Chart of the Week 2022-35: Germany’s Energiewende: Some Considerations

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German Coal Plant
Source: Alex Kraus/Bloomberg News
Germany’s *Energiewende*: Some Considerations

Late summer German electricity is dominated by solar and coal. Combined and at times, they account for up to 70% of total generation.
Germany’s *Energiewende*: Some Considerations

Much like the State of California, German summer generation has a “duck curve” dominated by high mid-day solar generation.

Unlike California, the late afternoon/evening rise in load after the sun sets is less severe and is managed by ramps in hydroelectric and natural gas generation.
In late 2010, several months before Japan's Fukushima nuclear accident, the German legislature passed a set of laws collectively known as Energiewende ("Energy Turnaround" in German), the legislation aimed to manage Germany's accelerated transition to low GHG-emitting energy. Germany's target was to reduce energy caused GHG emissions by 40% of 1990 levels by 2020. At the time, nuclear power, emitting no GHGs, was seen as a bridging fuel.

Immediately after the March 2011 Fukushima accident, Energiewende was amended, seeking to shutdown all of Germany's nuclear power plants by 2022 and eliminating nuclear power from the consideration of being a bridging fuel.

Consequently, in the same time span that Germany has accelerated the development of costly intermittent generating capacity powered by wind and solar, it has continued to rely on high GHG-emitting coal for baseload generation.

During late August 2022, German electricity relied on coal for almost 40% of total generation, with wind and solar producing 12.7% and 14%, respectively.

The expanded version of this slide deck is available at: https://eprinc.org/chart-of-the-week/

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