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Step on the natural gas for German cars

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The decision by Germany's Federal Council to phase out petrol and diesel vehicles by 2030 is at odds with the government's current investment in renewable energy, which is not enough to produce the extra power that electric cars will need. We show how natural gas could plug the gap (calculations available from the authors). Replacing internal-combustion vehicles with electric cars would reduce Germany's primary energy needs by 60%, from about 570 terawatt-hours (TWh) to about 230 TWh. However, the government's brake on renewables, mainly to protect stability of the electricity grid, means that only 63 TWh will come online by 2030 (see also Nature 534, 152; 2016). Making up the deficit with electricity generated by burning natural gas would create 131 million tonnes of carbon dioxide, which would still save 30 million tonnes on 2014 road-transport emissions. To decarbonize its transport sector entirely — and to meet the shortfall under its plan to phase out nuclear energy by 2030 — Germany will need to step up production of renewable energy and develop smart grids for storing it.