



Professor Peter Rayner

## **EU-Australia Knowledge Network: Wrap-up Day 2**

TOPIC	SPEAKER
<b>5:30: Welcome &amp; introduction</b>	Peter Rayner
<b>5:35: Regional Energy Transition</b>	Amanda Cahill
<b>Report Launch</b> <b>Energy Affordability: Sharing Lessons from the EU and Australia's Low Carbon Transitions</b>	
<b>5:55: Comparison of electricity prices</b>	Dylan McConnell, David Ritter, and Johanna Cludius
<b>6:15: Short break</b>	
<b>6:25: Protection for vulnerable groups</b>	Sangeetha Chandrashekeran and Viktoria Noka
<b>6:45: Discussion and Q&amp;A</b>	

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Dr Amanda Cahill, The Next Economy

## **Regional Energy Transition**



## **Report launch: Energy Affordability: Sharing Lessons from the EU and Australia's Low Carbon Transitions**

# Energy Affordability

Sharing Lessons from the EU and Australia's Low Carbon Transitions

**Sangeetha Chandrashekeran, Johanna Cludius, Dylan McConnell, Viktoria Noka, David Ritter**

EU-Australia Knowledge Network: Wrap-Up Day 2

23/02/2022

Supported by:



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## Electricity prices and costs

### Wholesale energy costs

- Renewables
- Coal plant closures
- Inter-connectivity

### Network costs

- Network costs and renewables
- Regulation

### Environmental taxes and levies

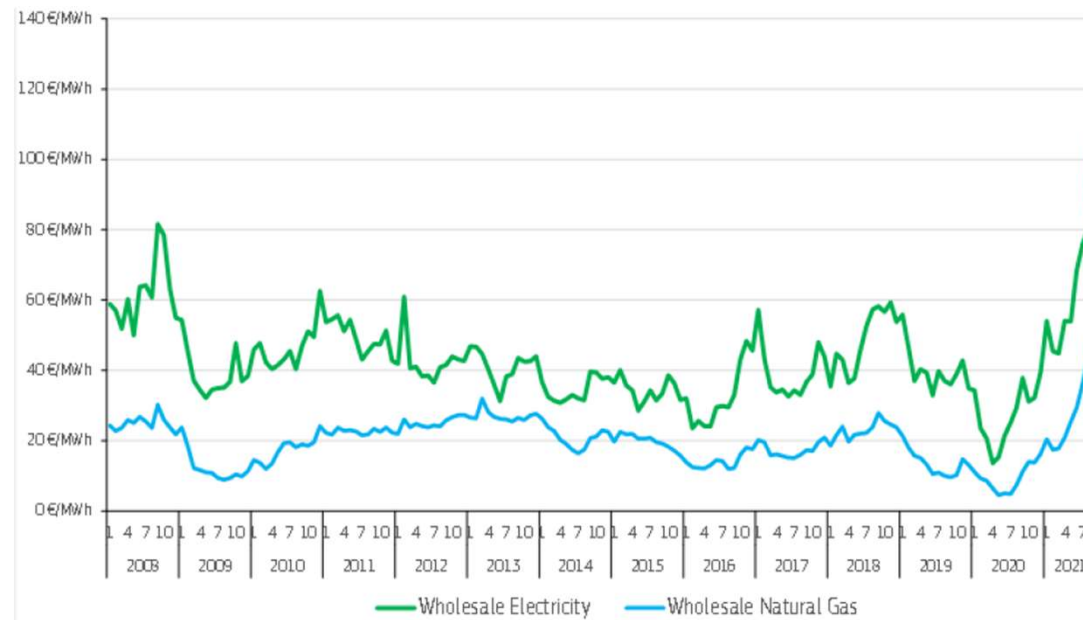
## Energy poverty and hardship

- Regulatory frameworks
- Measurement and monitoring
- Causes and drivers of energy poverty
- Performance
- Best-practice

## Main findings on electricity prices and costs

- A **complex and interrelated set of drivers** behind electricity prices. The influx of renewables in the EU and AU has reduced prices in the short term and is likely to continue to do so in the near term. Already now **renewables are mitigating price shifts of fossil fuels** – no matter if this dynamic is more market-driven (Australia) or more policy-driven (EU).
- In the medium term the story is a little more complex. Low wholesale prices encourage early **exit of coal capacity**. As can be seen in Australia, the **interaction of uncoordinated coal closures in small and weakly interconnected markets** may cause volatile price dynamics. In a larger market and with **a higher level of interconnectivity** such as in the EU **it is easier to absorb shocks** such as a loss in capacity.
- Expanding the network to accommodate the increasing supply of renewable energy is likely to add costs to other parts of the retail bill, and result in a **shift towards more fixed costs in both the EU and Australia**. The way in which networks are regulated and how costs are shared efficiently and fairly is a point of discussion in both the EU and AU.
- **Environmental taxes and levies** are an important component of household electricity prices in many EU countries. Introduced to support renewables and other environmental goals, EU countries are now moving towards alternative financing mechanisms, in a bid to address affordability concerns and increase the attractiveness of direct-electric appliances

## Current price spike experienced in Europe

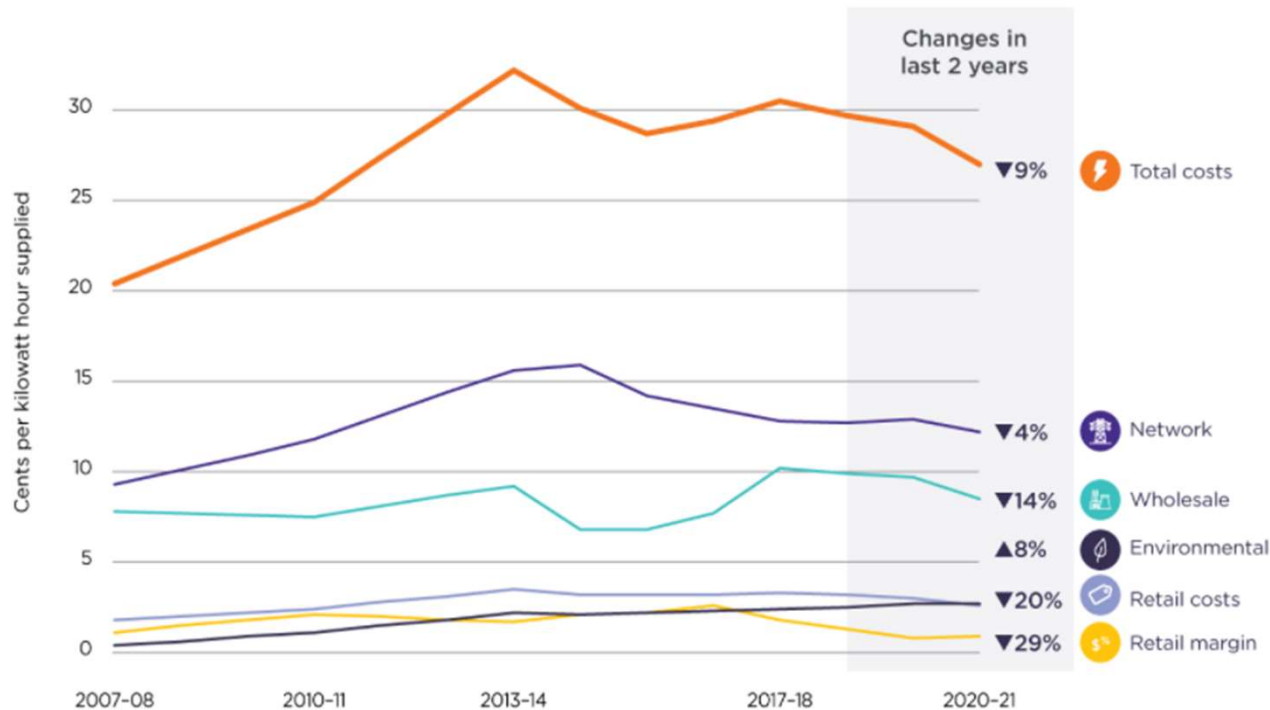


Source: Own figure based on European Commission (2021)



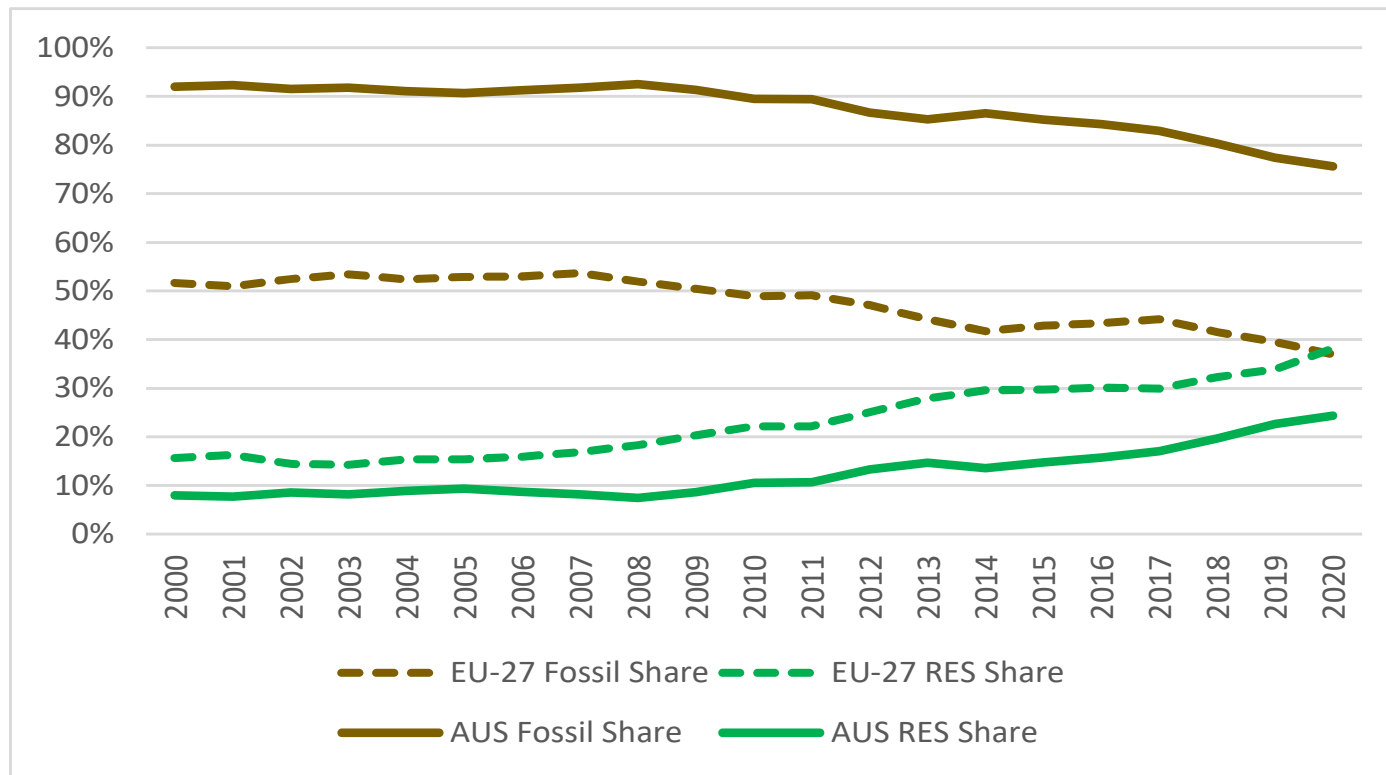
# Australian residential electricity price development

## RESIDENTIAL ELECTRICITY SUPPLY COSTS OVER TIME



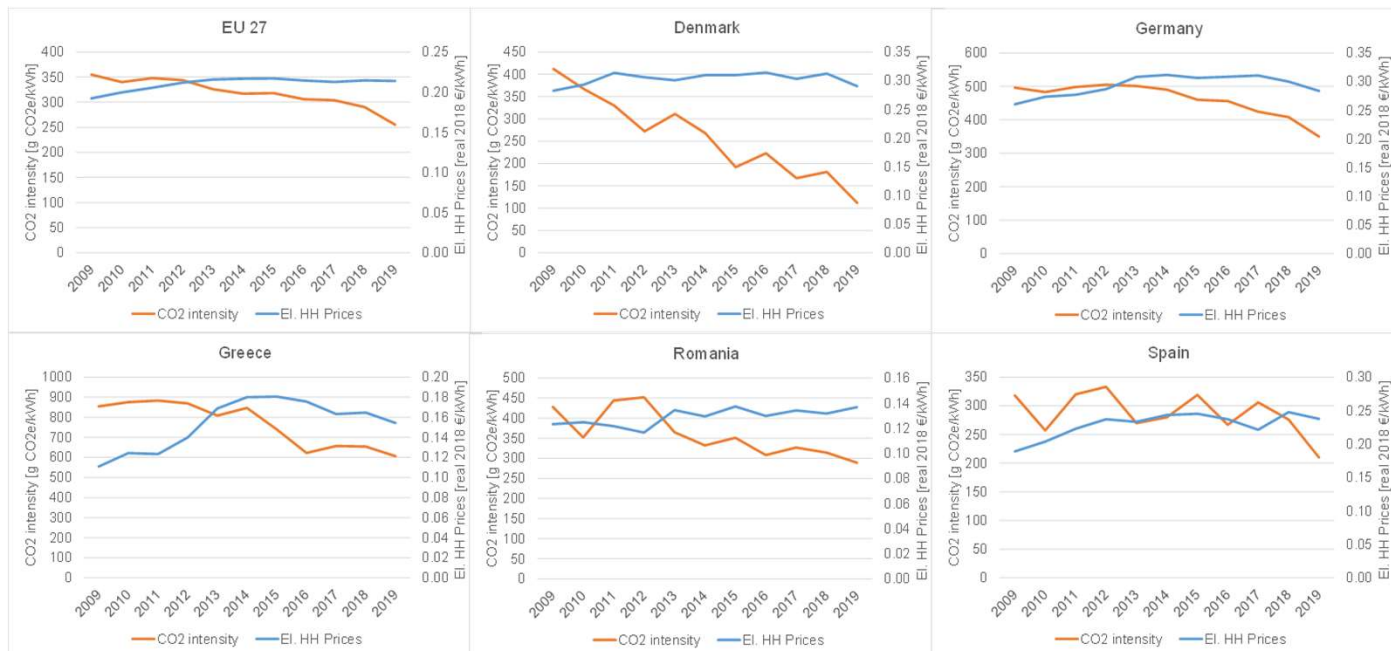
Source: Australian Competition and Consumer Commission (2021)

## State of electricity sector decarbonisation in the EU-27 and Australia



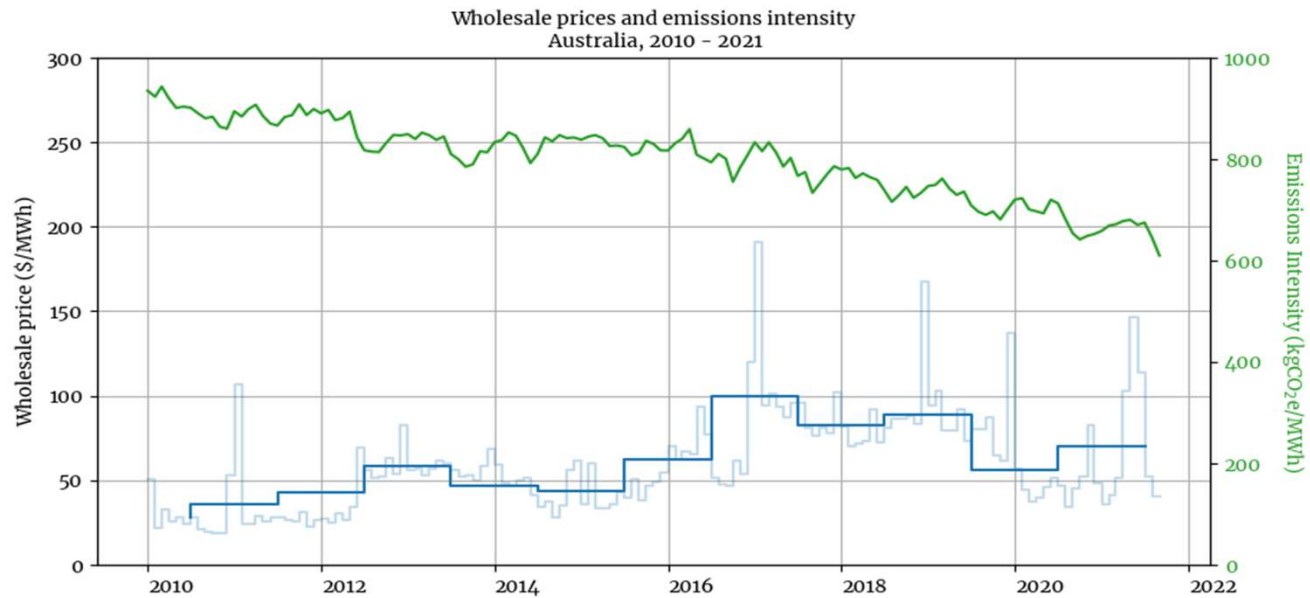
Source: Own figure based on Agora Energiewende und Ember (2021) and the Department of Industry, Science, Energy and Resources (2021)

# CO2 intensity and wholesale electricity prices in the EU-27 and a selection of Member States



Source: Own figure based on Eurostat (2021a) and EEA (2021)

# CO2 intensity and wholesale electricity prices in Australia

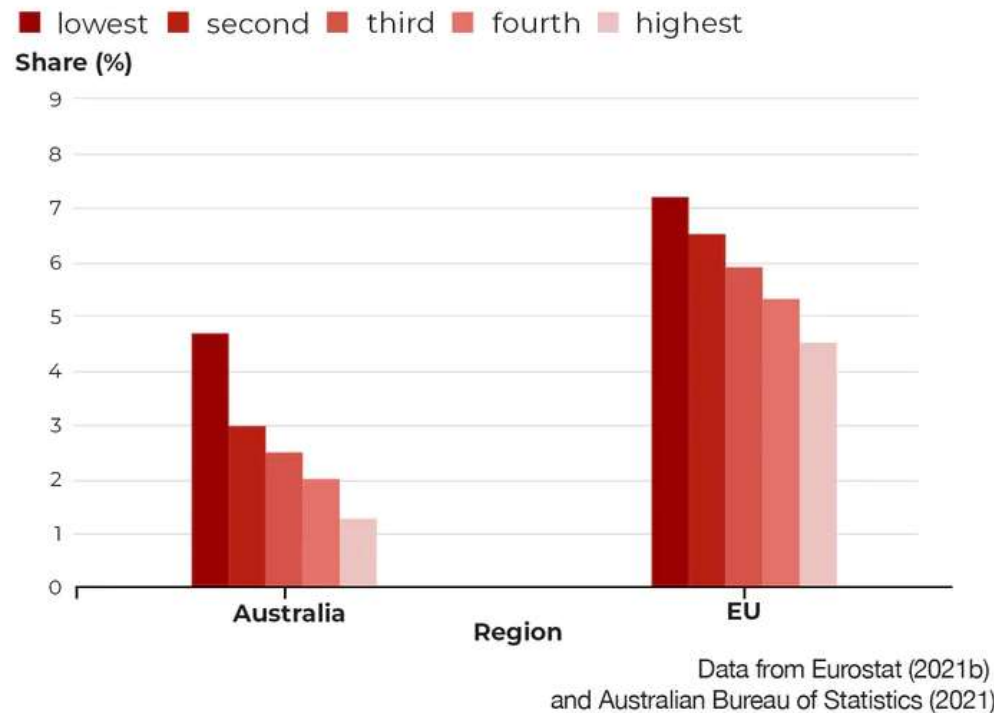


Source: Own figure based on Australian Energy Market Operator (2021b)

## Coal plant closures and the benefits of inter-connectivity

- While the influx of renewables in the EU and AU has reduced prices in the short terms is likely to continue to do so in the near term, in the medium term low wholesale prices **encourage early exit of coal capacity**. AEMO (2021) expects 14 GW of coal to retire by 2030
- An **uncoordinated withdrawal** of such a substantial amount of capacity, is likely to result in periods of tight supply. In a small market with **limited interconnection** and high degree of market concentration, this is likely to result in high and volatile prices, cf. the extraordinary rise in electricity prices in 2016 through late 2019 (McConnell und Sandiford 2020)
- In the EU, almost all Member States have announced **plans to phase-out coal** (Europe Beyond Coal 2021). In contrast to the Australian situation, the shut-downs of European coal plans have mainly been a result of governmental requirements defining closure dates for the plants, sometimes in combination with compensation payments (e.g. Germany). But with strongly increasing carbon prices in the last months, more and more market-driven retirement of coal plants can be observed (cf. Greece, Portugal).
- The supply-side shock from the removal of thermal capacity is somewhat limited in the **much more deeply connected** EU. Within the EU, countries with higher shares or renewable energy and higher interconnectivity have shown a smaller increase in prices during the current price spike (Ember 2021).

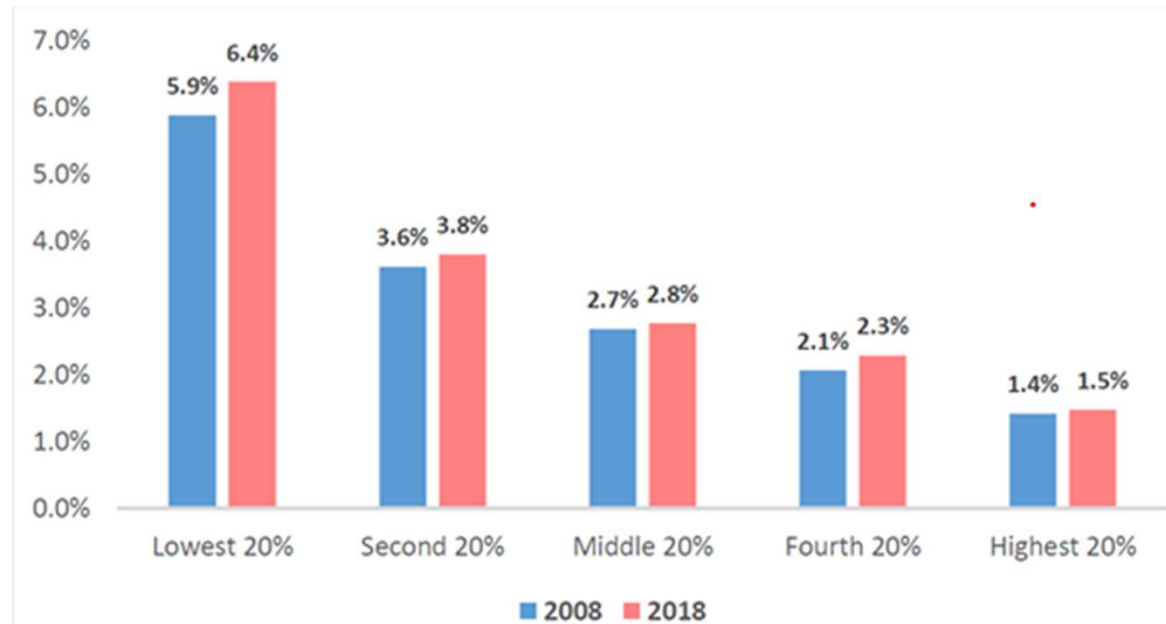
## Expenditure on electricity, gas and other heating energy by income quintiles



Source: The Conversation, 23/02/2022

## Energy expenditure dispersion has grown over time

**Figure 3-2: Electricity and gas expenditure as a percentage share of income by disposable income quintiles in Australia**



Source: Australian Council of Social Service und Brotherhood of St Laurence (2018)

## Addressing energy poverty in the EU

- Strong foundation to recognising and tackling energy poverty
  - Just Transition Principle „no one left behind“
- Working towards **definitions** of energy poverty
  - Social Climate Fund
- Develop **indicators** and collect data to identify energy poverty
- Written into EU documentation & designated **institutions** working towards alleviating energy poverty
  - Energy Poverty Observatory & Energy Poverty Advisory Hub
- Measures and instruments focus heavily on **energy efficiency**



## Addressing energy hardship in AUS

- Consumer protections and complementary measures
- Emphasis on consumer choice and agency and market participation
- Limited focus at national-scale on energy efficiency for LIHs
- No overarching framework for energy transition that includes equity principles
- Terminology different: energy hardship, stress
- No clear definition, measurement, reporting

## Performance & implementation of framework in the EU

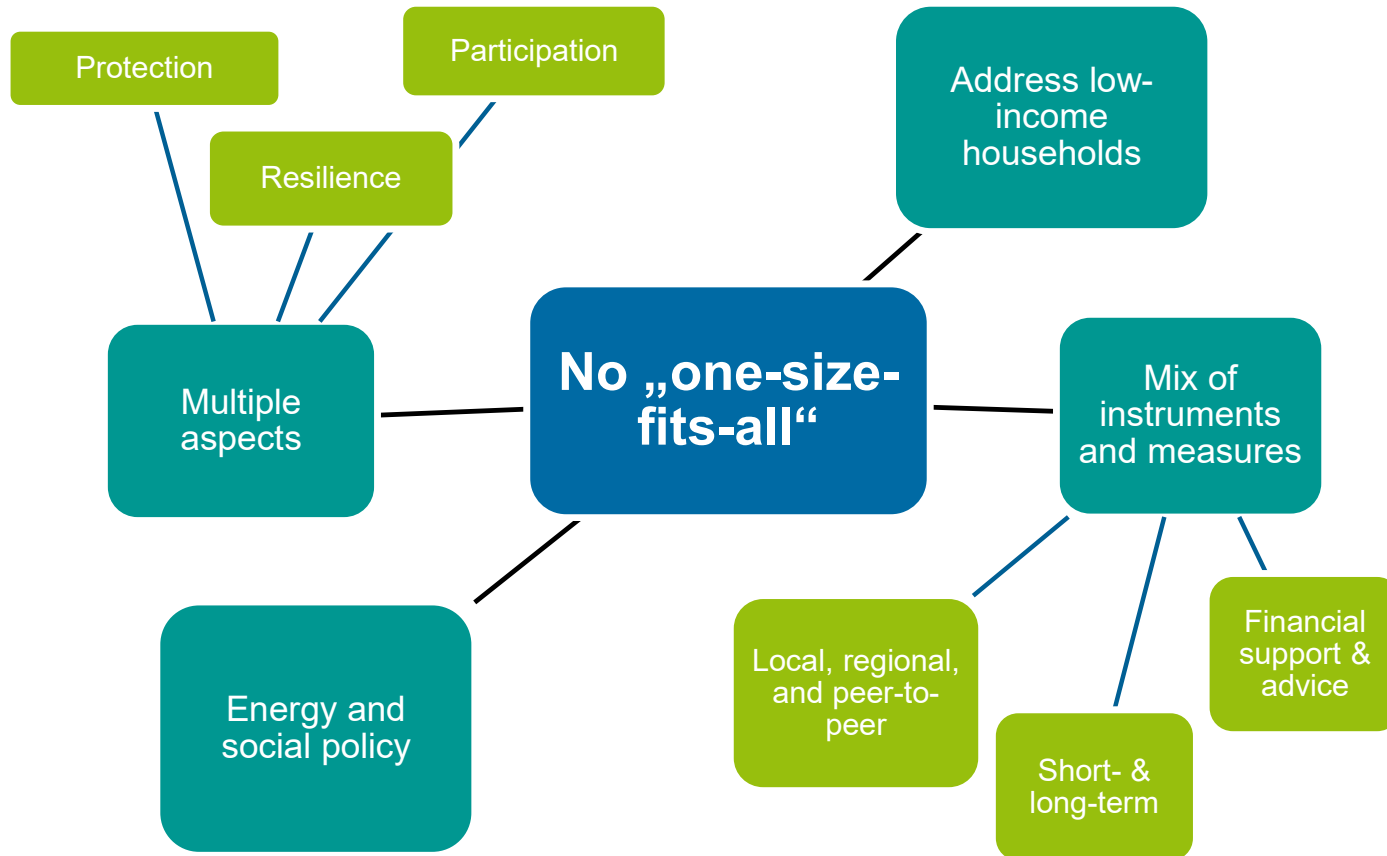
- Implementation of measures & instruments happens on **Member State** level
  - National Energy and Climate Plans
- Some adoption and analysis of data & indicators
  - What is a „**significant**“ number of households in energy poverty?
- **Energy efficiency** and housing renovation policies dominate
  - Direct financial support & social tariffs
  - Little focus beyond building sector
- Energy/Climate policy vs **social policy**?
- Overall, very **differentiated** despite strong EU framework

## Top down and bottom up approaches in AU

- Solar, batteries, Evs etc involve more providers and complex cost allocations
  - How do you apply customer protections and ensure access and affordability?
- Smart meter deployment quite advanced in Australia – benefits for LIH?
- Industry can lead cultural change – Energy Charter
- People and communities should be at the centre of change - OurPower
- Need both top down and bottom up approaches

## Best-Practice examples from the EU

<b>Energy &amp; climate policy</b>	Revenue recycling from CO <sub>2</sub> pricing	Germany
	Limited pass-through of CO <sub>2</sub> costs	Germany
<b>Protections:</b> regulatory instruments	Disconnection protections	UK (Ireland, Austria, Finland, ...)
	Social domestic tariff	Greece (France, Belgium, Portugal ...)
<b>Participation:</b> infrastructure and technology	Smart meters	Italy (Finland, Sweden)
	Self-generated electricity for tenants	Germany
<b>Resilience:</b> energy efficiency	Habiter Mieux	France (Belgium, France, UK ...)
	Electricity saving check)	Germany (Netherlands, Belgium ...)
	Energy Company Obligation	UK (Lithuania, Latvia, Malta ...)
<b>Resilience:</b> direct financial support	Electricity and gas fund	Belgium (Ireland, Italy, Denmark ...)
	Climate Bonus	Germany



Thank you for your attention!

Do you have any questions?



## Main findings on energy vulnerability, energy poverty and hardship

- EU - Energy poverty central policy - alleviation a key pillar of a just and fair transition - "no one left behind"
- EU - how to define, measure and address energy poverty
- EU - focus on housing energy efficiency *Renovation Wave*
- EU – translation to Member States is uneven, uptake limited
- AU – preferred language energy hardship/stress
- AU – no clear definitions, objectives, targets/metrics, institutions to monitor and make recommendations
- AU – cost-relief, retailer obligations, avoiding disconnection, fair pricing and enhanced competition, and information provision
- AU -

## A comparison of EU and Australian policies and frameworks on energy poverty/hardship

EU	Australia
<b>Energy transition</b> principles, policies and reporting	None – National Electricity Objective does not recognise climate or social equity
<b>Energy poverty</b> definition, objectives and metrics	None
Fund to support “ <b>no one left behind</b> ”	None
EU definition of <b>vulnerability</b> as part of the Social Climate Fund	None
EU Energy Poverty Observatory & Advisory Hub: data, <b>indicators</b> , policy recommendation	None

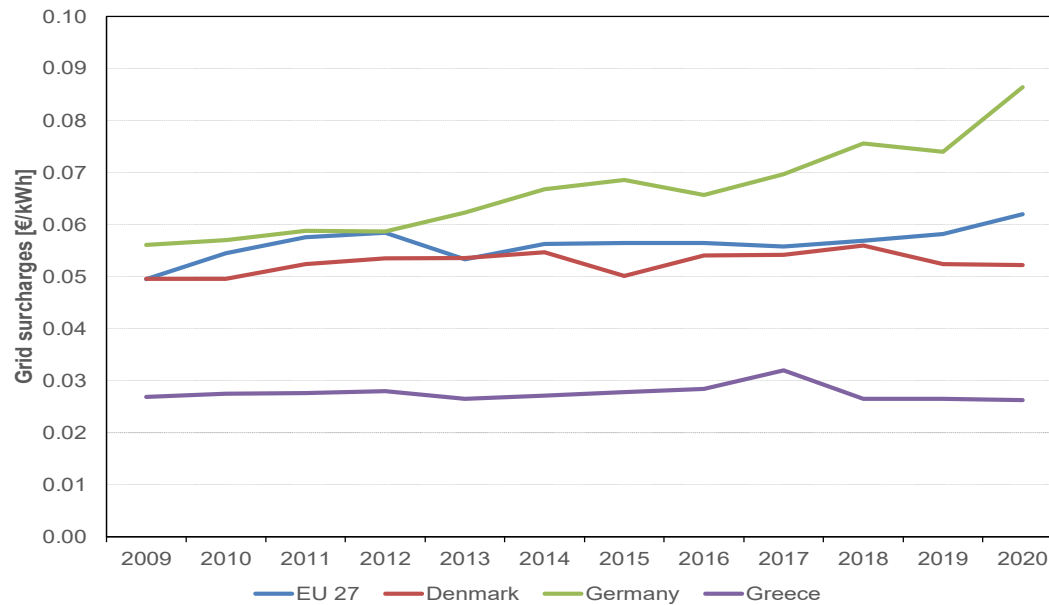


## A comparison of EU and Australian policies and frameworks on energy poverty/hardship

EU	Australia
Energy Efficiency Directive and other directives related to <b>efficiency or housing</b> : targets, labelling, including link to alleviating energy poverty	Some work happening on Appliance Standards and Labelling, but no link to alleviating poverty. Focus is primarily on emission reductions.
Policies in some <b>Member States</b> to support improvements in energy efficiency: e.g. rental standards	Some work happening
<b>Social tariffs</b> in place across Member States, but no EU wide mandates	Energy concessions by subnational states but no clear objective
Consumer <b>protections</b> regulated at Member State level without large interventions or mandates at EU level	Hardship/Payment difficulty framework

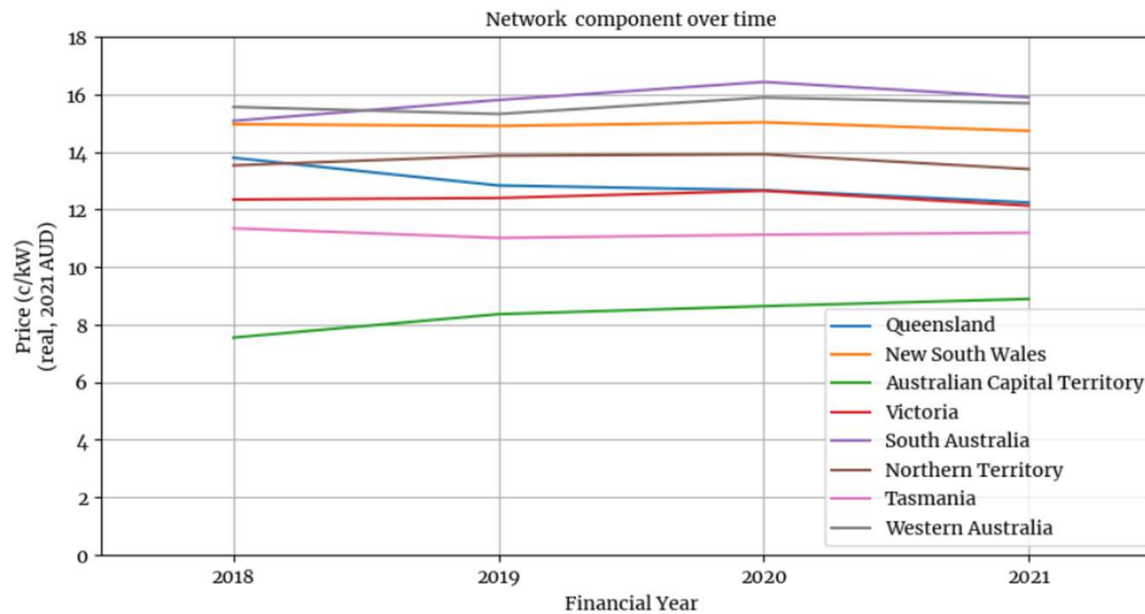
## Network costs and renewables

### Grid surcharges in the EU



Source: Own figure based on Eurostat (2021a)

## Network component in Australian household electricity prices



## Summary / Conclusion

- distribution of electricity heating costs is more unequal in Australia between low and high income households
- EU takes a more co-ordinated and top-down approach to addressing questions of affordability than Australia – but MS implementation uneven
- AU favours strategies to enhance consumer choice and agency
- a combination of both top down and bottom up (voluntary and regulatory) approaches are required
- EU efforts framed in terms of a just and fair transition and leaving no one behind and energy efficiency is a key pillar
- Differences in terminology – poverty vs hardship vs stress
- Need institutions, definition, measurement criteria, data collection and reporting