europe in the transition to a more sustainable and green energy system, will run until March 2026. The presentation about the project can be found [here](#).

Austria's pioneering spirit is exemplified by the world's first operational hydrogen storage facility located in Upper Austria. In this innovative project, electricity from the grid is supplied and converted into hydrogen on-site through electrolysis. The produced hydrogen is then compressed to the required pressure and stored at a depth of 1000 meters in porous rock formations. This groundbreaking initiative holds immense significance, particularly during winter when electricity generation tends to decrease. At such times, the hydrogen stored in the facility can be extracted and utilized either by converting it back into electricity through a fuel cell or by burning it in a power plant. This unique approach enables efficient energy storage and utilization, further demonstrating Austria's commitment to advancing sustainable and flexible energy systems. This project was executed by [RAG Austria AG](#) which is Austria's largest energy storage company.

Upper Austria launched the [Hydrogen offensive 2030](#). This includes an investment of € 9 million. This offensive consists of three steps. The first one being investing € 6 million in a hydrogen research center which will be created at the University of Applied Sciences in Wels. It will also be used to support companies and research institutions with their use of green hydrogen and in the development of components for hydrogen technologies. The second step is cooperation with a wide range of international trading partners for climate-neutral hydrogen. Thirdly, with the remaining € 3 million, Upper Austria is tendering new funding for "[Future Energy Technologies](#)".



having a little more than 760 wind turbines. This accounts for 52% of the total wind power capacity and created 1300 jobs. In 2023, their goal is to place 30 wind turbines. Even though wind energy accounts for 10% of the national energy mix, in Lower Austria, this is almost 30%. The latter is quite impressive because when comparing to 2005, it has grown by 25%. [Here](#) you can find more information about wind energy in Lower Austria.

IG Windkraft also made an interactive map available with all the windfarms in Austria which can be accessed via this [link](#).

5.3.1 Projects

While Lower Austria boasts the highest number of wind turbines, the largest wind farm in Austria is situated in Burgenland. This significant project started in 2019 and was completed three years later, resulting in the construction of 26 wind turbines with a combined capacity of 135 MW. To make way for these new turbines, older and smaller ones that generated less energy were dismantled. Not only does this wind farm have the highest capacity, but it also features the tallest wind turbines in Austria, standing at a height of 242 meters. These taller turbines can produce three to four times more energy than the ones they replaced. On average, wind turbines in Austria have a height of 150 meters. The entire wind farm has the capacity to generate energy for approximately 100,000 households. The development, construction, and operation of this project are carried out by the [PÜSPÖK Group](#), which, in addition to this venture, supplies green energy to approximately 270,000 households, constituting 10% of Austria's wind energy supply. More information about the project can be found [here](#) and for an overview of all their projects click [here](#).

On the 22nd of March 2023, the representatives of the state Upper Austria presented their newest project to Energie AG. In the upcoming 10 years, € 100 million will be invested in wind power. The goal is to erect a total of 12 wind turbines. If this would happen, the windfarm will count 18 turbines in total. This corresponds to more than the total electricity consumption of the Braunau district. The article with all the information can be found [here](#).

5.3.2 Biggest players

Besides the PÜSPÖK, who has a total output of 422 MW with its 114 wind turbines, [Energie Burgenland](#) is the largest producer of wind energy. With their 225 wind energy plants, they have a total capacity of 522 MW.

When mentioning big players, [Windkraft Simonsfeld AG](#) cannot be forgotten. They have a total of 88 wind turbines with a total capacity of almost 240 MW. Their current projects can be found [here](#).

5.4 GEO THERMAL ENERGY

Austria surpasses the European average in terms of geothermal energy utilization. Presently, there are approximately 90,000 geothermal heat pump systems operating in Austria, collectively producing around 2.3 TWh of heat. Additionally, there are ten heat generation plants that generate a combined heat output of 300 GWh. Furthermore, two sites utilize heat to generate approximately 2.5 GWh of electrical energy. However, the potential for geothermal heat utilization in Austria is even greater. By 2040, it is projected that a total of 15 TWh of heat could be generated using near-



surface geothermal energy, while deep geothermal energy has the potential to produce 9.2 TWh. This was all published in the report "[Energy and Innovation Austria](#)".

5.4.1 Projects

Before the generation of geothermal energy is possible in Vienna, research needed to be done. This was carried out in the framework of the Wien Energy funded GeoTief Vienna research project. This project was a cooperation between several companies including the Austrian Institute of Technology, OMV, the Universities of Vienna and Salzburg, and the Central Institute for Meteorology. In 2022, the project ended, and a 3D model was made of Vienna's underground. All this led to the conclusion that there is a large thermal water deposit in Vienna's underground. This and the fact that Vienna already has one of the largest district heating networks in Europe, makes sure that geothermal energy will become a big part of the energy transition in Vienna. Click [here](#) to obtain more information about the GeoTief Vienna project.

After GeoTief Vienna ended, a subsequent pilot project was started to build the first geothermal heating plant in Aspern, a part of the Donaustadt in Vienna. This year, in 2023, they are focused on obtaining permits and starting to construct the drilling site. In 2026, they want to start commissioning the first geothermal plant. The plant is intended to generate heating for 20,000 Viennese households. More information can be obtained by clicking on this [link](#).

Projects dedicated to geothermal energy are also found in other cities. Manage GeoCity was a project led by Joanneum Research in Graz. This project's aim was to develop a methodology for the coordinated use and management of shallow geothermal energy for heating and cooling and seasonal storage in urban areas. A more detailed description of the project can be found [here](#) and additionally [here](#).

Click on this [link](#) if you want to see the latest news or projects about geothermal energy in Austria.

5.4.2 Biggest players

In Austria, the biggest companies who invested or are currently investing the most regarding geothermal energy are [OMV](#), [Wien Energie](#), and [Geothermie für Österreich \(GTÖ\)](#). The latter is an umbrella organization for geothermal energy operators in Austria and continuously releases the newest updates and events regarding geothermal energy.

5.5 PHOTOVOLTAICS

Solar photovoltaics is experiencing rapid growth worldwide, Austria being no exception. Currently, the annual growth rate of the photovoltaic industry in Austria stands at 15%. By 2030, Austria has the potential to meet 15% of its energy needs through solar energy, and this figure could rise to nearly 30% by 2050. However, to achieve the climate targets, Austria must expand its photovoltaic industry by a factor of 5. To facilitate this expansion, Austria has simplified the approval process for PV systems. The chart below provides an overview of the growth of solar photovoltaics in Austria.



In May 2023 Upper Austria announced eight upcoming projects. New photovoltaic plants will be installed on 44 hectares. All this accounts for an investment of 35 million euros with a total generation capacity of 35 GWH. The latter is equal to an energy supply of 10,000 households. The article with all the information can be found [here](#).

Currently there is also a cooperation going on between Borealis and Verbund to build a new photovoltaic park. All the information about this can be found [here](#)

5.5.2 Biggest players

In the photovoltaic industry, some of the biggest players in Austria are [Austria Solar](#) and [Photovoltaic Austria](#). But, [Verbund](#), [Energie Burgenland](#) and [Wien Energie](#) also play a fairly big role together with the research center [AIT](#) and [The Austrian Photovoltaics Technology Platform](#) (TPPV).

6. GREEN FINANCING

The goal of green financing is to increase the level of financial flows to sustainable development priorities. With the [Green Finance Alliance](#), Austria is, again, a pioneer. This alliance is an initiative from the Ministry for Climate Action (BMK) with the goal to establish a broad alliance for climate protection in the Austrian financial industry. In this sector, the target is to be climate neutral only by 2050. The reason for this is the international approach of Austrian financing companies. The goal of the alliance for 2023 is to gain more members. Since the more financial companies are part of this alliance, the bigger the positive impact will be on climate protection.

This is not the only initiative to increase the popularity of green financing. There is also a "[The Austrian Green Finance Agenda](#) (GFA)". It contains recommendations for actions aimed at financial markets, companies, politics, and administration. All this serves the same purpose as the alliance and that is to channel private financial flows into low-emission and sustainable investments and to better manage sustainability risks.

Due to its strong commitment to sustainability, the Austrian Raiffeisen Bank International (RBI) was named the most sustainable bank in 2020 according to the Dow Jones Sustainability Index. RBI also provides a yearly sustainability report. A copy of the 2022 edition can be found [here](#).

Another Austrian bank, Erste Group Bank, has also put in place several sustainability measures. They emphasize sustainable financing and a target to be climate neutral by 2030. Via [this](#) link, all the goals from Erste Group regarding sustainability can be found.

Bank Austria also made commitments regarding the energy transition in Austria. One of them being a pledge to provide € 16 billion in sustainable financing by 2025 and a focus on promoting green finance and sustainable investments. [Here](#) you can find all the other measures Bank Austria takes.



7. MOBILITY

When aiming to achieve climate neutrality by 2040, it is crucial to address the issue of mobility. As previously mentioned, the transportation sector is the largest energy consumer in Austria, and unfortunately, emissions from this sector had not seen - until recently - a reduction since 1990.

As part of the efforts to tackle this challenge, one of the goals is to only allow registrations of zero-emission vehicles by 2030. As of January 2023, approximately 15% of new vehicle registrations in Austria were for zero-emission vehicles. Among the states, Vorarlberg took the lead with a remarkable 21.53% of new registrations being zero-emission vehicles. This represents an almost 50% increase compared to the previous year. It is noteworthy that out of all the alternatively powered new car registrations, nearly 80% are company vehicles, indicating a significant role for businesses in adopting zero-emission vehicles. More information on electro mobility in January 2023 can be found [here](#) in the monthly report of [Austria Tech](#). This company is actively working to raise awareness of the benefits of sustainable mobility. If you want an overview of all the facts & figures-sheets of other months or years click [here](#).

7.1 2030 MOBILITY MASTER PLAN

Austria has big plans when it comes to mobility, this is why the [Mobility Master Plan](#) has been drafted. It is full of measures that Austria will take to avoid, shift, and improve traffic and transport and significantly increase the share of eco-mobility in transport in general. The latter includes foot and bicycle traffic, public modes of transport, and shared mobility.

The Mobility Master Plan goes hand in hand with a twin transition. This is using digitalization to reach the goals regarding sustainability.

In this plan, a considerable number of deadlines have been set for all the various parts of road transport.

As said before, in 2030, 100% of all new car registrations must meet the zero-emission target. Two years after that, all new bus registrations will also have emission-free.

In the freight sector, a distinction is made between vehicles below and above 18 tons. The first group has a deadline in 2030 of being emission-free and the second one in 2035.

When looking at rail transport, it is calculated that in 2035, almost all the decarbonization efforts need to be completed and by 2040 it is fully climate neutral due to electrified lines.

Inland waterways and air transport have a deadline to be climate neutral by 2040. Currently, Austria is campaigning for a fair taxation of jet fuel at European and global level.

7.2 PROJECTS

In addition to the Mobility Master Plan, Austria is implementing several other smaller projects to promote the adoption of zero-emission vehicles. This includes initiatives beyond personal cars, extending to sectors such as postal services. In Vienna, there is a specific goal to ensure emission-free delivery of postal services in all districts by the end of 2025. Looking ahead, the aim is to achieve zero-emission deliveries throughout the entire country by 2030. As of now, there are

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already 3,000 electric vehicles operating in the postal sector, signalling significant progress towards this goal. These efforts reflect Austria’s commitment to reducing emissions and transitioning to a more sustainable and environmentally friendly transportation system.

The public transport sector is also evolving and focusing on sustainability. To promote the use of public transport, the “Klima Ticket” was introduced in October 2021. With this, you can travel through the entire country with one ticket that can be purchased on a yearly basis. If unlimited traveling throughout the entire country is not necessary, every province in Austria also offers a “Klima ticket” that can be used in that state only. In Vienna for example, the cost is € 365 a year. More information about the Klima Ticket can be found [here](#).

Another goal is to have a shared vehicle available every 500 meter by the end of 2040.

8. APPROACH OF DIFFERENT STATES

Since Austria consists out of nine states, every single one of them has a different approach on the energy transition.

8.1 VIENNA - VIENNA

Out of all states, Vienna has the lowest energy consumption. In order to achieve climate neutrality in 2040, the City of Vienna designed a [climate guide](#). In this report, every step that will be taken is explained in detail. Vienna also wants to reach a recycling rate of 100% by 2050.

A particularly important project that is currently going on in Vienna is [Smart City Wien](#). This is a sustainability strategy to pursue the Sustainability Development Program. The focus is about having a high quality of life, resource conservations and social and technical innovation.

There are four goals when it comes to resource conservation. The first one is to reduce the greenhouse emission per capita by 55% by 2030. The second one is about the decrease of the consumption-based material footprint. This needs to be decreased by the end of 2030 with 30%, by 2040 with 40%, and by 2050 with 50%. Another goal is that as of 2021, the local greenhouse gas emission may not exceed 60 million tons of CO2 equivalents. The last goal is to decrease local energy consumption by 30% by the end of 2030, and 45% by the end of 2040. This is compared to the baseline year of 2005.

For social and technical innovation, the goal is that Vienna will be an innovative leader by 2030 and that Vienna will become the digitalization capital of Europe.

All this is financed out of the [Wiener Klimabudget](#).

8.1.1 Important organizations

8.1.1.1 [Vienna Business Agency](#)

The Vienna Business Agency supports local and international companies in all phases of their business development, providing advice on all corporate issues in Vienna. They also provide several funding programs. One of them being the [energy-saving funding](#). With this, they want to support



small companies that implement sustainable measures to save energy and/or increase energy efficiency.

8.1.1.2 [Stadt Wien](#)

Stadt Wien is the municipal government of Vienna, Austria. The organization is responsible for providing a wide range of public services and managing the day-to-day operations of the city. [Here](#) you can find everything that is currently going on regarding the energy transition in Vienna.

8.2 [STYRIA – GRAZ](#)

To smoothen the energy transition, Styria drew up an Integrated Spatial and Energy Plan that can be found [here](#). The largest training center for renewable energy is located in Styria’s capital, Graz. This center is specialized in photovoltaic research and is called the Green Village Bulme Graz.

8.2.1 Important organizations

8.2.1.1 [Das Land Steiermark](#)

The organization is responsible for providing a wide range of public services and managing the state’s affairs. One of the key responsibilities and activities of Das Land Steiermark includes the environment, climate, and energy transition. Everything regarding this topic can be found [here](#).

8.2.1.2 [Energie Steiermark](#)

Leading Austrian energy provider Energie Steiermark is aggressively moving towards a sustainable energy system, including raising the proportion of renewable energy in its energy mix. Additionally, it invests in the study and creation of sustainable energy technology.

8.3 [UPPER AUSTRIA – LINZ](#)

Already € 2.3 billion is being invested each year in the energy transition: 40% of it in renewables, 30% in energy efficiency in buildings and 30% in industrial energy efficiency and geothermal energy.

8.3.1 Important organizations

8.3.1.1 [OÖ Energiesparverband](#) - Upper Austria Energy Saving Association

This is an organization [Upper Austria](#). It can be considered as the contact point to get information about energy in the state. It also promotes energy efficiency, renewable energy, e-mobility, and innovative energy technologies and advises households, communities, and companies. On top of that, they are also responsible for the [Cleantech-Cluster](#). The latter is a cluster for environmental technology and energy technology companies in Upper Austria.

8.3.1.2 [Business Upper Austria](#)

This is the Upper Austrian government’s location agency. They function as a business location service, give innovation and technology support, and offer networking events and training programs.



In October 2022, FAS Research released a report with the twelve success factors for the energy transition in Carinthia. The entire report can be found [here](#).

8.6.1 Most important organizations

8.6.1.1 [Kelag](#)

Kelag is a leading energy service provider and is active throughout Austria in the business areas of electricity, gas, and heating, with a focus on Carinthia. The company is strongly dedicated to renewable energy in the fields of hydropower, wind power and photovoltaics.

8.6.1.2 [Land Kärnten – Energy](#)

This is the government and administrative body of the Austrian state of Carinthia. Via the hyperlink, all information, initiatives, and events regarding the energy transition can be found.

8.7 LOWER AUSTRIA – ST. PÖLTEN

In 2021, Lower Austria already operated on 85,2% of renewable energy. With this, they are a pioneer compared to the rest of the country. The state also set several goals. By 2030, every fifth car should be electric, and by 2040 every Lower Austrian should be directly or indirectly involved in a renewable energy system. In 2050, Lower Austria wants to be operating 100% on renewable energy. But, before that, they have another goal to lower their energy consumption to the same level as in 1990.

8.7.1 Most important organizations

8.7.1.1 [NÖ Energie- und Umweltagentur](#)

This is the energy and environment agency of Lower Austria which creates awareness about the prudent use of resources, conscious consumption, and a sustainable way of life. Their services are open for everyone, meaning citizens, communities, and companies. All their initiatives can be found [here](#). They also support several [projects](#) and organize [events](#). All this makes that they contribute significantly to the energy transition in Lower Austria.

8.7.1.2 [State of Lower Austria](#)

This is the governmental body of Lower Austria. All the projects and initiatives they take regarding the energy transition can be found [here](#).

8.8 VORARLBERG – BREGENZ

Already in 2009 Vorarlberg was committed to energy autonomy by 2050. [Here](#) you can find the action plan that Vorarlberg made with info on the measures they took and will take to achieve the climate goals. The report is divided into five areas consisting of research, adaptation activities, joint action programs, sectoral measures and offers for private individuals.



8.8.1 Most important organization

8.8.1.1 [Energieinstitut Vorarlberg](#)

The Vorarlberg Energy Institute is a non-profit association supported by ten institutional members and financially supported by the [state of Vorarlberg](#), [illwerke vkw](#), [Vorarlberg Netz](#) and the [Vorarlberg Raiffeisen bank](#). It is an energy saving association with its goal to contribute to climate neutrality.

Everything that Vorarlberg does for the energy transition can be found on the official website of the state of [Vorarlberg](#).

8.9 BURGENLAND – EISENSTADT

Burgenland is considered the model student of the energy transition in Austria, they want to be energy self-sufficient and climate neutral by 2030, not 2040. This means that they want to be the first climate neutral region in the world. To achieve this, they are primarily focusing on wind and solar energy.

8.9.1 Most important organization

8.9.1.1 [Burgenland Energie](#)

The company produces and distributes electricity, natural gas, district heating, and energy-related services to households, businesses, and public institutions in the region. Its electricity production primarily comes from renewable sources such as wind power, solar power, and hydropower, making it one of the leading green energy providers in Austria. The company operates several wind farms and solar power plants in the region, as well as a biomass plant and a large-scale battery storage facility. On top of that, they also developed an Investment Program 2025 worth € 2 billion. All the information about this program can be found in the [Green Finance Framework](#).

9. MOST IMPORTANT ORGANIZATIONS

- [The Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation, and Technology \(BMK\)](#)



They oversee Austria’s energy, environmental, and climate policies. In order to promote the transition to a sustainable energy system, it creates and puts into action policies and initiatives that include renewable energy and energy efficiency. They also regularly publish the latest initiatives or the newest strategies regarding Austria’s. On top of that they have a climate protection initiative called [Klimaaktiv](#).

- [Climate and Energy Fund](#)

Austria’s energy and climate strategy is being implemented with the help of the Climate and Energy Fund, a government-funded agency. It offers funding for the study, creation, and application of energy-saving, climate change mitigation, and renewable energy technologies.



- [Austrian Institute of Technology](#)



As mentioned in several chapters, AIT plays a significant role and participates in multiple projects regarding the energy transition. It has a focus on sustainable energy technologies, such as renewable energy and energy efficiency. It carries out research, offers consultancy services, and creates energy transition-related technology.

- [Austrian Energy Agency \(AEA\)](#)



Austria's energy and climate policy aims are supported by the AEA, an independent non-profit organization. It educates the public, decision-makers, and industry about energy technologies, energy efficiency, and renewable energy.

- [Austria Wirtschaftsservice \(AWS\)](#)



AWS offers firms and organizations that are engaged in the creation and use of sustainable energy technology and project finance, funding, and advisory services. Numerous initiatives, including financing opportunities, are available to support Austria's energy transformation.

- [Forschungsförderungsgesellschaft \(FFG\)](#)



FFG is assisting Austria in the development and use of sustainable energy technologies through various programs and projects. By reducing the nation's reliance on fossil fuels and accelerating the energy transition, this will also foster innovation and economic expansion.

- [Erneuerbare Energie Österreich](#)



This is an umbrella organization for the promotion of sustainable energy in Austria. They provide very up to date energy facts about Austria which can be found [here](#).

- [Green Energy Lab](#)



This is Austria's largest innovation laboratory regarding future sustainability and is a contact point for all companies and institutions that contribute to the energy transition with innovative ideas. On top of that, they also support several [projects](#) and organize multiple [events](#).

10. (FINANCIAL) SUPPORT

The Austrian Economic Chambers offers several funds to support the energy transition in Austria. An overview of all the current funding programs can be found [here](#).

There is also [Verbund X Accelerator](#). This is a start-up accelerator program launched by Verbund in 2017 to support early-stage companies in the energy sector, more specifically start-ups who contribute to the energy transition via renewable energy, energy efficiency, energy storage, and e-



mobility. [Verbund X Venture](#) invest in and support start-ups and companies in the same fields as these of the accelerator program.

FFG, also a company that was mentioned earlier in this study, offers several trainings, grants, and initiatives in the field of the energy transition. All the current projects can be found [here](#).

Klima Energy Fonds has several support programs going on regarding the energy transition. These can be found [here](#).

11. CONFERENCES AND TRADE FAIR

- [World Sustainable Energy Days](#) – 6 - 8 March 2024, Upper Austria, Wels

This conference is a leading event on the energy transition and climate neutrality organized by the OÖ Energiesparverband. In 2023, it attracted 650 people coming from 65 countries. In 2024, it will consist out of seven conferences: [European Pellet Conference](#), [Energy Efficiency Conference](#), [Young Energy Researchers](#), [Energy Efficiency Policy](#), [Industrial Energy Efficiency](#), [Smart E-Mobility](#) and [Innovation Workshops](#). There is also a [trade show](#) attached which attracted 70,000 visitors in 2022. [Here](#) is an overview of the fees per conference.

- [NEFI Conference](#) – Upper Austria, Linz

The New Energy For Industry conference is focused on the decarbonization of the industrial energy system. As part of the two-day conference in Linz, experts from politics, research and industry will discuss the social, political and – above all – the technological changes for a climate-friendly industry. This event is made possible by [Austrian Institute of Technology](#), [Montan University of Leoben](#), [Business Upper Austria](#), [OÖ Energiesparverband](#) , [Vorzeigeregion Energie](#), [Ober Österreich](#) and [Das Land Steiermark](#). Although the previous addition of the conference was from 13 - 14 March 2022, a new date has not yet been announced.

- [The Austrian Climate Day](#) – Styria

This three-day conference is all about providing an overview of the ongoing Austrian research activities regarding climate change and energy transition. The latest edition was organized mid-April 2023 by the Montan University of Leoben. The dates for 2024 have not yet been announced but the program of the previous edition can be found [here](#).

- [Austrian World Summit](#) – March 16, Hofburg, Vienna

The Austrian World Summit is part of the Schwarzenegger Climate Initiative and is seen as one of the largest conferences in the world when it comes to climate change. The main goal is to offer a broad platform for concrete solutions and successful ideas in order to motivate and act as role models and connect people, businesses, and climate leaders. The program for this year’s edition can be found [here](#).

There are also several events throughout the year regarding the energy transition in Austria organized by the [World Energy Council Austria](#), these can be found [here](#).



- [Tyrol Day 2023: Euregio Summit on energy transition and security of supply](#) - August 20, Tyrol

During this summit, the potential of Tyrol in the field of renewable energies will be discussed. On top of that, it addresses current issues like the rising energy prices, dependence on Russian gas and the effect of climate change on the energy transition.

To get the latest news and updates regarding energy in Austria, you can click on this [link](#).



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