RAP
REGULATORY ASSISTANCE PROJECT

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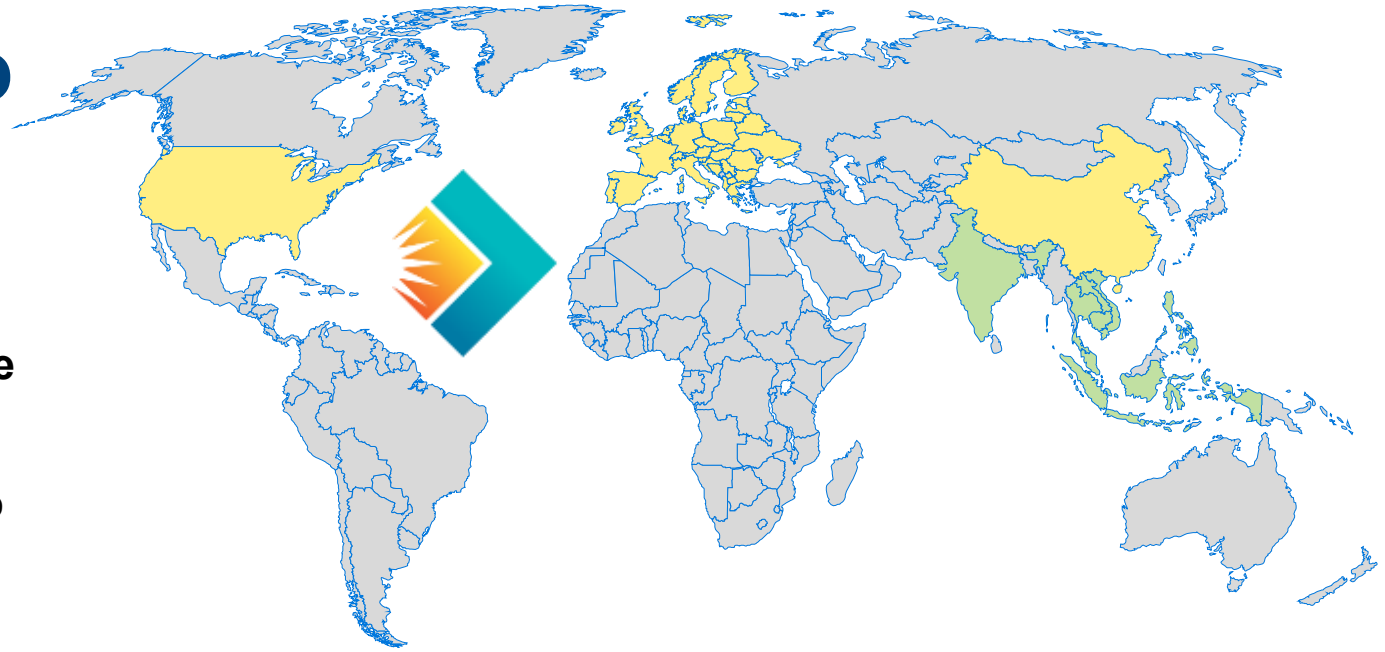
Policy measures needed to drive heat pumps

IEA HPT TCP Breaking Barriers

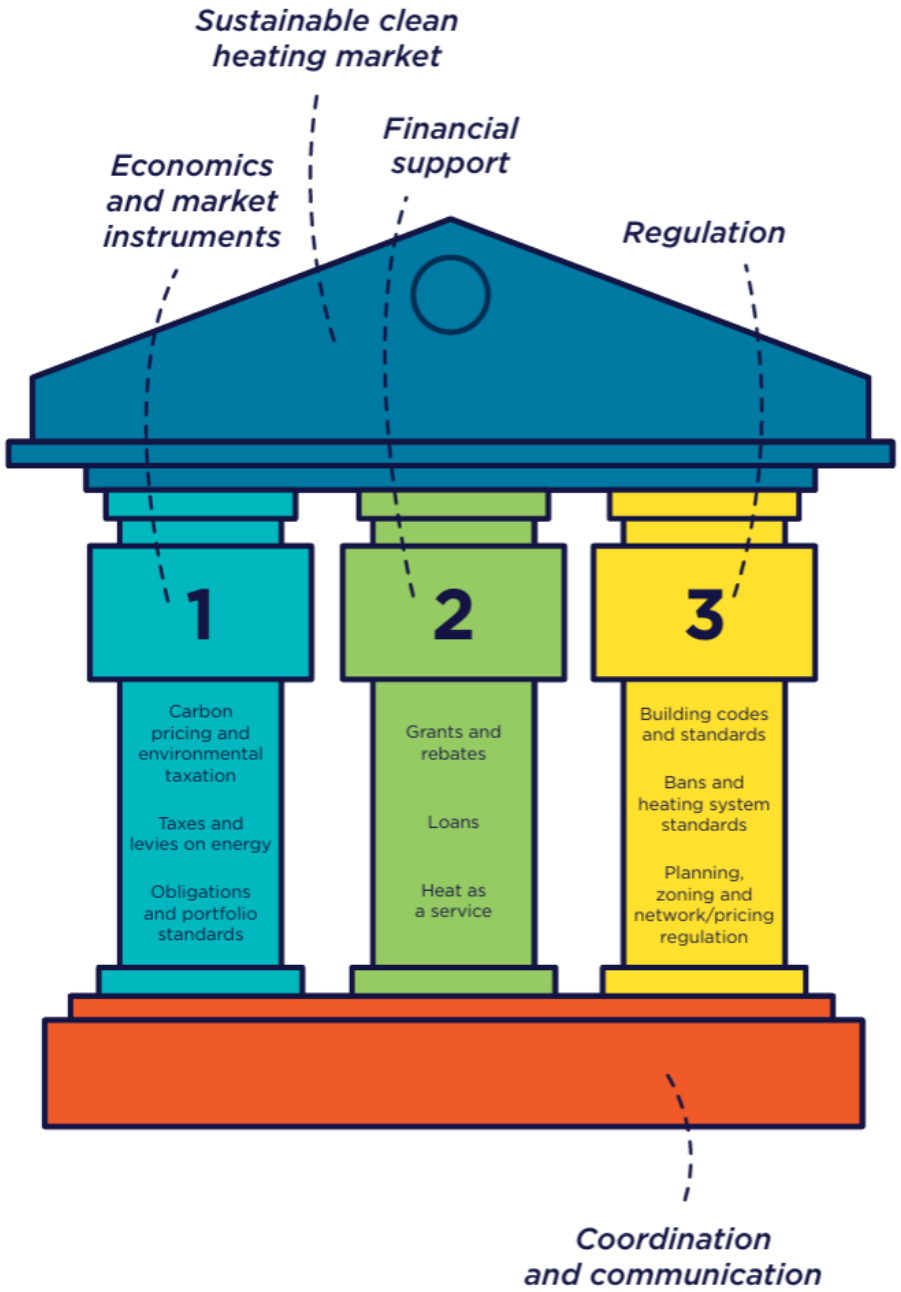
Dr Richard Lowes
Global Lead, Heat and Buildings
rlowes@raponline.org

Introduction to RAP



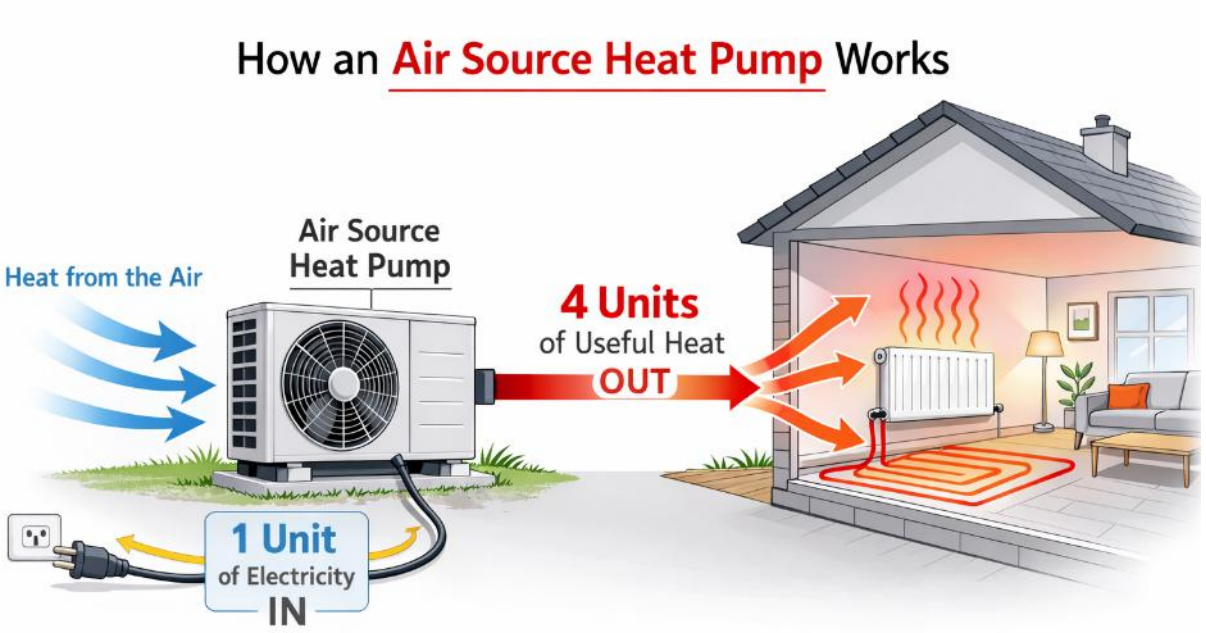
- The Regulatory Assistance Project (RAP)® is an independent, non-partisan, NGO.
- Our vision is to create a **clean, reliable, equitable and cost-effective energy future for all.**
- Founded in 1992 to help U.S. energy regulators to improve energy planning, RAP is now **a global organization** delivering **non-partisan technical advice to policymakers.**
- We are an **energy system organization** thinking about the interactions between supply and buildings, transport and industry.
- We work **both regionally, in locally relevant ways, and globally.**
- We are policy and regulatory experts.

Mixes of policy measures are needed to drive heat pumps



https://www.raponline.org/toolkit/heat-pump-toolkit/

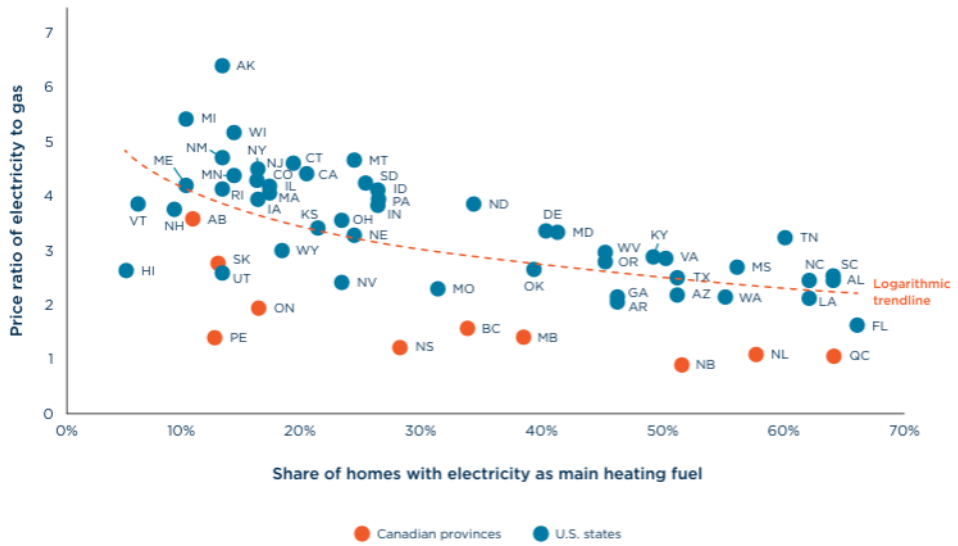
Despite their efficiency – heat pumps don't always see better running costs



- A heat pump produces 3 to 4 units of useful heat for each unit of electricity consumed – the coefficient of performance.
- Electricity can be more expensive per unit that the fuel being replaced, but the ratio is important.
- Taxes, levies and regulation can be a key driver of electricity prices.

Relatively low electricity prices are associated with heating electrification

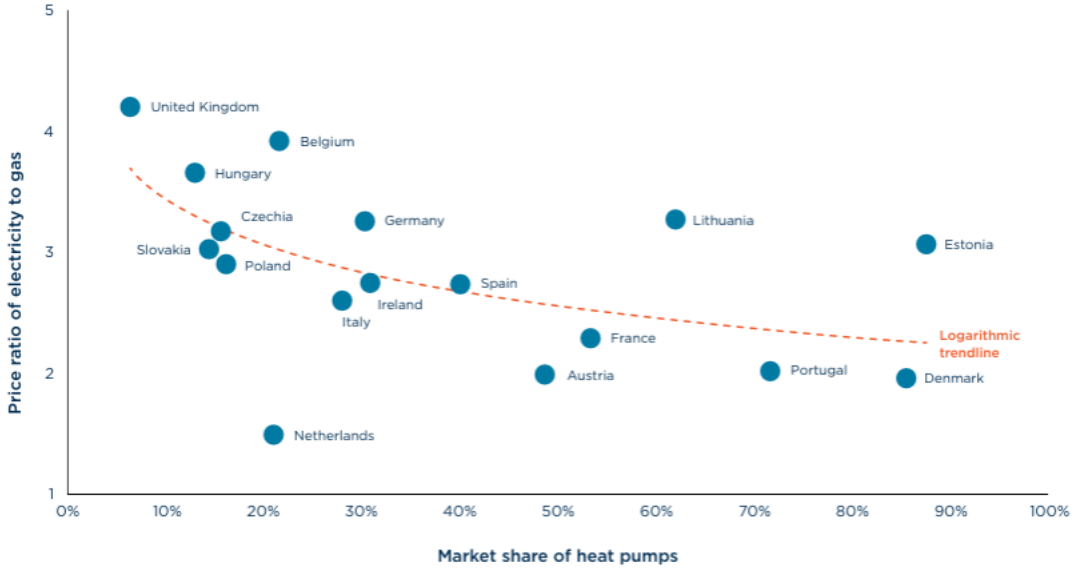
Figure 4. Share of homes with electricity as main heating fuel and price ratio of electricity to gas in Canadian provinces and U.S. states



Source: U.S. Energy Information Administration. (n.d.(a)). *Electricity* and *Natural Gas*; Statistics Canada, Office of Energy Efficiency, Government of Canada. (n.d.(b)). *Natural Resources Canada*; Energy Hub. (2024). *Electricity Prices in Canada 2023*.

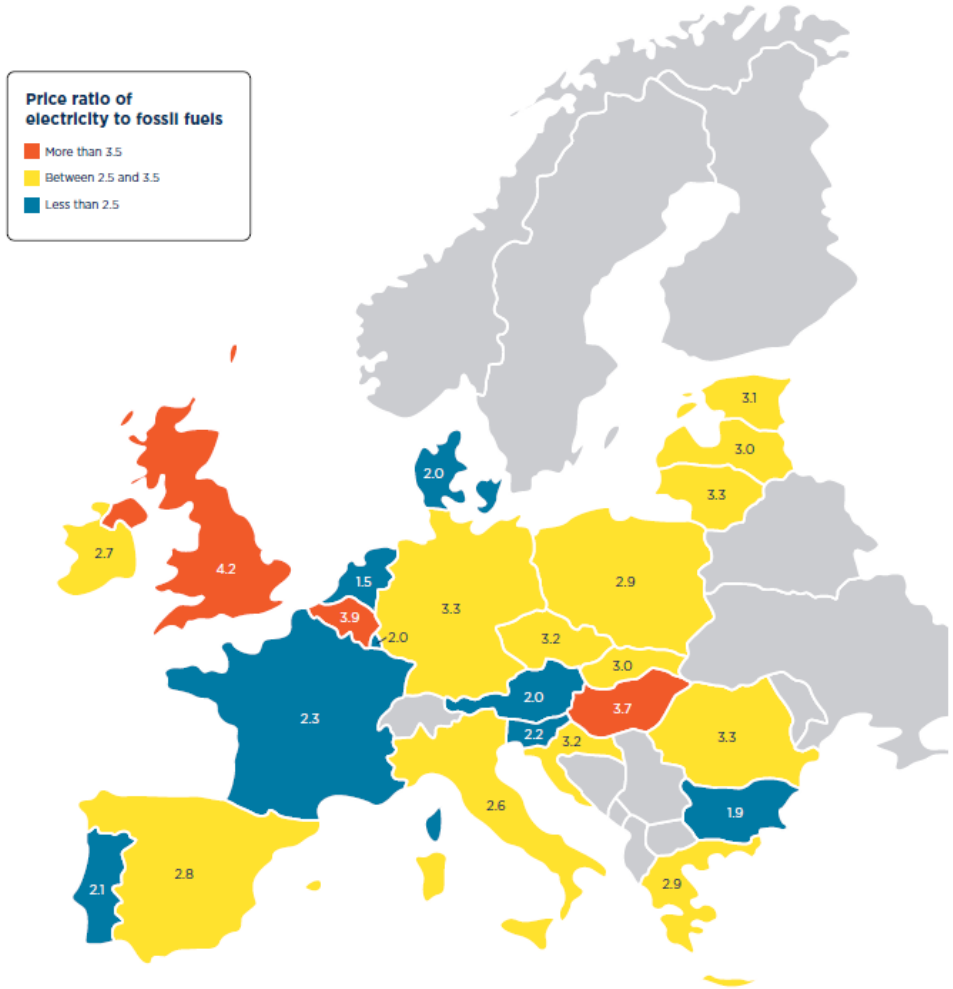
Note: Due to data availability, share of homes for U.S. states are from 2020 and for Canadian provinces from 2022. Price ratios are from electricity and gas (or heating oil) prices from 2024.

Figure 5. Heat pump market share and price ratio of electricity to gas in Europe, 2024



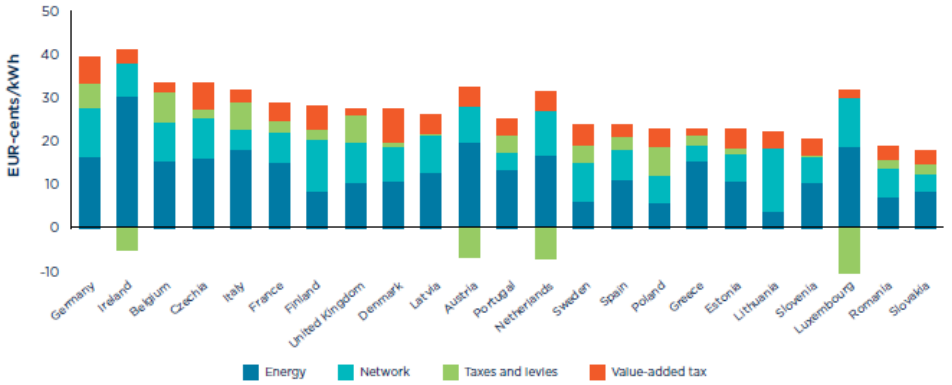
Source: European Heat Pump Association. (2025). *2025 market report*.

Figure 6. Household electricity to gas price ratios in European countries, 2024



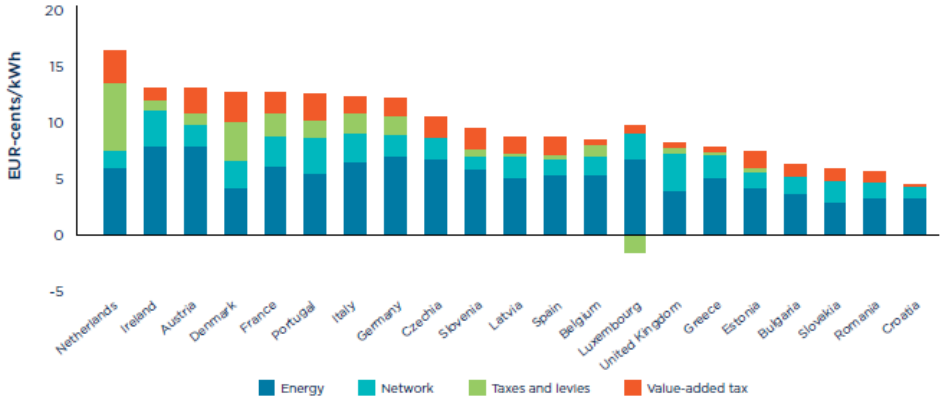
Source: Eurostat. (2025b, October). *Electricity prices components for household consumers — annual data (from 2007 onwards).* Eurostat. (2025c, October). *Gas prices components for household consumers — annual data.* Ofgem. (n.d.). *Energy price cap (default tariff) levels.*

Figure 7. Residential electricity price components in European countries, average in 2024



Source: Eurostat. (2025b, October). *Electricity prices components for household consumers — annual data (from 2007 onwards).*

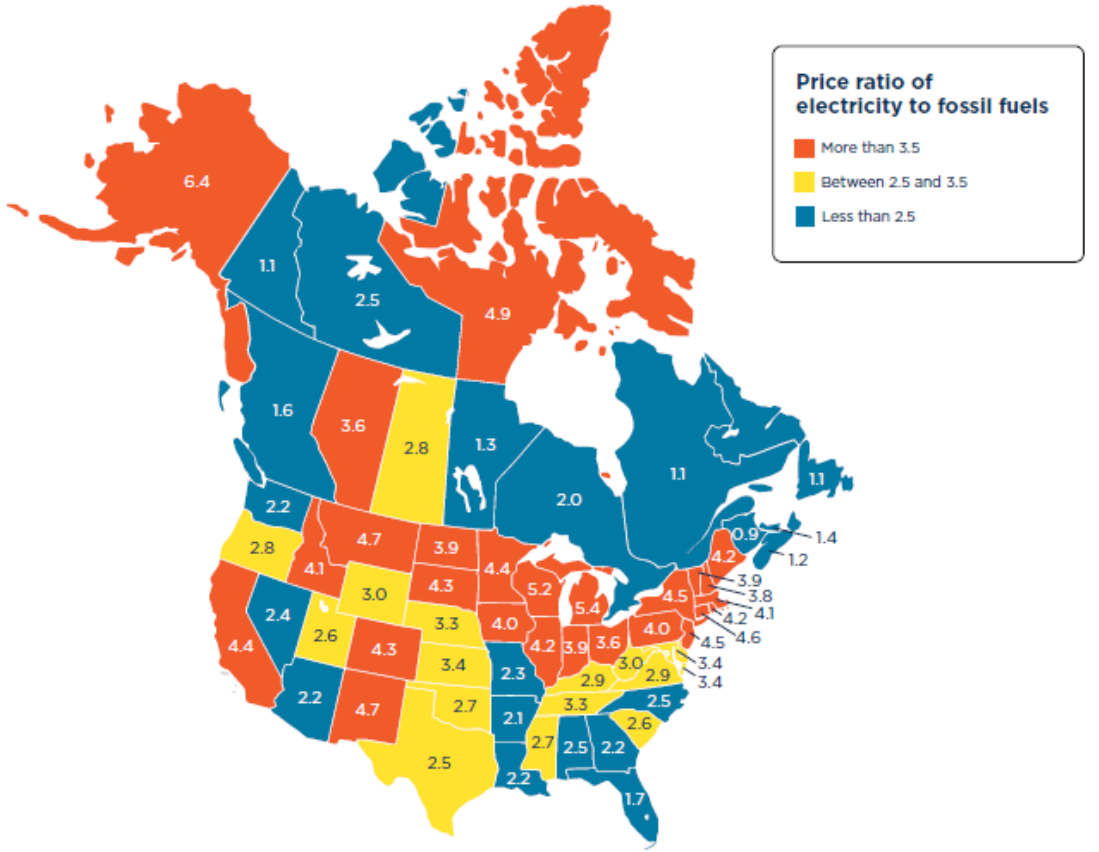
Figure 8. Residential fossil gas price components in European countries, average in 2024



Source: Eurostat. (2025c, October). *Gas prices components for household consumers — annual data.*

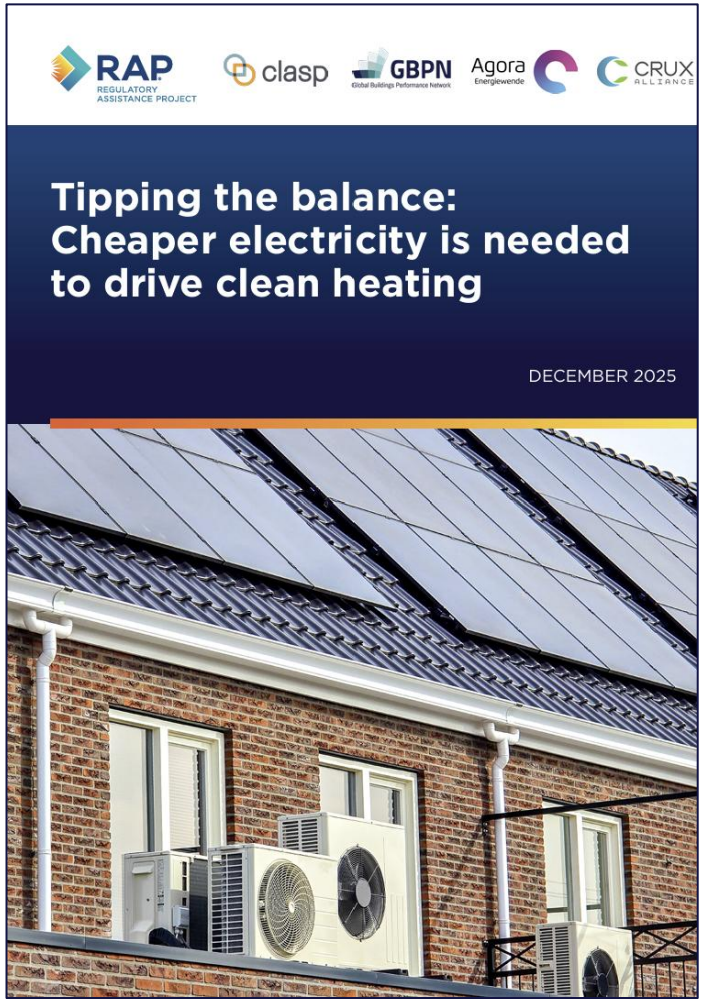
Figure 9. Electricity to fossil gas price ratios in selected Chinese provinces, 2024

Figure 10. Electricity to fossil fuel price ratios in North America, 2024



Action on prices is very possible

- Germany and UK removal of electricity subsidies from bills.
- Smart pricing in Massachusetts, Tianjin City and UK.
- Denmark tax reduction on electricity.
- Sweden tax on carbon.
- Dutch rebalancing of prices.



Final thoughts

- Pricing, financial support and regulation are all vital.
- Good communication is essential.
  - Energy security benefits of heat pumps cannot be understated.
- Solar and battery combinations may make heat pumps happen very quickly!