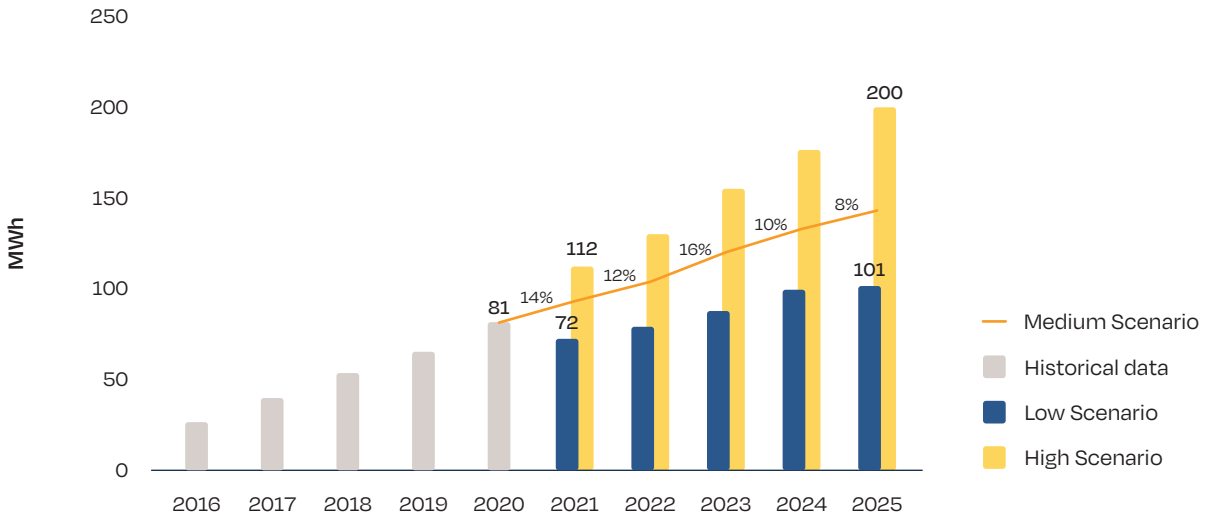
FIGURE 4.4 UK RESIDENTIAL BESS ANNUAL SCENARIOS 2021-2025



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the supplier and the end-consumer. The new SEG regulation provides retailers with the option to offer time-of-use pricing contracts to their customers, which in turn can improve the economics of solar & storage installations. With further decrease in the battery prices, the purchase of a solar rooftop and a home battery could soon make economic sense even in the absence of any governmental subsidy.

Prospects

With no specific government incentive, and the likely transition period still needed for new SEG offers to reach their full maturity, we do not expect major changes in the direction the UK home storage market will take over the next five years. Our Medium Scenario foresees a stable growth in the number of BESS installed every year, increasing from 81 MWh in 2020 to 93 in 2021 (+14%) and 145 MWh in 2025 (+75% over five years). Under the Medium Scenario, the UK will have a home storage fleet of 365 MWh in 2021 and 865 MWh in 2025.

An additional driver of the market could be represented by a change in residential buildings regulation in England and Wales, where new homes will be required to include a rooftop PV system in order to achieve a better level of energy efficiency. This in turn, could lead to a higher number of households interested in the purchasing of a BESS that can benefit from an optimised time-of-use tariff.

Also, the new nation-wide half hourly metering plan for the domestic retail market expected to be completed within 4-5 years will ensure a better penetration of new time-of-use tariffs and products that will reward end-consumers for using energy in a more flexible way. This will also improve the overall economics of solar & storage, making the combination more attractive for prosumers.

If there is no ongoing assessment about any support scheme for residential storage, the political uncertainty remains high in the UK these days. The long-term impact that Brexit will have on both the retail electricity price and the taxation of solar PV and battery technologies is still difficult to forecast.

In contrast, the success of the many pilot projects experimenting the value of battery aggregation for grid services and/or collective self-consumption will lead to additional upside in the future.

With so many unknowns, the spread between our Low and High Scenario in 2025 is large, ranging between 101 MWh and 200 MWh of new storage capacity.

4.4. Austria

The residential battery storage market in Austria started to get traction as early as 2015, and was accelerated by an investment grant to kick-start the technology launched in 2018 at the federal level. Overall, about 24,000 units have been installed so far across the country, with a total capacity of 161 MWh by the end of 2020. Last year, 41 MWh from 6,000 units of residential storage capacity were added, corresponding to a 10% increase compared to 2019. The renewal of the investment grant by the federal government for the period 2020-2023 has been an important support element for storage to ensure a solid recovery in the aftermath of the health crisis, which caused a slowdown in the installation of home batteries. Our Medium Scenario for 2021 forecasts residential storage capacity additions of 56 MWh, corresponding to a strong 37% annual growth rate. We expect sustained growth at least until 2023, as long as the investment grant for storage is available.

Residential solar & storage market in Austria

The Austrian federal government set a new regulatory framework for renewable energy in 2012 by adopting the *Ökostromnovelle* (Green Electricity Act). Among others, a generous subsidy for small-scale PV plants was allowed. It consisted of a one-time financial grant for installations below 5 kW and a 13-year FIT for systems between 5–200 kW. Those two schemes are still in force and are renewed every year on a downward trend, in accordance with the decrease in PV system prices. This helped the residential solar PV market take off and the additional capacity commissioned every year in this segment varied around 50 MW between 2013 and 2017.

In 2017, a nation-wide investment subsidy for small-scale PV systems (located on rooftops and sealed areas) was passed for the years 2018 and 2019 in coherence with the government's more ambitious renewable targets. The scheme, backed by an annual 9 million EUR budget, offered financial support covering up to 30% of the investment costs. Concurrently, a specific budget of 6 million EUR per year was dedicated to support the investment in any storage systems installed with the subsidised PV systems. Overall, the financial support for solar & storage systems could cover up to 45% of the total investment costs. In addition to the federal support scheme, there are also regional incentives available for both small-scale solar PV and attached storage systems.

While approximately 3,500 residential BESS were registered in 2017 (24 MWh), the sector experienced steady growth with 4,500 units installed in 2018 (30 MWh, 25% growth), about 5,500 in 2019 (37 MWh, 23% growth) and 6,000 in 2020 (41 MWh, 10% growth). The total residential storage capacity in service across the country is estimated to be 161 MWh by the end of 2020.

Economics of residential electricity storage in Austria

The residential BESS sector in Austria is mainly driven by homeowners' desire to improve their energy self-sufficiency. The retail electricity rate for household customers was rather stable during the last decade, oscillating around 0.20 EUR/kWh. By contrast, the feed-in tariffs for small-scale PV were progressively reduced, reaching 0.077 EUR/kWh for the year 2020. The spread increase between the two raised the value of coupling rooftop PV systems with batteries. Nearly all the traditional retailers in the country already offer static time-of-use tariffs with specific rates for peak and off-peak times. Furthermore, the national smart meter rollout is progressing quite fast and should be completed in 2022. This is enabling more retailers to also provide dynamic pricing contracts, with special tariff structures for households equipped with solar & storage systems. Overall, the economics for coupling batteries to residential rooftop PV systems has still room for improvement in Austria, but the various incentives available support the investment rationale for customers striving for more independence from the grid and looking to self-consume their own green power.

Prospects

The federal government of Austria has the ambitious plan of covering 100% of total national electricity consumption with renewable energy sources by 2030. At the core of this goals lies the ambitious 1 million rooftop programme, which implies a tenfold increase from the 2018 target of 100,000 roof-mounted PV systems.

Moreover, the Renewable Expansion Act (EAG) introduced in July 2021 aims to add 27 TWh of electricity from renewable energies, from which

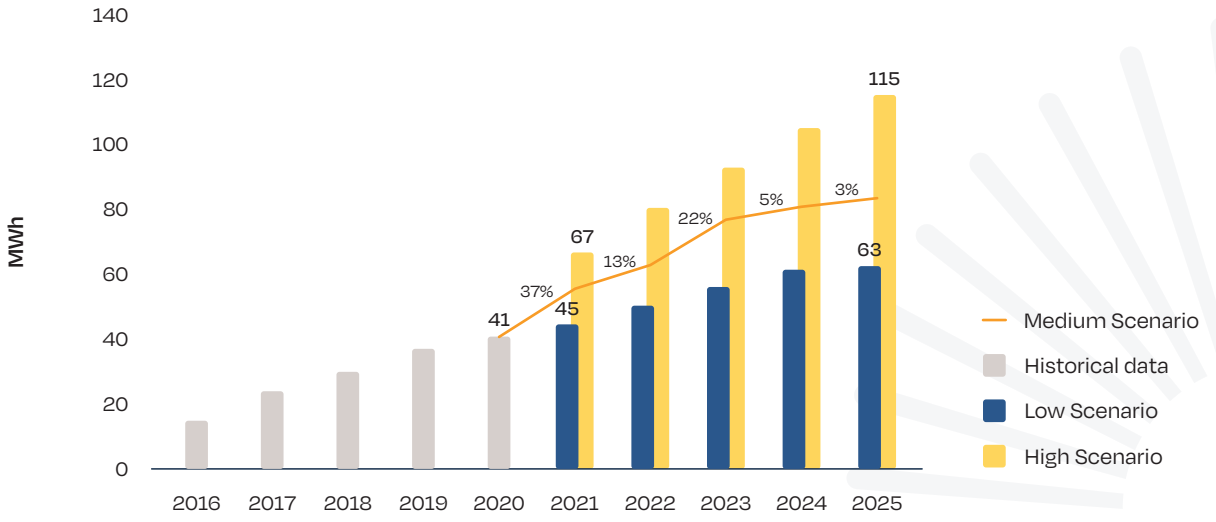
11 TWh of solar PV. It also brings many other interesting policy changes, among which two funding systems. One taking the form of a market premium for PV electricity to be fed into the grid– which still requires notification from the European Commission – or via an investment grand for solar & storage systems, which could start by the end of 2021. The EAG also facilitates grid access with flat-rate costs and the creation of energy communities.

The investment subsidy for both small-scale solar PV and BESS that was renewed for the period 2020–2023 should sustain a stable growth for the residential BESS market. A total budget of 24 million EUR for solar PV and 12 million EUR for storage is allocated by the federal government each year.

With the smart meter rollout expected to be terminated in 2024, there will be potential for more innovative electricity contracts, enabling end-customers to unlock to a larger extent the potential of their storage systems. Certain Austrian regions are also currently assessing more stringent building regulations that would make integrating solar PV for new homes compulsory.

We assume in our Medium Scenario demand to increase from 56 MWh in 2021 to 84 MWh in 2025 (Figure 4.5). This equals to a 37% year-on-year growth in 2021 and a 105% growth over the five-year period. After three strong years, growth is expected to slow down after 2023, due to the expiration of the current subsidy scheme. By 2025, a 521 MWh home battery fleet will be operating in the country, compared to 161 MWh installed at the end of 2020.

FIGURE 4.5 AUSTRIA RESIDENTIAL BESS ANNUAL SCENARIOS 2021-2025



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