



Federal Ministry
for Economic Affairs
and Energy



Federal Ministry
of Education
and Research



Australian Government

Department of the Environment and Energy



Australian Government

Department of Foreign Affairs and Trade



Welcome to the

Australian-German Energy Symposium

18-19 September 2019



Deutsch-Australische
Industrie- und Handelskammer
German-Australian Chamber
of Industry and Commerce



#AU_DE_Energy2019

Power system transition

Moderator: Prof. Frank Jotzo

Co-Director of the Energy Transition Hub, Director of the Centre for Climate & Energy Policy,
Australian National University

Alex Wonhas *(no slides)*

Chief System Design and Engineering Officer, Australian Energy Market Operator

Anthea Harris *(no slides)*

Deputy Secretary Energy, Victoria Department of Environment, Land, Water and Planning

Stefan Kapferer *(no slides)*

Chairman of the General Executive Management Board, German Federal Association of Energy and
Water Industries (BDEW)

Dr. Falk Bömeke *(no slides)*

Acting Head of the Division for International Cooperation on Energy, German Federal Ministry for
Economic Affairs and Energy

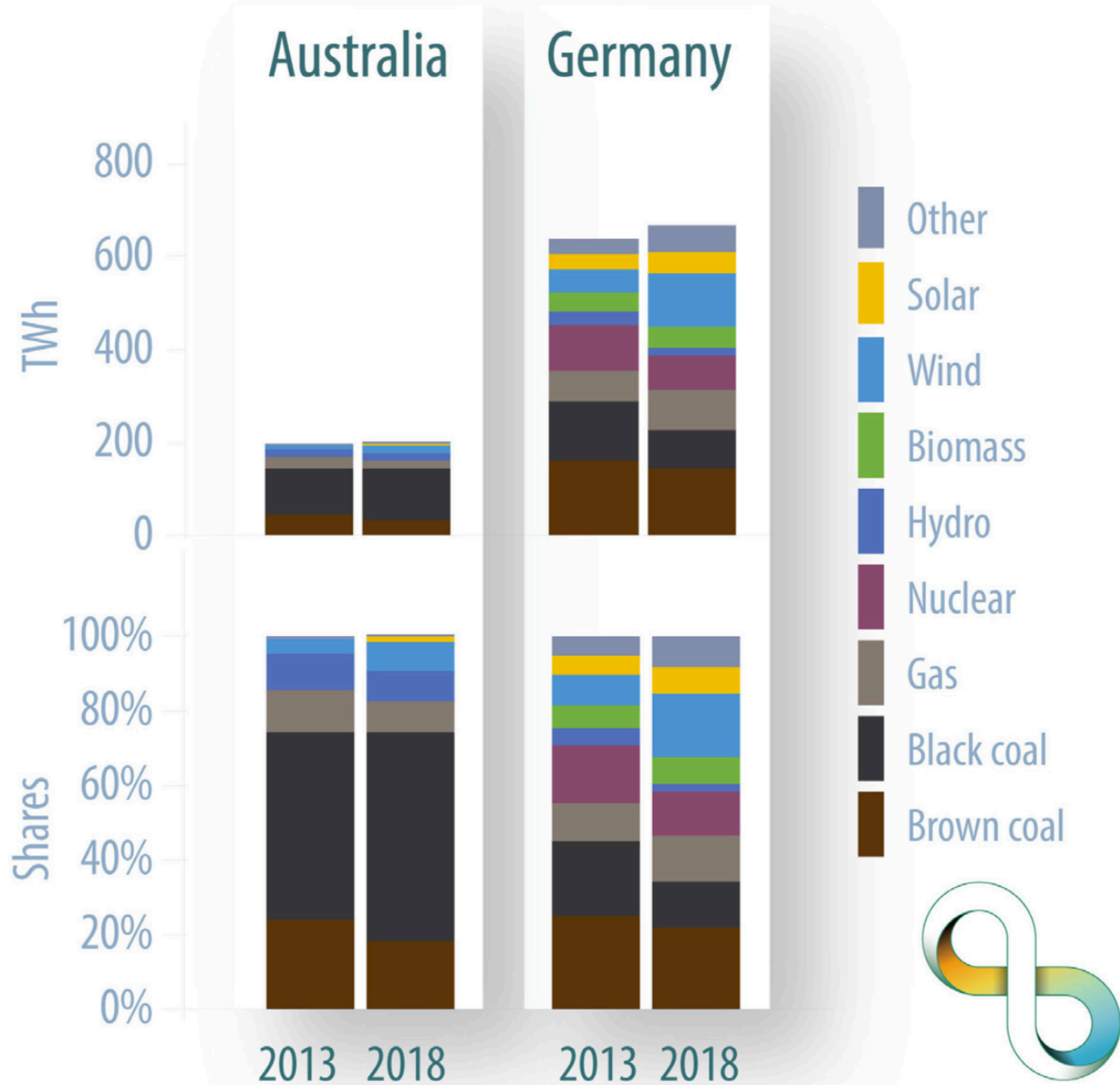
Power system transition

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Australian National University



Electricity supply mix





Energy

South Australia

1D

3D

7D

30D

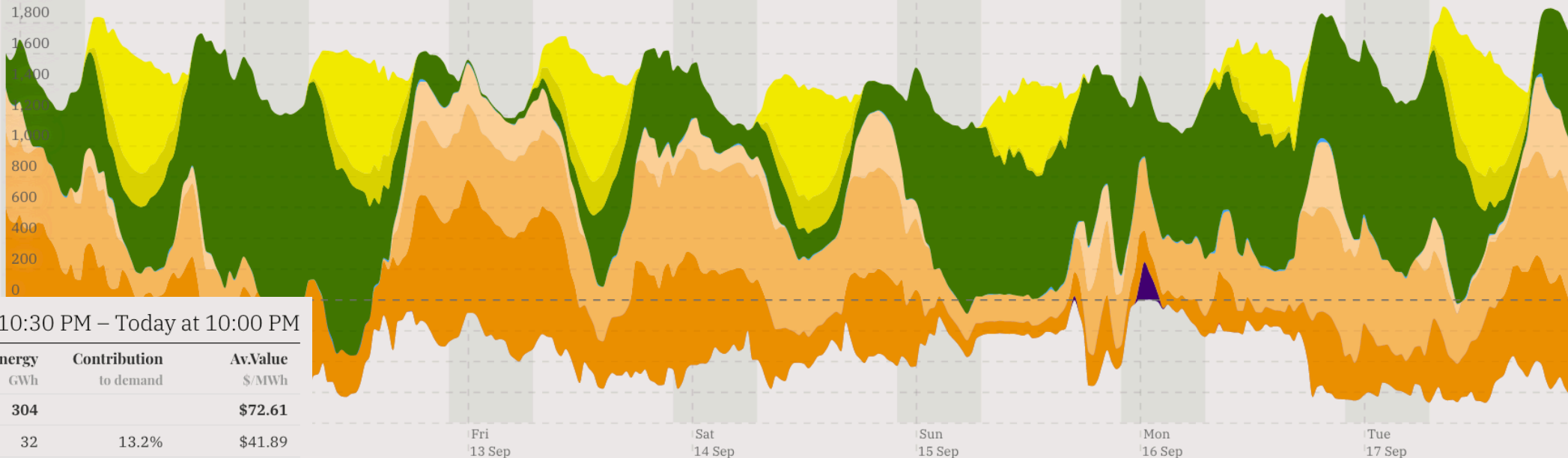
1Y

ALL

5m

30m

Generation MW



10 Sep, 10:30 PM – Today at 10:00 PM

Default

Energy	Contribution	Av.Value
GWh	to demand	\$/MWh

Sources	Energy GWh	Contribution to demand	Av.Value \$/MWh
Sources	304		\$72.61
Solar (Rooftop)	32	13.2%	\$41.89
Solar (Utility)	10	4.0%	\$62.88
Wind	107	44.0%	\$55.72
Battery (Discharging)	0.8	0.3%	\$83.04
Gas (OCGT)	16	6.6%	\$115.42
Gas (CCGT)	69	28.4%	\$88.50
Gas (Steam)	68	27.7%	\$92.54
Distillate	0.04	0.02%	\$101.68
Imports	0.4	0.2%	\$75.74
Loads	-60		
Exports	-59	-24.0%	\$77.30
Battery (Charging)	-1	-0.4%	\$53.20
Net	245		
Renewables		61.2%	

South Australia's electricity supply, last 7 days

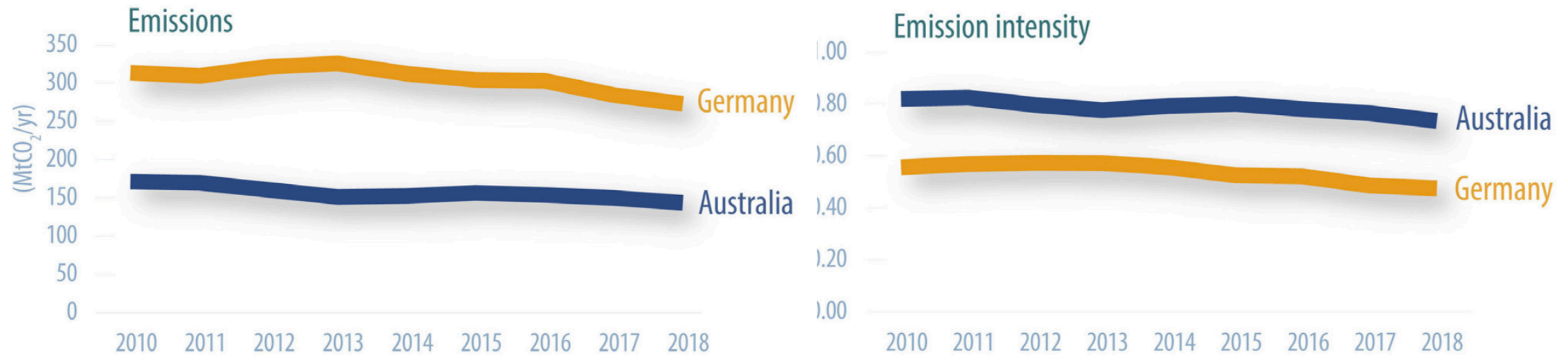


Figure 2: Emissions and emissions-intensity of electricity generation in Australia and Germany, 2010 to 2018

Note: Data for Australia refer to electricity generation in the National Electricity Market (which excludes Western Australia and the Northern Territory) plus estimated rooftop PV generation.

Data sources: BMWI Energiedaten Gesamtausgabe; AEMO data; Australian Energy Council mix



Wholesale electricity prices

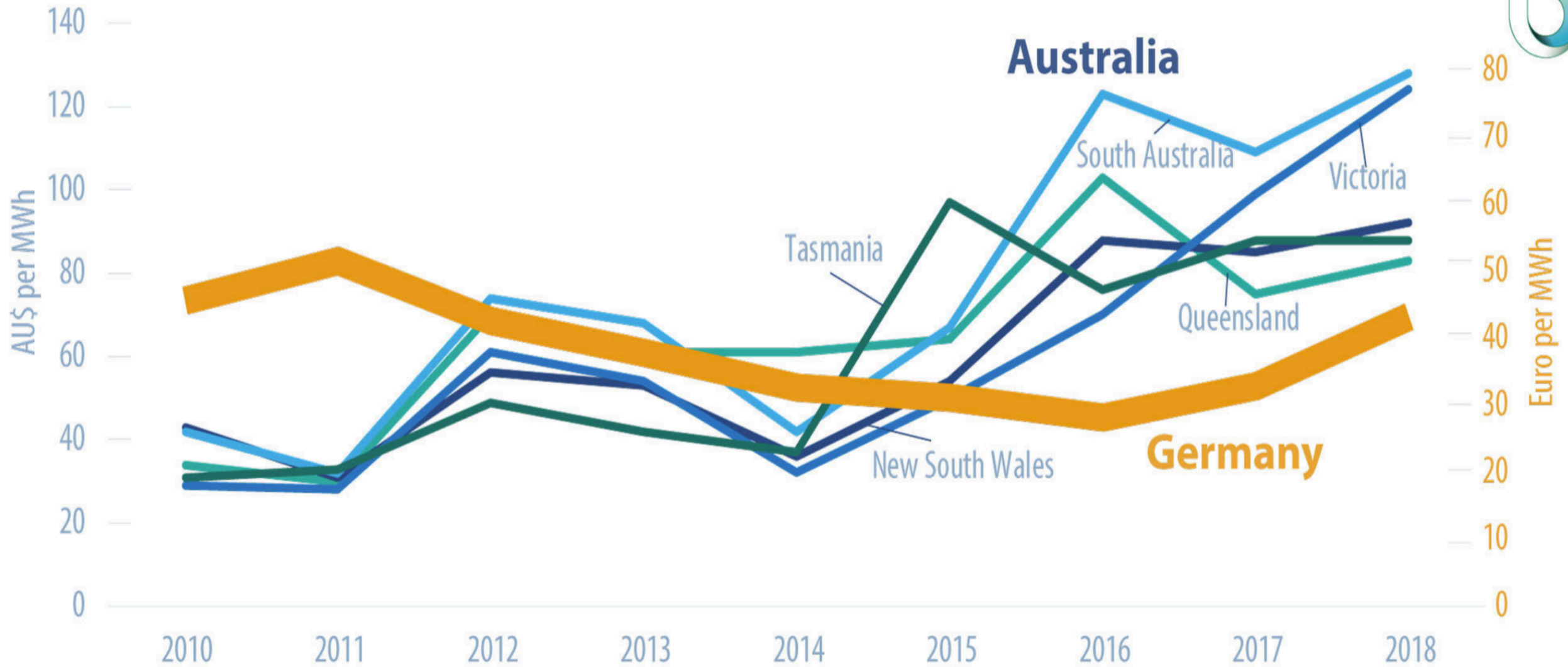


Figure 3: Wholesale electricity prices in Germany and by NEM region, 2010-2018
Sources: Australian Energy Regulator, Fraunhofer ISE.

Retail electricity prices, AU cents/KWh 2018

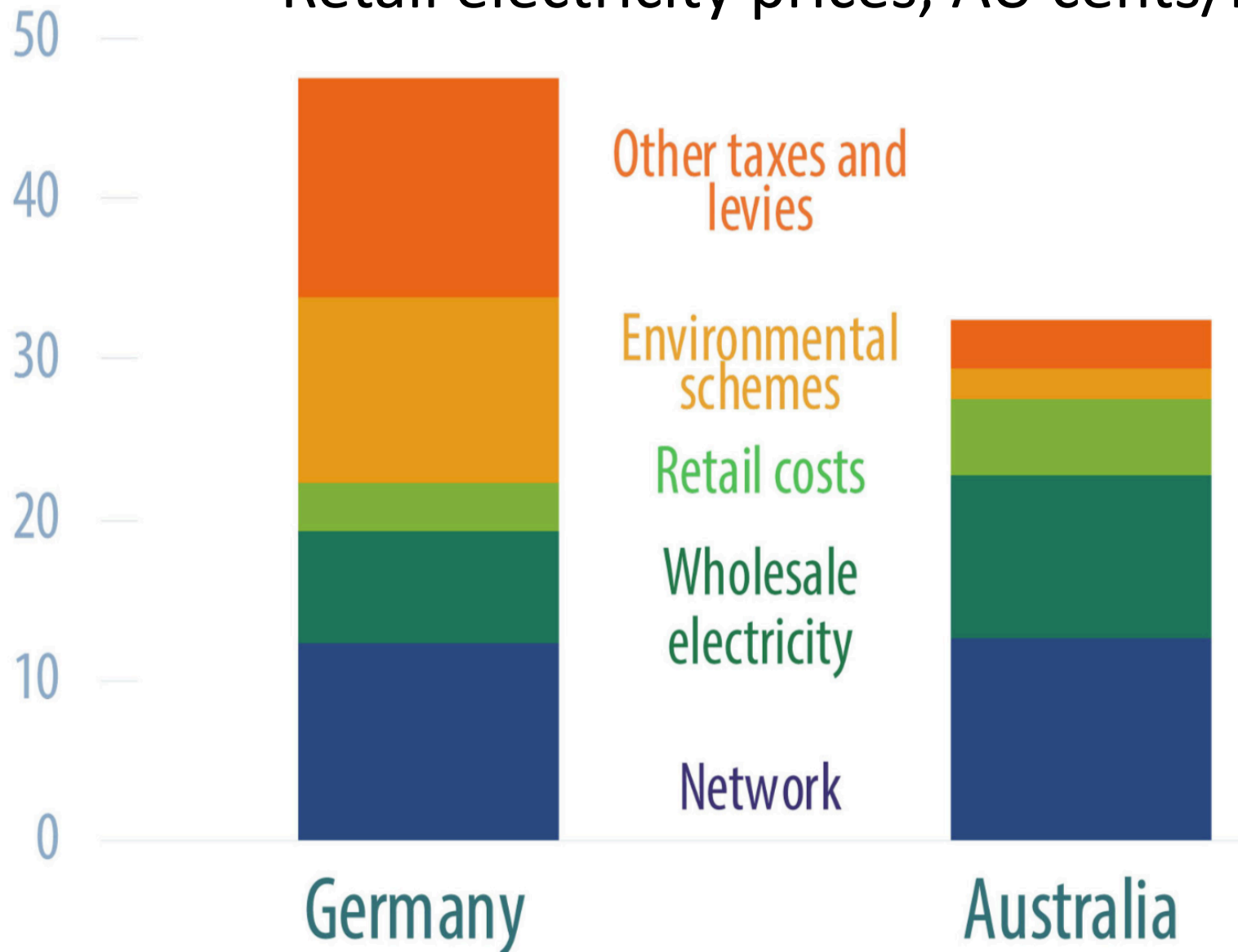


Figure 4: Composition of retail electricity prices in Australia and Germany 2018 (AU cents per kWh at 0.62 EU/AUD)
Sources: ACCC and BDEW.

