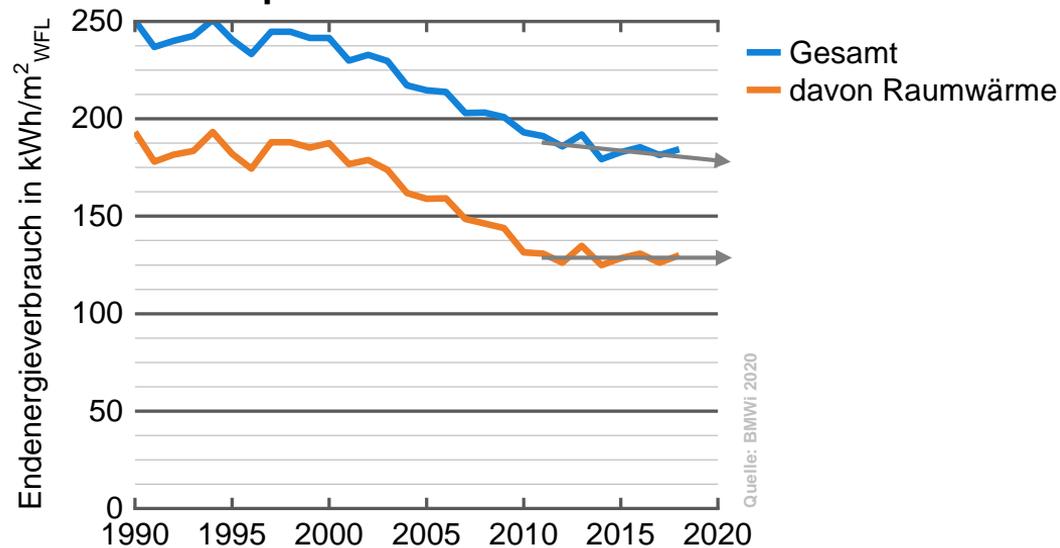


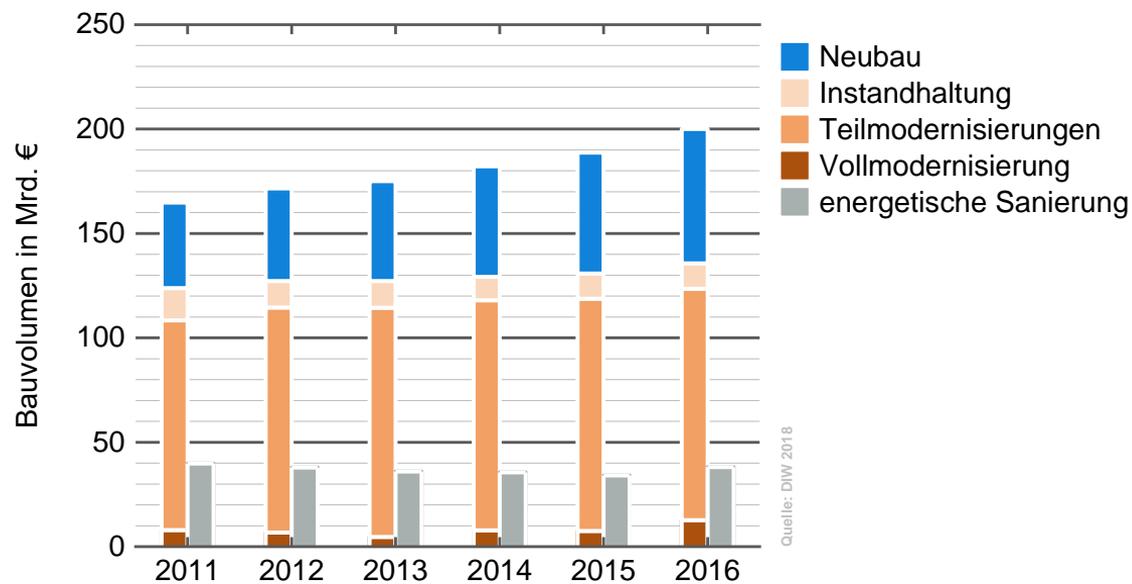
Effizienz und Efficiency First im Gebäudebereich

Andreas H. Holm

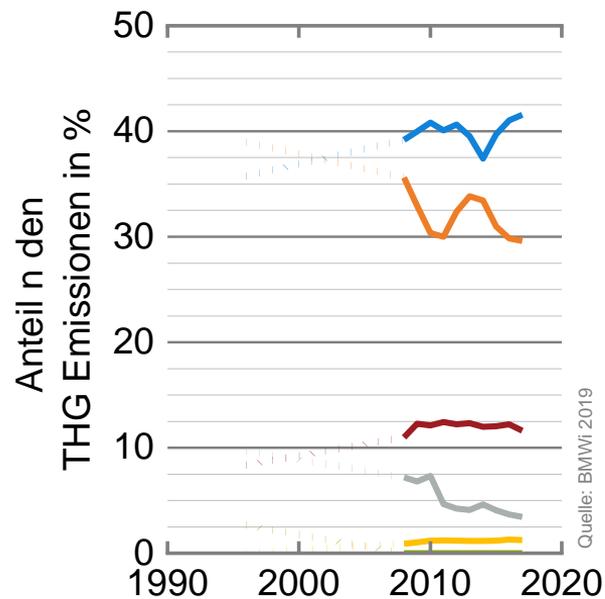
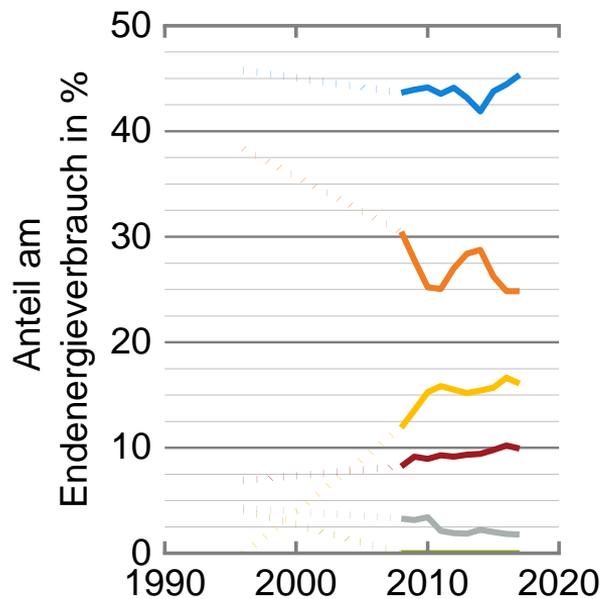
Bert Oschatz

Endenergieverbrauch privater Haushalte



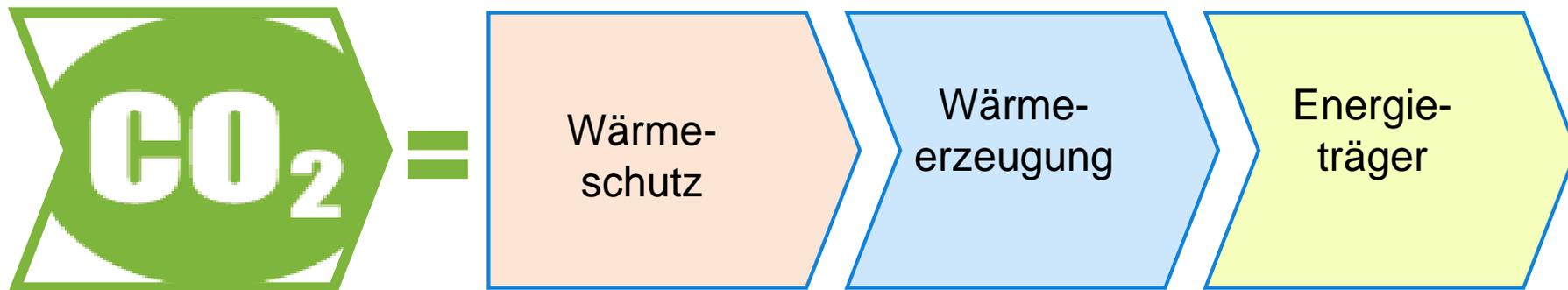


Raumwärme in privaten Haushalten



- Öl
- Gas
- Strom
- Fernwärme
- Erneuerbare
- Sonstige

Quelle: BMWi 2019



CO₂-Emission

Technologieoffenheit

Sanierungstiefe

Sanierungsbreite

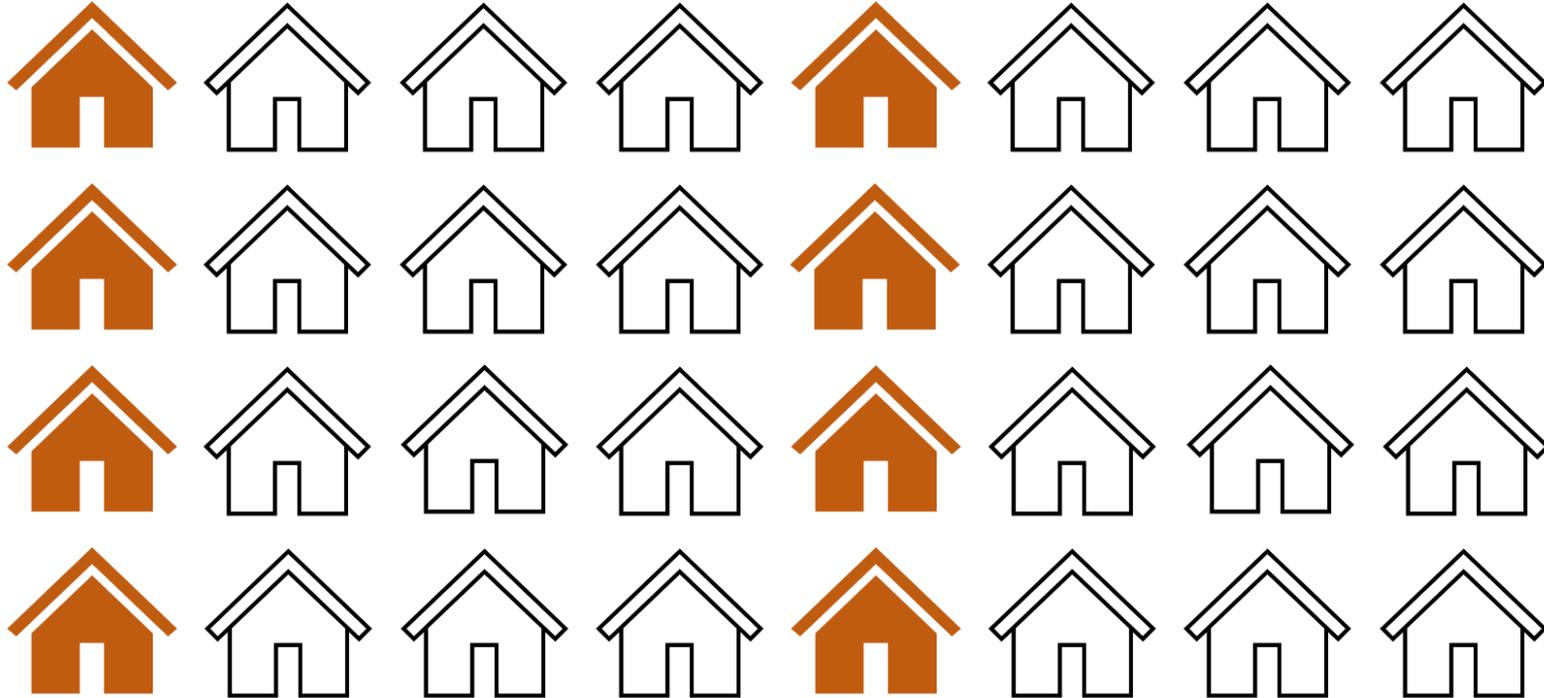
jedes 2. Haus als EFH 100



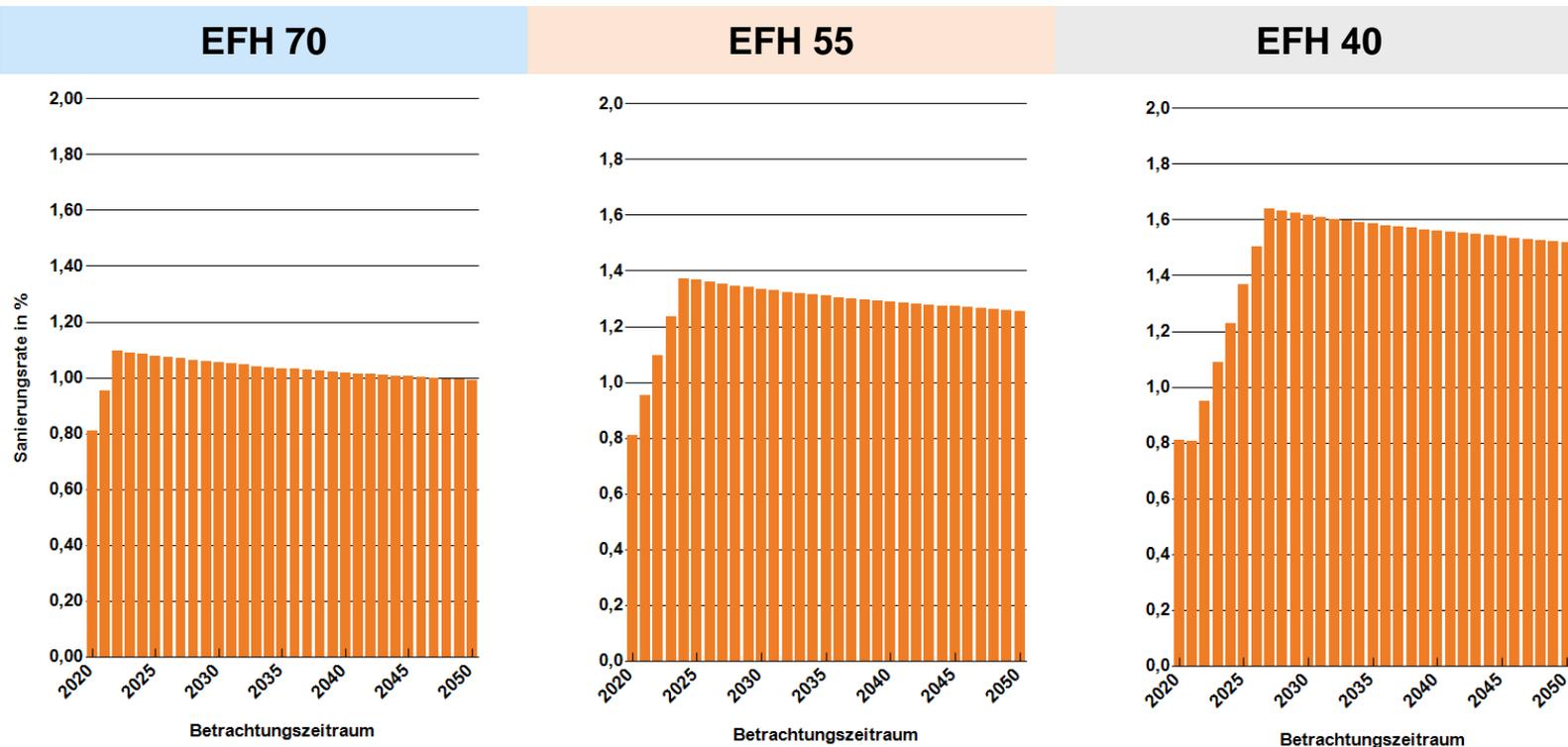
jedes 3. Haus als EFH 70



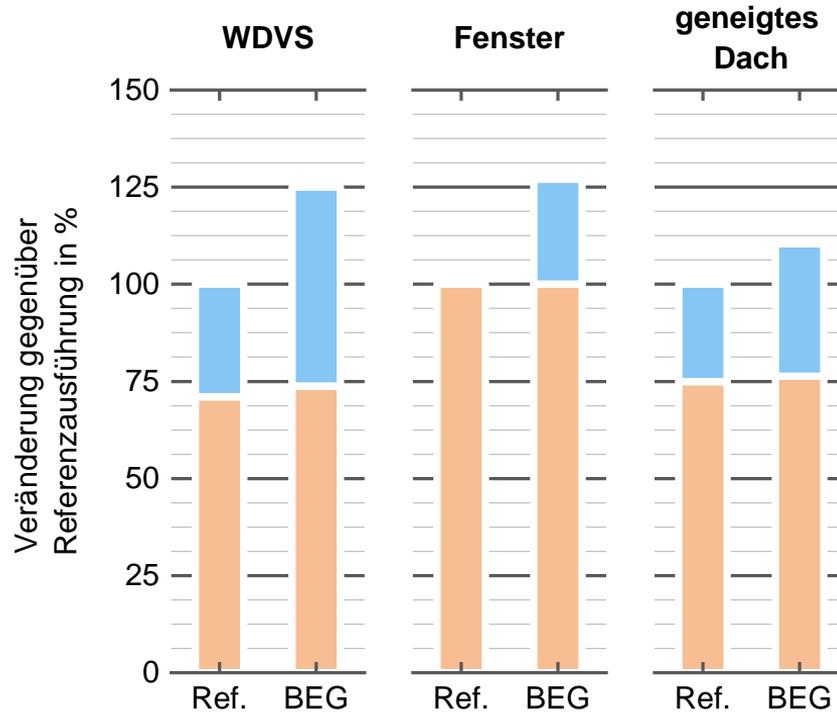
jedes 4. Haus als EFH 55



äquivalente Sanierungsbreite EFH 100 statt:

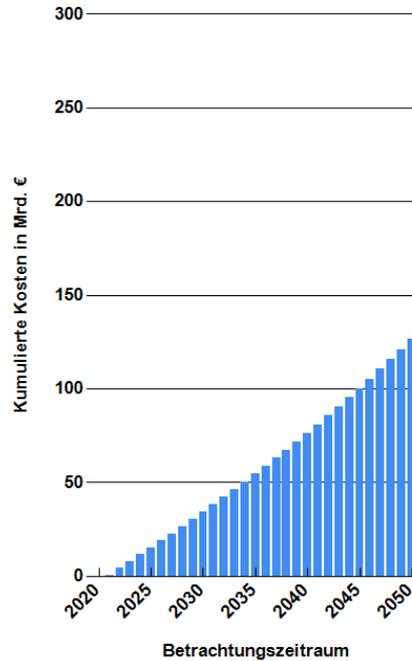


resultierende Mehrkosten

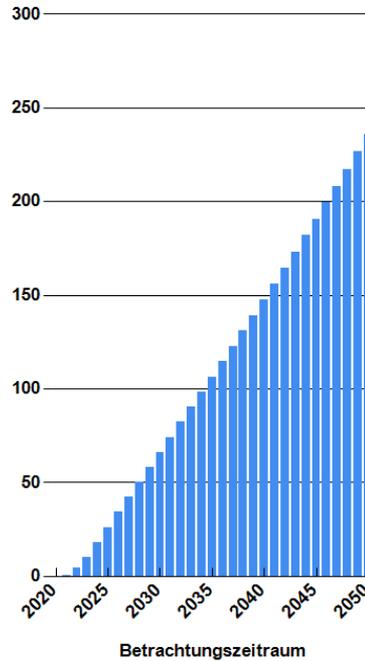


Resultierende Mehrkosten - EFH100 statt:

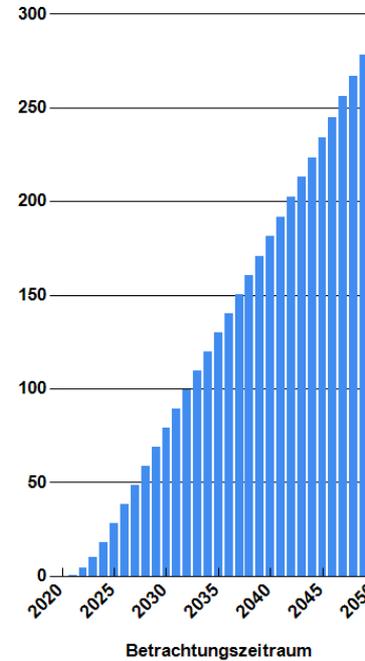
EFH 70



EFH 55



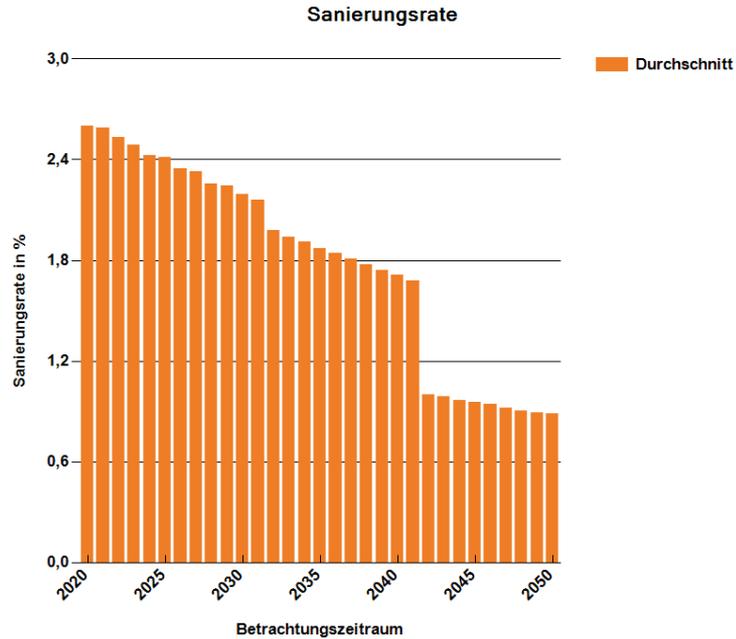
EFH 40



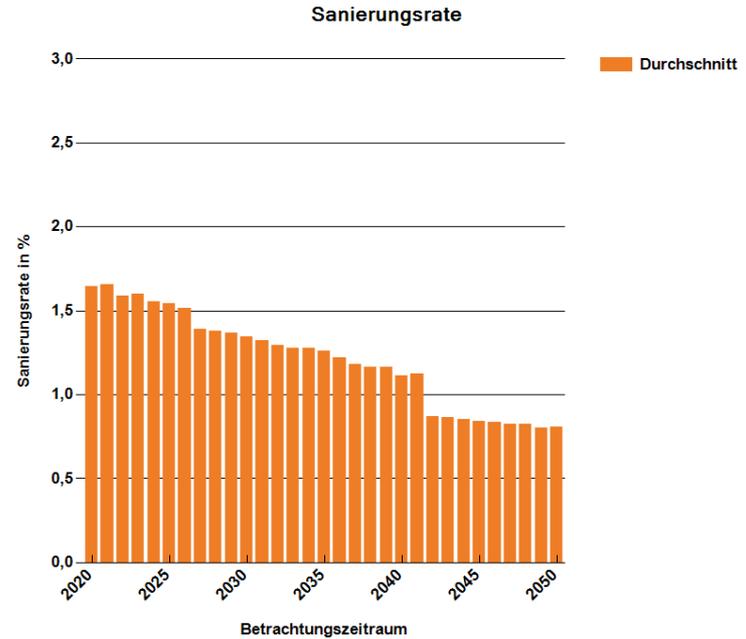
Besonderheit von Niedertemperatursystemen

Einfluss des zusätzlichen Wärmeschutzes

All-Electric



Technologie Mix



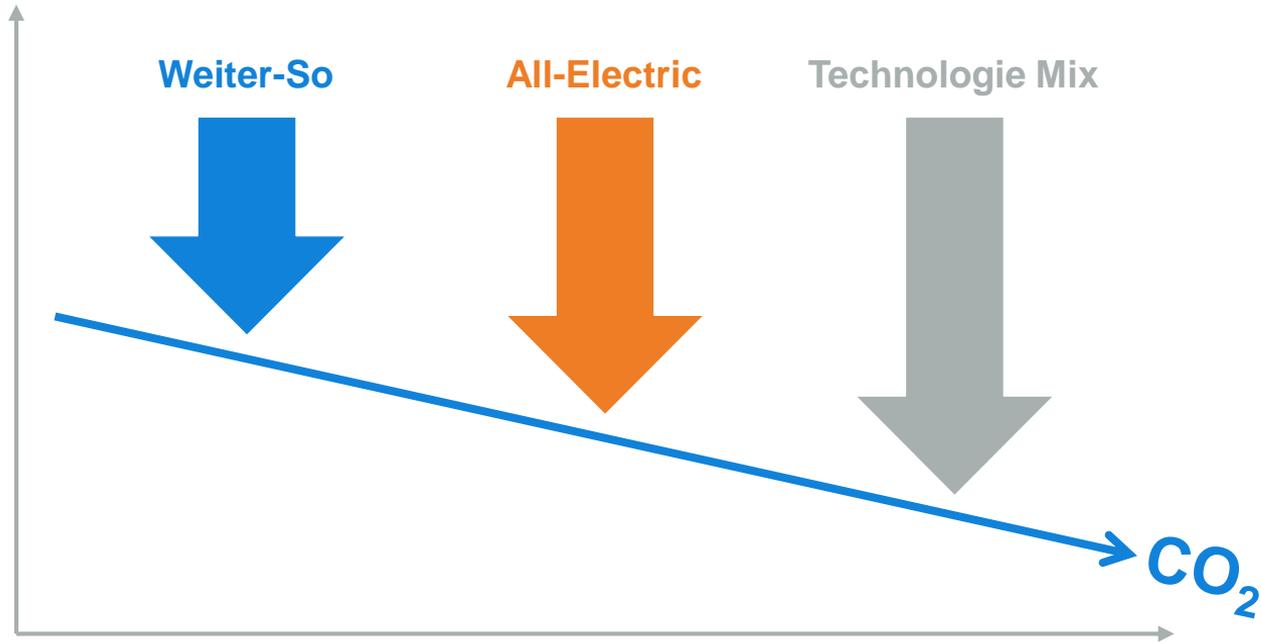
Technologieoffenheit

All-Electric

Technologie Mix

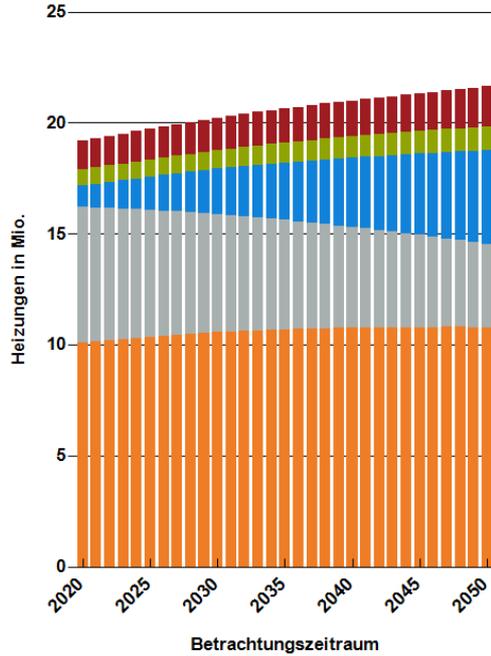
Veränderung der Wärmeversorgung

Strategien zum Erreichen der Klimaziele 2050

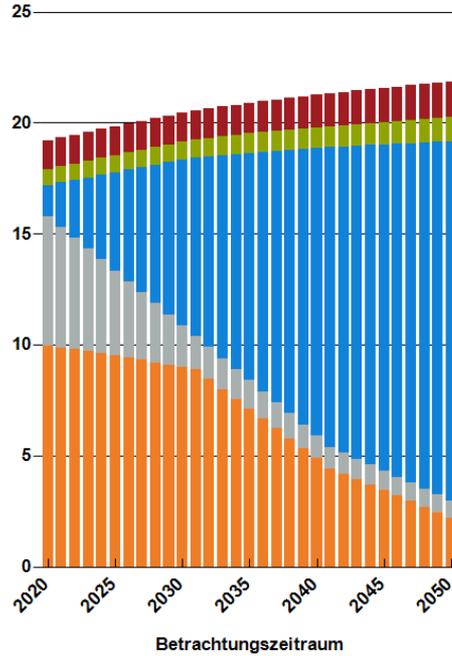


Wärmeversorgung

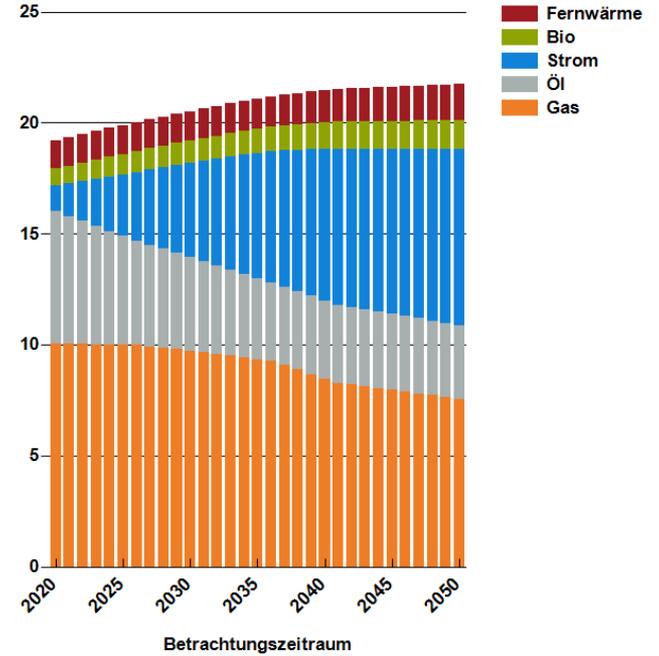
Weiter-So



All-Electric

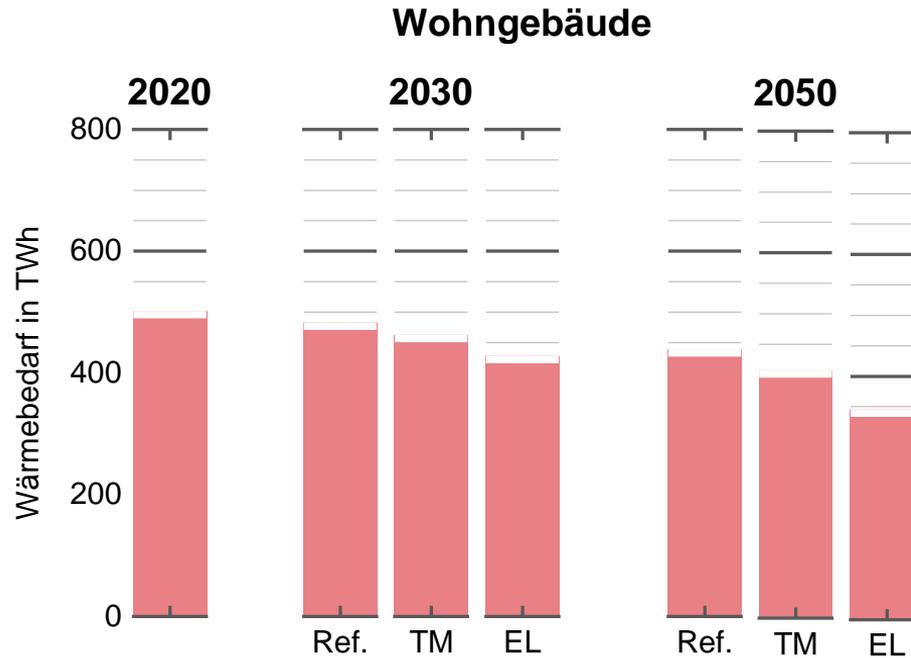


Technologie Mix

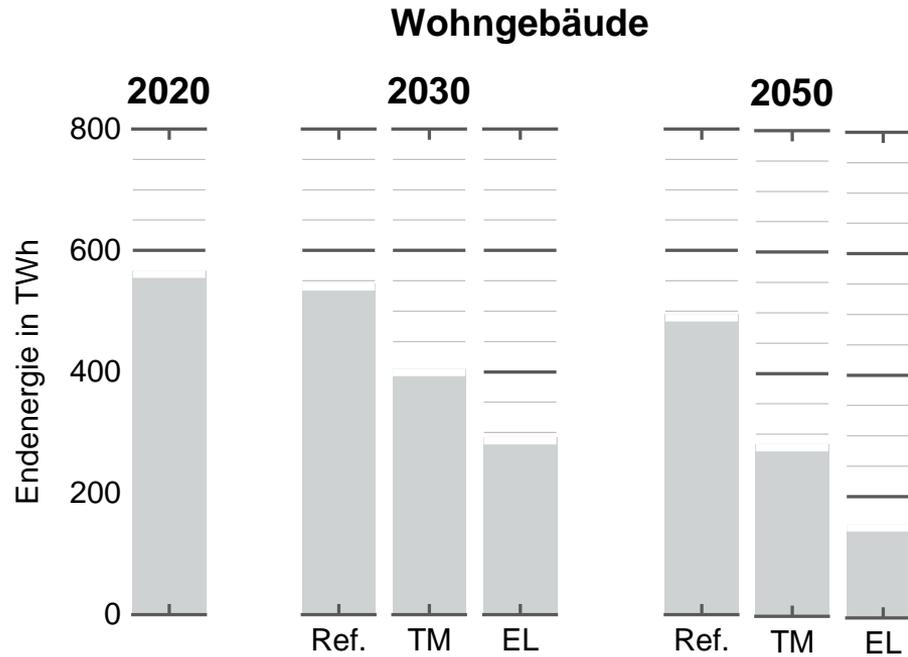


- Fernwärme
- Bio
- Strom
- Öl
- Gas

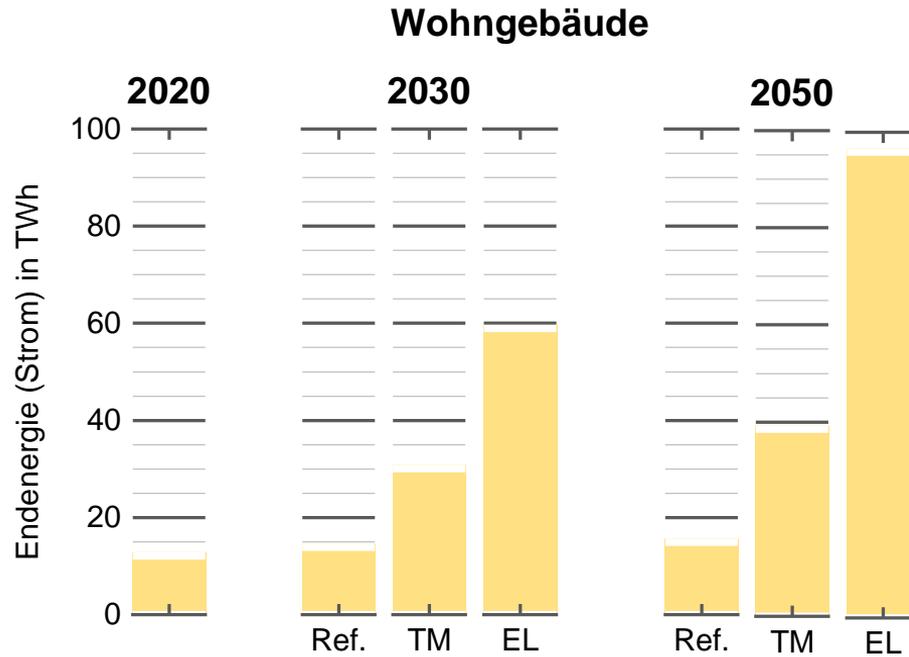
Raumwärme und Warmwasser



Endenergie



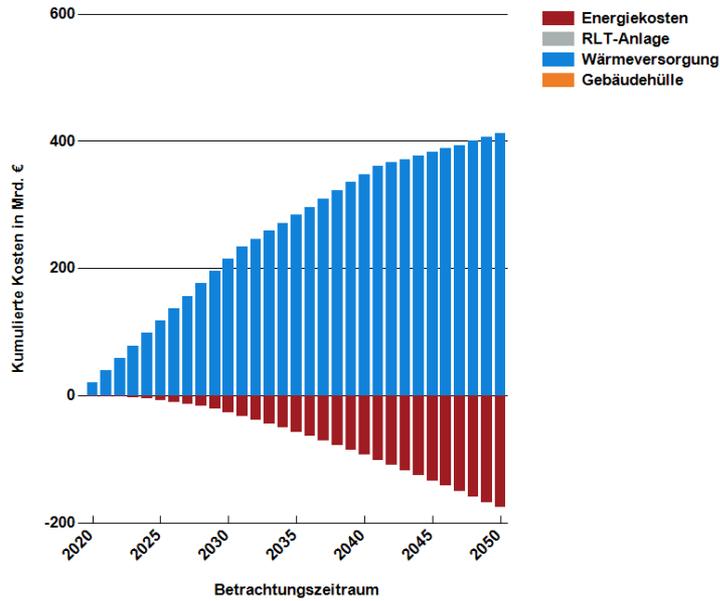
Strom



Kumulierte Mehrkosten gegenüber einem „Weiter-So“

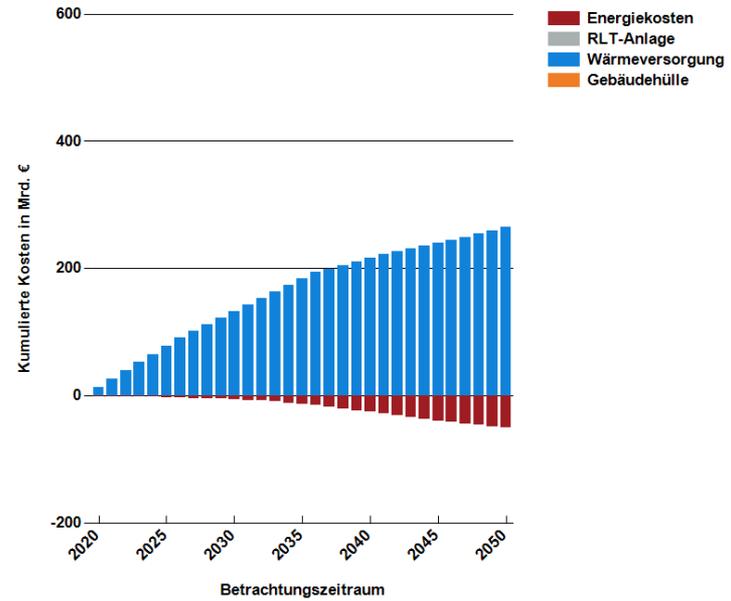
All-Electric

Gesamtkosten



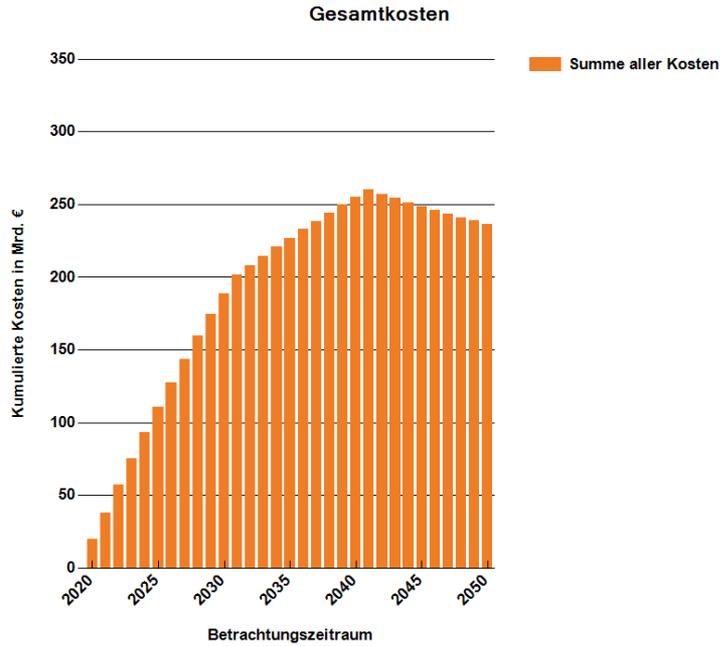
Technologie Mix

Gesamtkosten

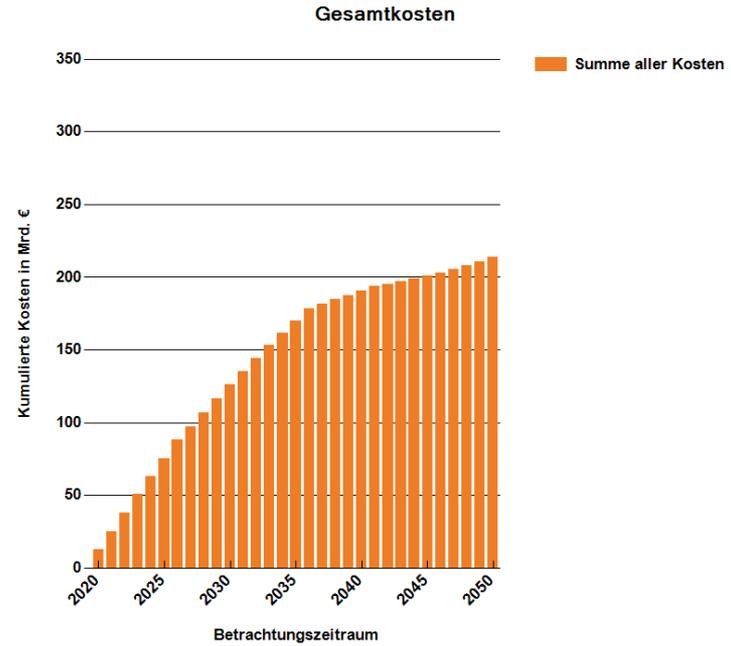


Kumulierte Mehrkosten gegenüber einem „Weiter-So“

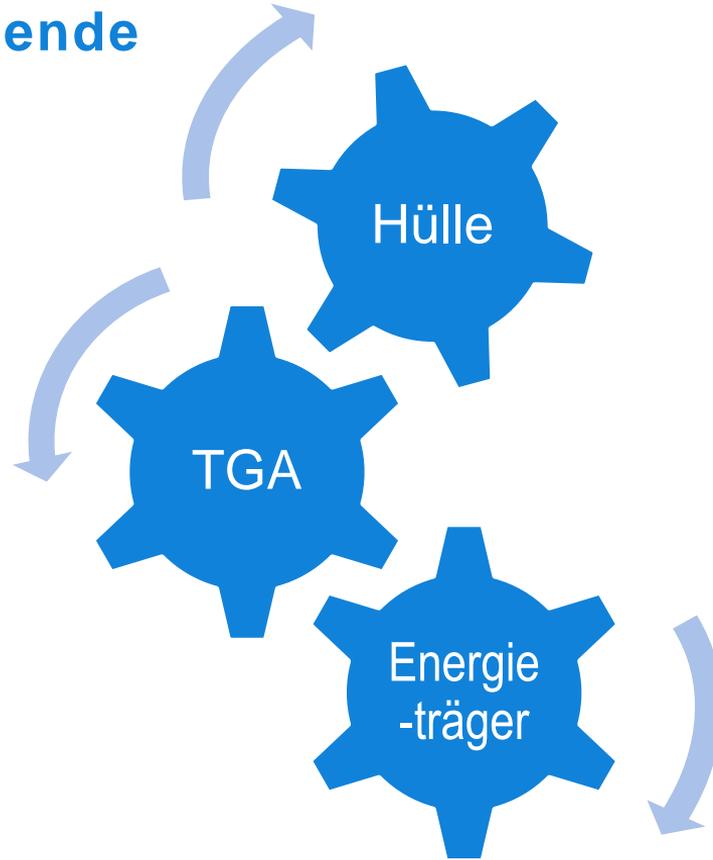
All-Electric



Technologie Mix

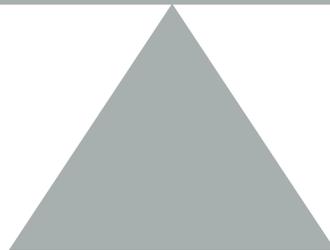


Motor Energiewende

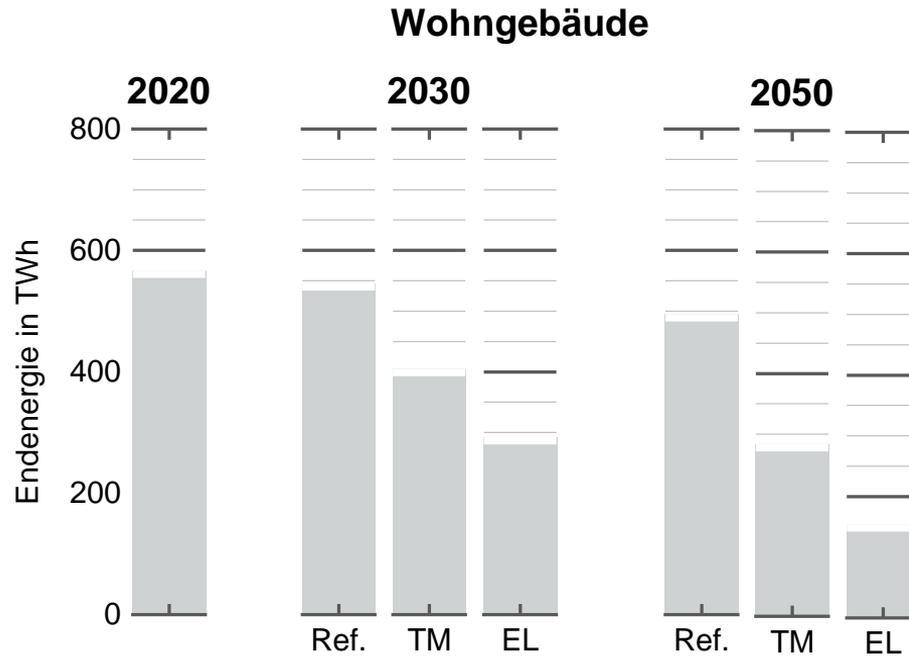




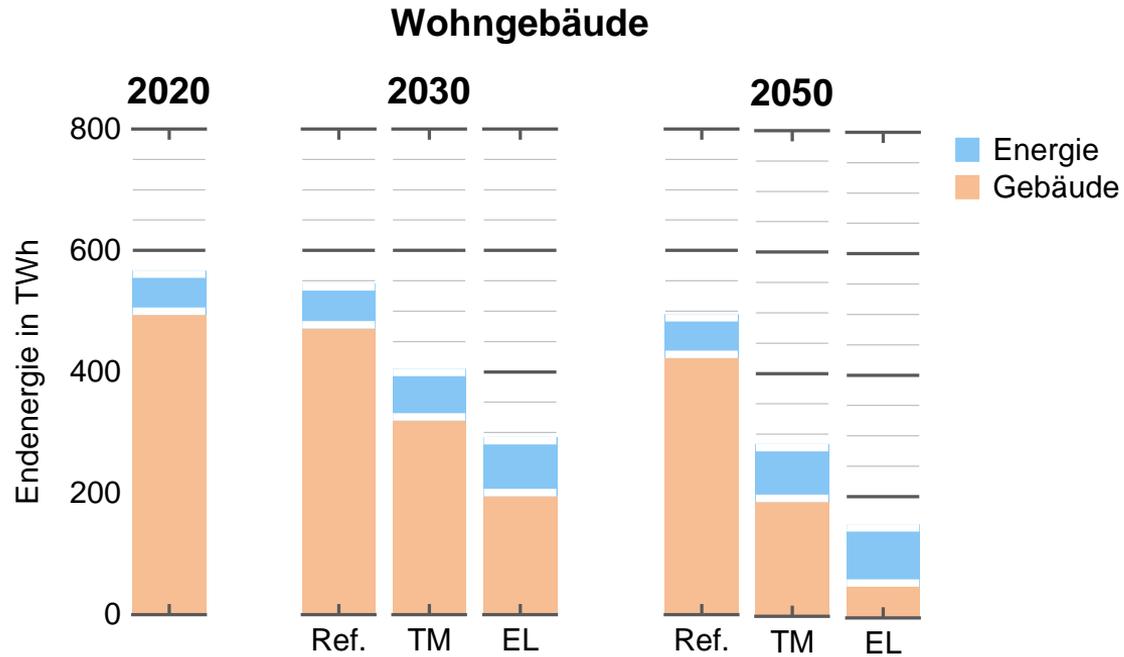
THG-Bilanzierung



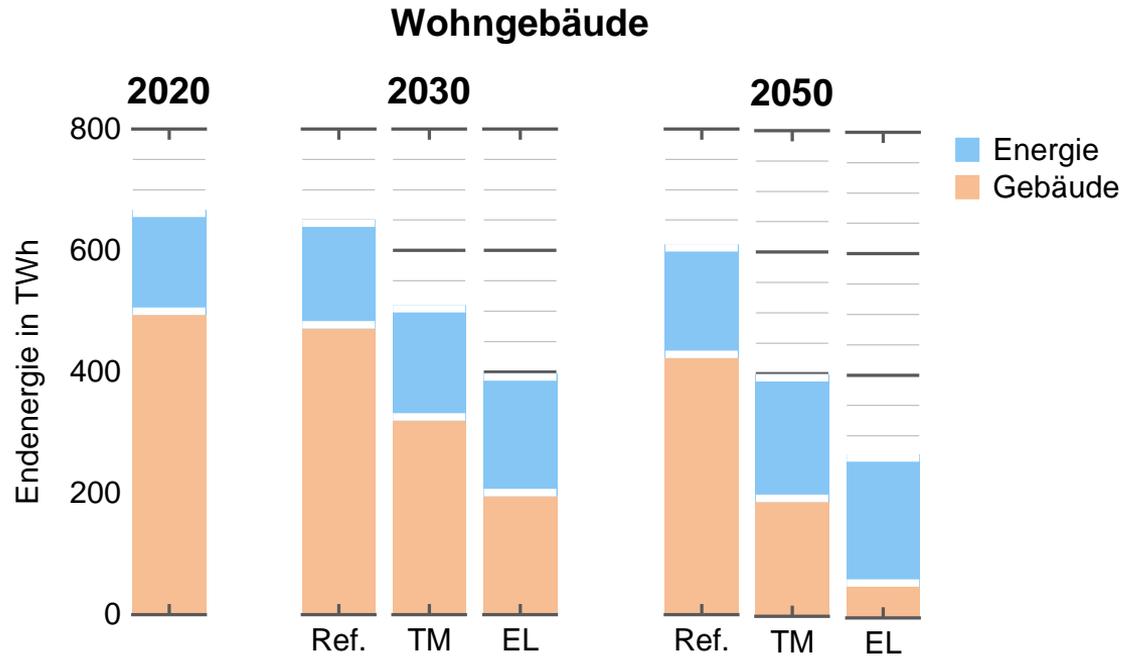
THG-Bilanzierung

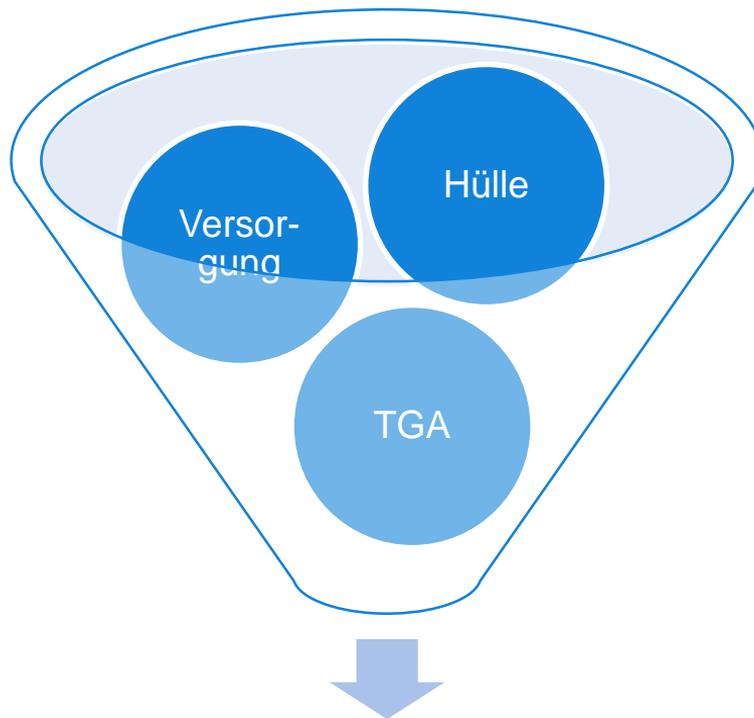


THG-Bilanzierung



THG-Bilanzierung (mit Haushaltsstrom)

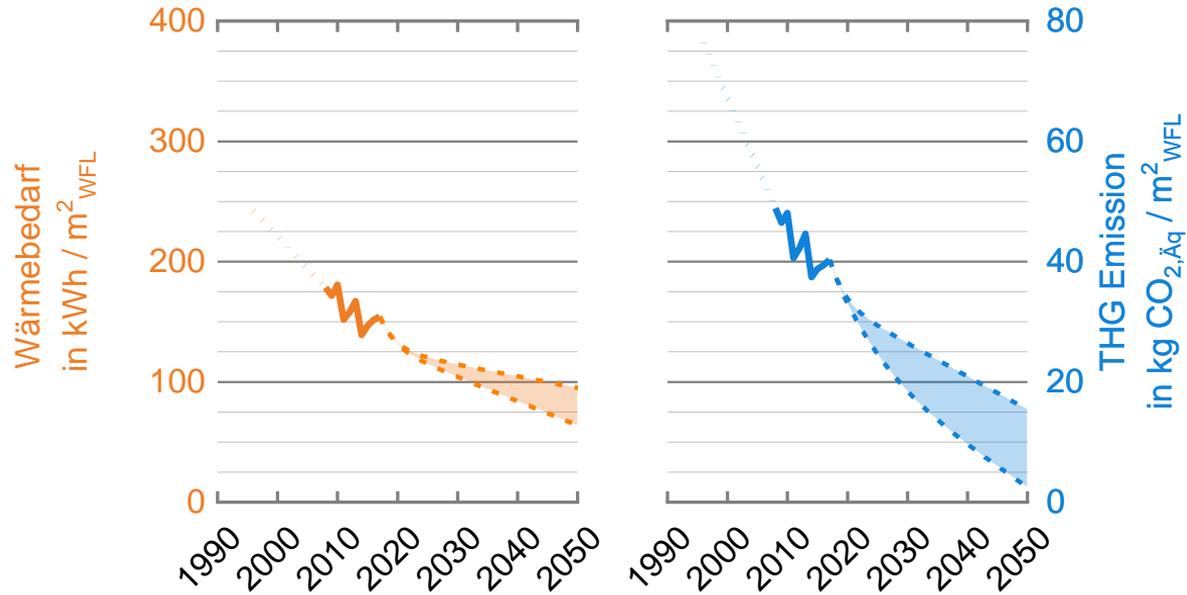




Zusammenfassung

Fazit

Raumwärme und Warmwasser



Quelle: BMWi 2019 & eigene Berechnungen

Politische Rahmenbedingung

CO₂ - Reduktion

Energieeffizienz