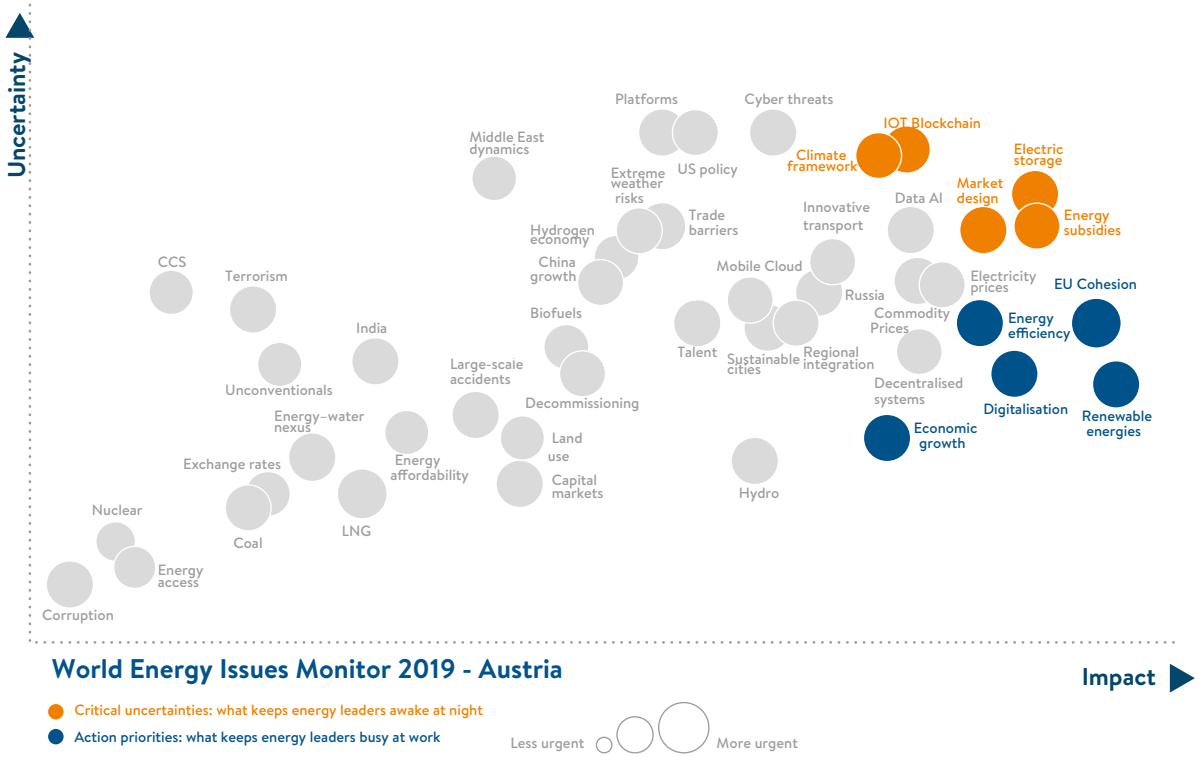
AUSTRIA



NATIONAL OVERVIEW & CONTEXT

Austria's internal energy supply is based on a balanced mix of energy sources. In 2017, energy consumption came from approximately 36% oil, 33% renewables, combustible waste and others, 22% gas and 9% coal. The production of nuclear energy has been banned since 1978 according to the Federal Law for a non-nuclear Austria.

36% of Austria's energy needs are produced locally and the country relies on energy imports to satisfy its energy demand. Austria's energy supply is of high quality and at affordable prices, making energy poverty less stringent than in many other EU countries.

Energy policy developments in Austria and targets for 2020 are well-matched and are in line with EU policy, including a plan to increase the share of renewable energy consumption to 34% by 2020; reducing greenhouse gas emissions by 16% from 2005 levels for sectors not included in the EU Emissions Trading Scheme (EU ETS) and by 21% from 2005 levels for sectors included in EU-ETS; and a 20% improvement in energy efficiency until 2020.

Austria is already close to achieving its 2020 renewable energy target of 34%, while it is at risk of missing its 2020 target for energy efficiency. The GHG-emission target will be missed without further efforts.

The Austrian government unveiled its new energy and climate strategy on April 3rd, 2018. The paper called "#mission2030" is to help Austria reach the EU climate goals. The Austrian government is aiming for all electricity to come from renewable sources by 2030 (2017: about 70%) and for a fully decarbonised energy system by 2050.

To achieve the 100% green electricity target by 2030, an Energy Expansion Act is currently being drafted. The key points are to be adopted by the end of 2018, and the draft law is to be presented in the first quarter of 2019. The core element of the Energy Expansion Act is the reorganisation of renewable subsidies. This is to incorporate both the requirements of the EU Energy and Environmental Aid Guidelines and those of the Renewable Energy Directive (including a switch from feed-in tariffs to market premiums). In addition, the Energy Expansion Act is intended to address the issues of system responsibility, market design and sector coupling.

With regards to the Austrian electricity market, the separation of the German-Austrian price zone has recently been the predominant issue. The combined German/Austrian bidding zone was separated on 1 October 2018. Effects of the separation of the German/Austrian bidding zone could already be observed on the futures markets before 1 October 2018. The future prices for the front years 2019 - 2023 in Austria were on average almost €3/MWh higher than in Germany during 2018. The effects on the spot market can be observed since 1 October 2018. This shows that prices on the spot market in Austria are also significantly higher than in Germany. Between the beginning of October and mid-November 2018, the average price difference was just under €7/MWh.

KEY ISSUES FROM THE NATIONAL MONITOR

Innovation is the biggest critical uncertainty, with **IoT/Blockchain, Data AI and Digitalisation** being on top of the agenda of Austrian energy leaders. These innovations have the highest potential to disrupt the energy sector and re-write the energy sector story.

The established energy sector is affected by these changes and first start-ups show that electricity trading between private individuals is feasible without a participating energy company. Blockchain can also be used to integrate storage technologies into decentralised energy systems, to simplify the balancing of supply and demand, to automate charging and billing in the field of e-mobility and so on.

The Energy Transition could unfold a new dynamic using these new technologies. But they also have the potential to change existing structures and roles in the energy sector landscape. These innovations open opportunities and risks.

The chance of capping global warming at “well below” two degrees Celsius are becoming less likely. With one degree Celsius of warming so far, the Earth has seen a crescendo of extreme weather, including heatwaves, droughts, floods and deadly storm surges made worse by rising seas. Even taking into account voluntary national pledges to slash carbon emissions caused by burning fossil fuels, the planet is currently on track to warm by an unliveable 3 °C to 4 °C by century’s end. This makes it all the more important, not to regard Paris as the end of the discussion, but as the starting point for an ambitious global **climate protection framework** for the future.

Electric storage is a further critical uncertainty of Austrian energy leaders. Electric storage is mostly connected to the development of renewable energies and electric mobility, two areas of great interest for national and local energy stakeholders. Austria has a large number of hydro storage and pumped storage power plants. To achieve the goal of 100% renewable power by 2030, even more storage capacity will be necessary. Unfortunately, the operation and expansion of these power plants is under considerable economic strain due to the present market distortions. For

instance, a significant barrier for pumped storage capacity expansion and operation is the currently implemented regulatory regime (such as transmission grid charges defined and quantified in the corresponding paragraphs of the "EIWOG" Electricity Management and Organization Act). Among others, a significant impediment affecting the economics of the pumped storage technology is a transmission grid charge, having to be paid in both modes: generation and pumping.

Austria plans to increase the ratio of **renewable energy** (gross final energy consumption) to 45-50% by 2030. The interim target of 34% by 2020 is already in sight. Another objective is to cover 100% of total electricity consumption (national balance) from national renewable energy sources by 2030. This increase takes into account the anticipated increase in electricity consumption. Electricity from renewable sources in Austria will be used in the mobility, building and production sectors to replace imported fossil fuels. This increase relies on future trends in digitalisation, decentralisation and participation.

The heat market still depends heavily on imported fossil fuels. In order to mitigate that dependency, the use of biomass, solar heat and ambient heat will be developed between now and 2030. The details are set out in a National Heat Strategy in liaison with regions in Austria. A large proportion of natural gas will be replaced in the future by renewable methane. Cleaning gas by using biomethane from biogenic waste, hydrogen and synthetic methane. This is taken from renewable power sources based on a significantly improved system, proof of origin are key components in the development of a sustainable energy system.

A constant absolute quantity of sustainably produced biofuels will account for a relatively higher percentage compared to fossil fuels, at least in the period up to 2030, due to the increasing market penetration of e-mobility. The protein fodder produced as a by-product of biofuels will make an important contribution to the Austrian protein balance.

There is little the **European Union** today needs more urgently than cohesion, unity and solidarity. From this perspective, it is almost surprising that cohesion (earlier known as regional) policy has existed for over 60 years, an exercise in solidarity, building on the financial resources of the EU Structural Funds. Now, going into a new programming period 2021-2027 and with Brexit, revived nationalism and general unrest among some member states shaking the very foundations of the European Union, it is time to think about how to further adjust and thereby sustain this element of European unity.

Digitalisation of the Energy Transition can play a key role in meeting the challenges of the decentralisation, flexibilization and efficient use of energy and mobility. For example, it can function as an enabler for the progressive expansion of renewable energies. Control and regulation using digital technologies will become increasingly important during the course of the Energy Transition and will give rise to new sustainable business models. In the long term, the link between the power, heat and mobility sectors will become the key to ICT-supported optimisation of the energy and mobility system. The introduction of smart meters will improve demand-side management across the entire population. Digitalisation of the Energy Transition will be one of the driving forces behind the decarbonisation of developed economies.

Analyses show that in the European context there is already considerable reform potential for climate policy instruments in the short term, but especially in the medium and long term. In the long term, the CO2-market should be the guidance system to achieve the Energy Transition and it should support the development of renewable energies and manufacturing technologies, which have low levels of CO2. Renewable energies should be integrated into the competitive markets as fast as possible. If certain technologies are ready for the market, subventions should be limited in time.

CONCLUSION

Austria has a mission. It is determined to safeguard prosperity and the high standard of living. Global climate change has a major impact on the economy, on society and on the environment. The Austrian federal government will find answers to these major questions. That means taking an ambitious approach to climate protection while at the same time ensuring sustainable development. Economic growth and environmental protection need to go hand in hand. Clean growth is not an option, it is a necessity.

ACKNOWLEDGEMENTS

Dr. Kobau Robert, General Secretary, Austria Member Committee, World Energy Council

REFERENCES & CONTRIBUTORS

1. World Energy Issues Monitor 2018, World Energy Council: https://www.worldenergy.org/publications/2018-world-energy-issues-monitor-2018-perspectives-on-the-grand-energy-transition/
2. World Energy Trilemma Index 2018, World Energy Council: https://www.worldenergy.org/publications/2018/trilemma-report-2018/#mission 2030 | Austrian Climate and Energy Strategy: https://www.bmnt.gv.at/dam/jcr:8548da5d-0258-4ffe-ad4f-e5b50a9669c5/Bericht_inkl.Visuals_engl_barrierefrei.pdf
3. Programme of the Austrian Presidency - Presidency of the Council of the European Union 1 July – 31 December 2018: https://www.eu2018.at/dam/jcr:52862976-3848-403e-a38a-6aac8bcbe34d/Programme%20of%20the%20Austrian%20Presidency.PDF