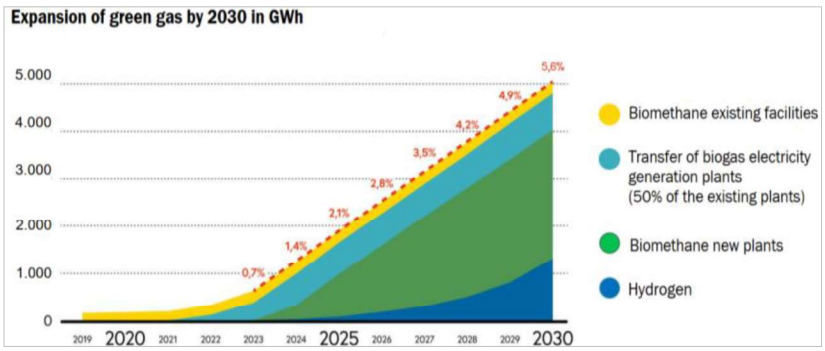
REGATRACE
Renewable Gas Trade Centre in Europe

REGATRACE COUNTRY PROFILE
NOVEMBER 2021

Austria

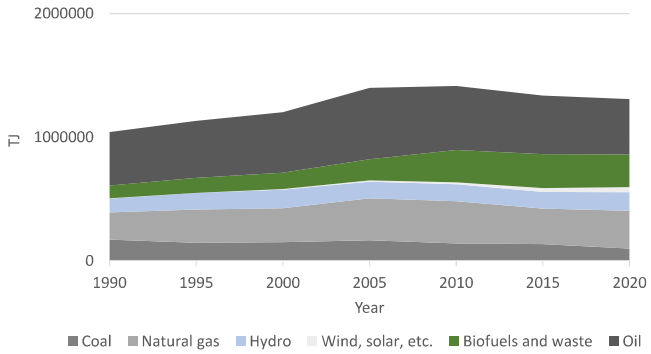
GENERAL KEY FACTS

POTENTIALS OF RE IN AUSTRIA

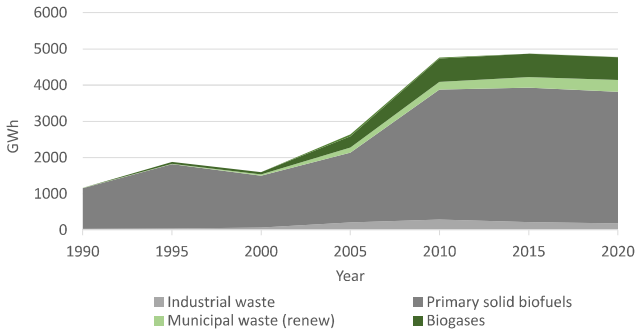


(Maringer 2021)

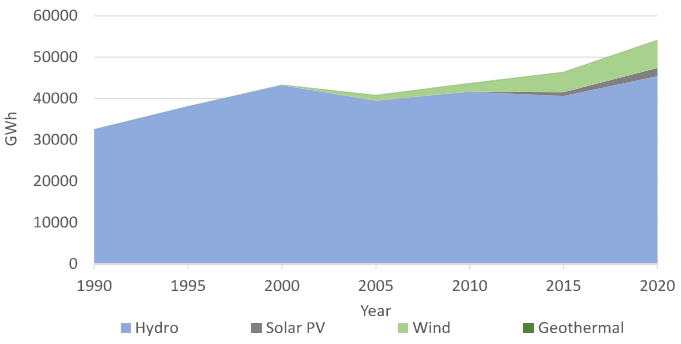
CURRENT ENERGY SUPPLY



ELECTRICITY FROM BIOFUELS



RE ELECTRICITY GENERATION



(IEA 2021)

POLICY SUPPORT FOR RG TECHNOLOGIES

More than 80% of electricity produced in Austria is based on renewable sources. Renewable electricity may cover up to 70% (in balanced terms) of the total final electricity consumption. Over the recent years, Austria has successfully increased the share of renewables in its total primary energy supply to over 30%. Austria is advancing the transformation of its energy sector in line with commitments under the Paris Agreement and at the European level based on a number of policy measures based on the following targets:

- generating electricity from renewable energy sources to the extent that 100% of total national electricity consumption (in national balance terms) is covered by 2030;
- safeguarding the resilience of the energy system to ensure the security of supply.

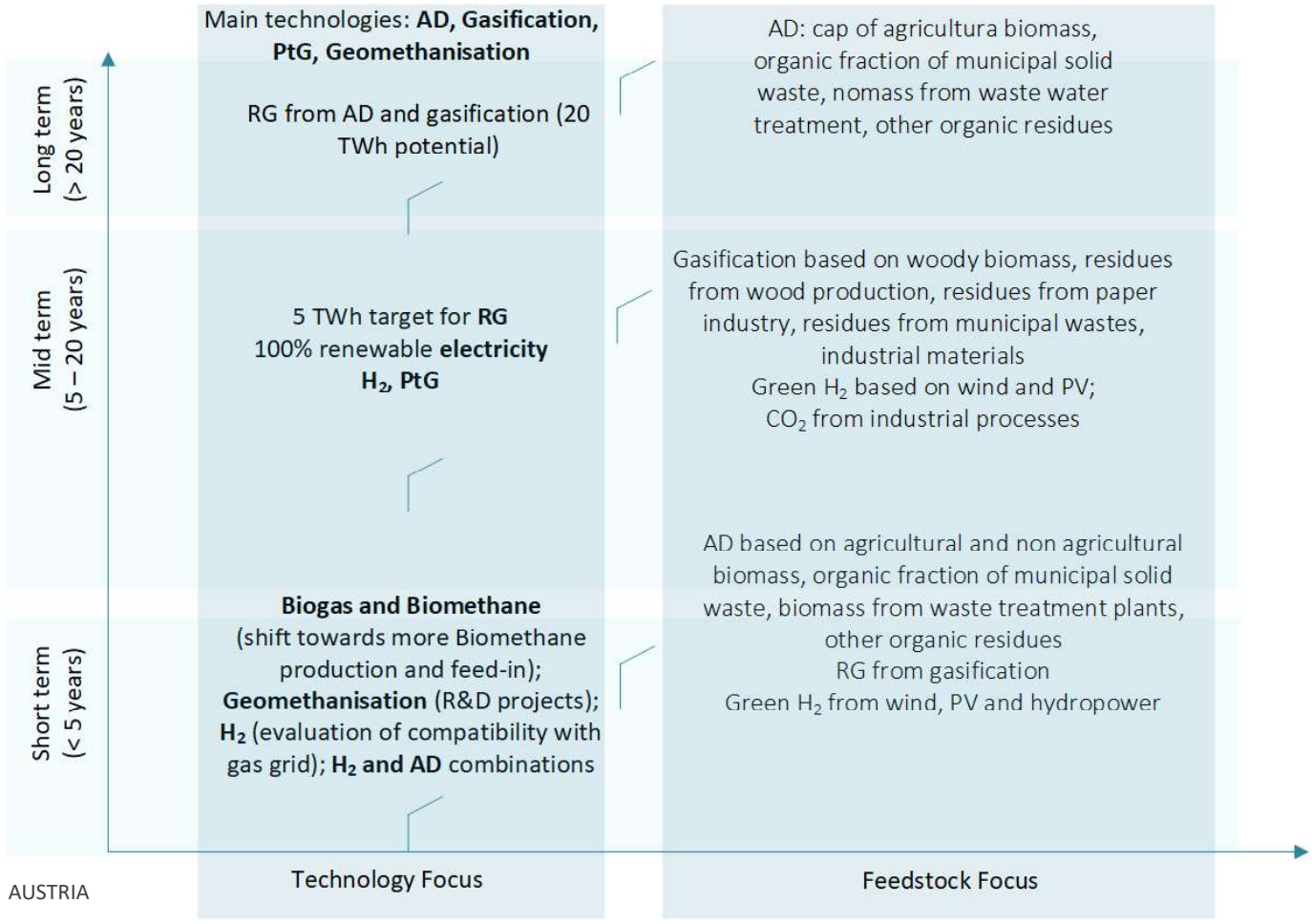
Amongst others, the following policy elements are relevant for the development of RG in Austria:

- #Mission2030: The Federal Government has the goal of generating electricity to the extent that 100 % of total national electricity consumption (in national balance terms) is covered by renewable energy sources by 2030.
- Renewables Expansion Act (Erneuerbaren-Ausbau-Gesetz, EAG 2021) pushing towards a shift from renewable power from biogas towards biomethane grid injection, supported via investment subsidies.

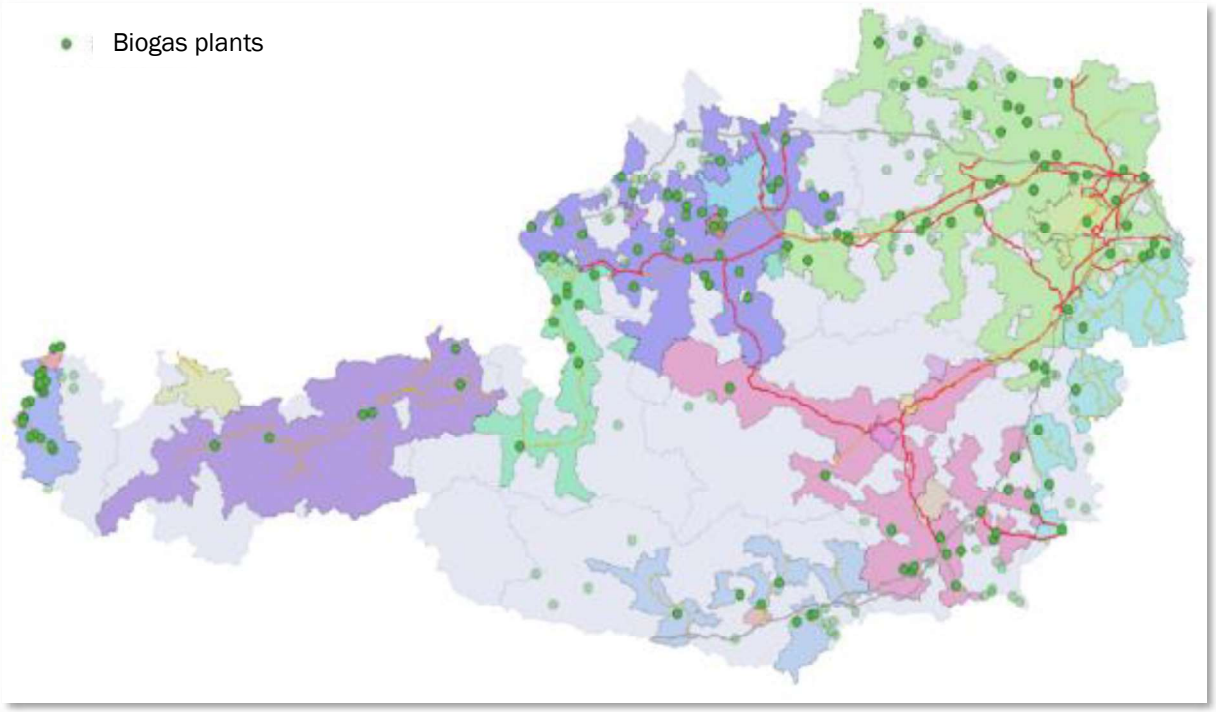
Additional elements under preparation are a national hydrogen strategy and a renewable gas quota for suppliers.

For existing and future biogas and biomethane facilities, support policies aim to shift the resource base towards increasing use of wastes and residues. Additionally, existing investment programmes support the instalment of biogas upgrading and biomethane feed-in technologies for existing biogas plants.

FEEDSTOCK AND TECHNOLOGY FOCUS



EXISTING CAPACITIES FOR AD PLANTS



(AGGM 2019)

- Austria produces an average of approx. 1,700 Nm³/h of biomethane in natural gas quality at 14 production sites that feed into the public gas grid. The substrates used are cultivated biomass, manure from livestock farming and organic residues (including waste from the food industry). The highest level of biomethane injection – approximately 170 GWh – was achieved in 2018. In 2019, injection volumes decreased to a level similar to that reached in 2017, at around 150 GWh. In 2020, 138 GWh of biomethane was injected into the Austrian gas grid.
- In 2020, Austria counted 423 operational biogas plants, with a total reported biogas production of 1,487 GWh converted into electricity and/or heat.

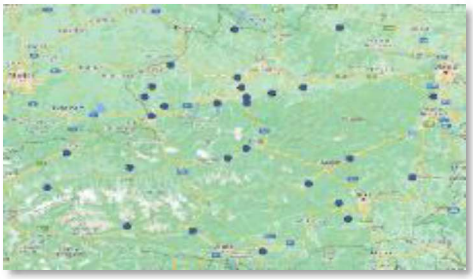
CURRENT CO_2 POTENTIALS FROM AD

- Based on the existing capacities of biogas facilities in Austria, a theoretical potential of biogenic CO_2 can be calculated. This CO_2, which is a component of the Biogas product from the AD process can be extracted in case the Biogas is upgraded to Biomethane.
- Based on the above-described capacities, we calculated a theoretical potential of 415.209 tonnes (211.841.396 m³) of biogenic CO_2 from existing AD plants.
- The current plans of the Austrian administration towards a shift for more biogas upgrading units would support the availabilities of these potentials of biogenic CO_2 which could be used for the production of renewable gases such as Power-to-Gas.

(ISI 2021)

REGIONAL HOT-SPOTS

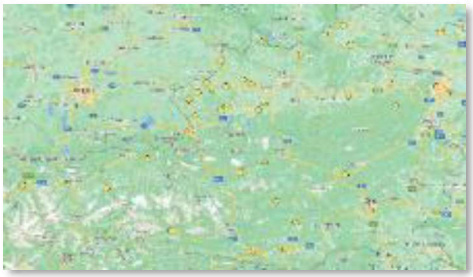
ORGANIC RESIDUES FROM DAIRY PRODUCTION



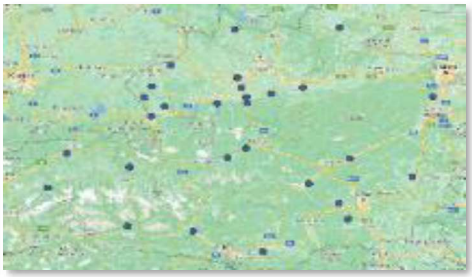
ORGANIC RESIDUES FROM SLAUGHTERHOUSES

ORGANIC RESIDUES FROM SUGAR INDUSTRY

ORGANIC RESIDUES FROM BREWERIES



ORG. RESIDUES FROM DAIRY PRODUCTION



ORGANIC RESIDUES FROM MILLS

(Gabauer & Bochmann 2021)

- Residues from the food and beverage industry and the organic fraction of municipal solid wastes (OFMSW) are to a large extent unavoidable but offer a widely untapped potential for energy production via AD.
- Hot-Spots for RG production are expected in those areas, especially in combination with existing overlaps between the gas grid infrastructure and existing AD plants.

EXISTING CHALLENGES FOR RG PROD.

Existing challenges for the future development of renewable gas capacities in Austria include three main aspects. Firstly there are a number of regulatory challenges due too are missing or unfinished legislation and thus uncertainty for investors/producers and uncertainty for consumers regarding target fulfilment. A green gas quota with substitution obligation for gas suppliers is being considered (§87 EAG 2021), but has been criticised by market participants as it is not an appropriate measure to promote market acceptance, but rather for mature markets. Achieving grid connection is a technical challenge. Remedy is provided by §75 GWG (Gas Economy Act) 2021 referring to grid access fees (*Netzanschlusskosten*) via cost coverage by the network operator for specific components associated with the initial establishment of a grid connection. Another technical aspect is that operators must submit a concept for the provision of raw materials and a concept for the utilisation of biogas fermentation residues in order to receive investment support under the Renewable Energy Sources Act 2021. The third challenge is administration. There are three different certification/registry systems in operation, each for another application purpose of renewable gases, referring to FiT for renewable power, consumer disclosure, biofuels sector. Remedy provided by §81 (7&8) EAG 2021 requesting interfaces between those registry systems to ensure the prevention of multiple counting.

REFERENCES

AGGM Austrian Gas Grid Management AG. Langfristige Planung 2019 für die Gas Verteilerinfrastruktur in Österreich für den Zeitraum 2020 bis 2029; Ausgabe 2: Wien, November 14, 2019.

Gabauer, W.; Bochmann, G. IEE-Project FAB Biogas: Biogas production from organic waste in the European Food And Beverage industry. Event Report: Final Conference. http://www.fabbiogas.eu/en/download/ (Accessed December 6, 2021).

IEA International Energy Agency. Countries and Regions. https://www.iea.org/countries (Accessed December 6, 2021).

ISI Fraunhofer-Institut für System- und Innovationsforschung. Biogas Barometer. https://www.isi.fraunhofer.de/content/dam/isi/dokumente/ccx/2020/2020-EurObserv_ER-biogas-barometer-GB-20201215.pdf (Accessed December 6, 2021).

Maringer, F. Energy Tomorrow: Energiewende umsetzen. https://www.energy-tomorrow.eu/wp-content/uploads/sites/15/2021/09/BMK-Energiewende-umsetzen-Energy-Tomorrow-2021.pdf (Accessed December 6, 2021).

INTERESTING LINKS/ LITERATURE

AGCS Biomethan Register Austria: https://www.biomethanregister.at/en | https://www.biomethanregister.at/en/statistics

Compost and Biogas Association Austria: www.kompost-biogas.info European Biomass Assicoation (EBA) (2021) Statistical report; Austrian data submission

www.energymonitor.at

Initiative Future of green gas: www.gruenes-gas.at

Renewable Gas in Austria by 2040: Erneuerbares Gas in Österreich 2040 - Studie zur quantitativen Abschätzung von Nachfrage und Angebot: https://www.bmk.gv.at/themen/energie/publikationen/erneuerbares-gas-2040.html

#Mission2030 Klima- und Energiestrategie Österreich: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwi88Pat2q70AhVxiv0HHVBmAPcQFnoECBMQAw&url=https%3A%2F%2Fwww.bundeskanzleramt.gv.at%2Fdam%2Fjcr%3A903d5cf5-c3ac-47b6-871c-c83eae34b273%2F20_18_beilagen_nb.pdf&usg=AOvVaw3QweYOeuNMYMqjVf8MWtpW

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