



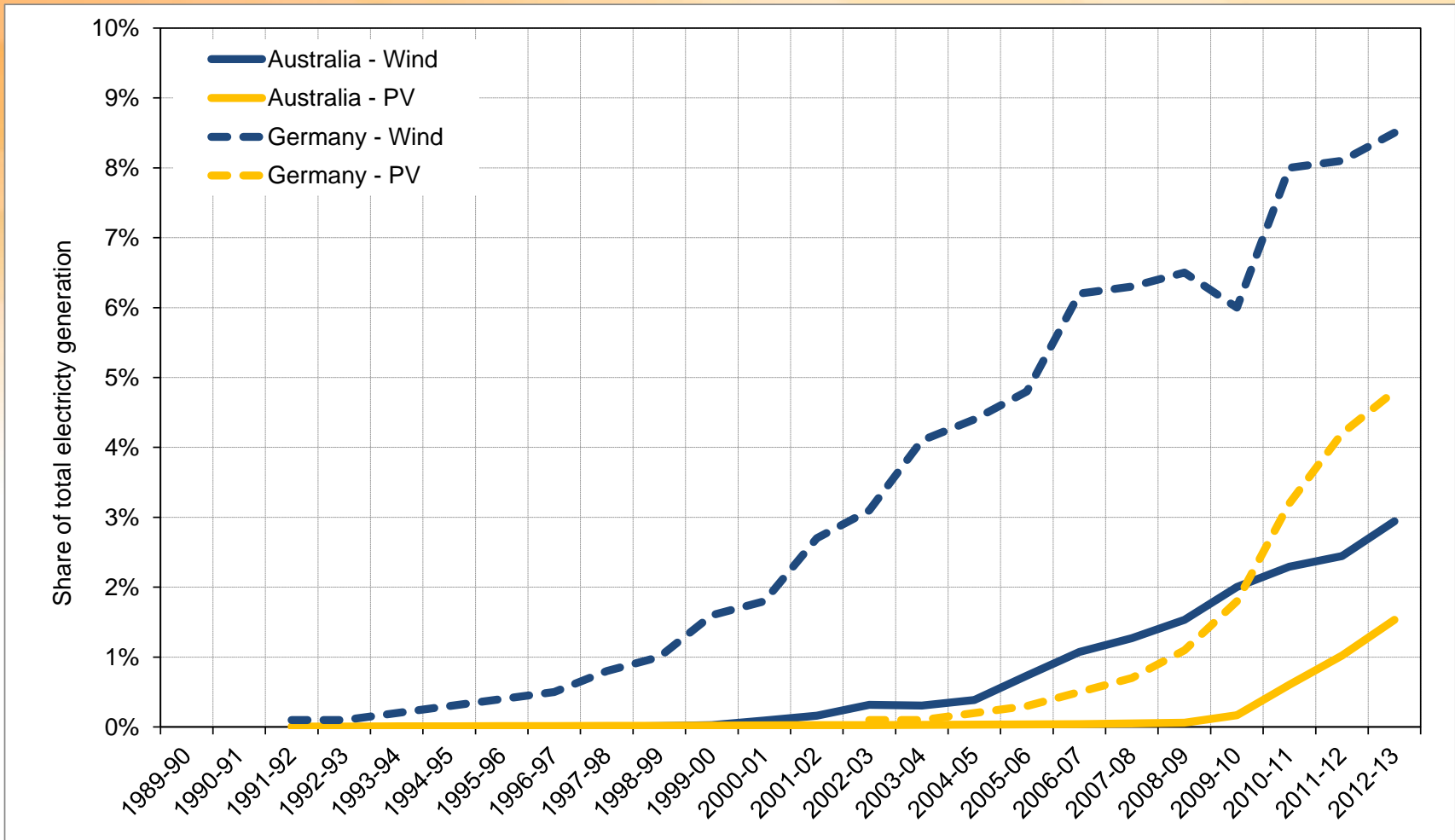
Renewables policy: Distributional implications Experience from Australia and Germany

Tsinghua-ANU forum on climate and energy policy research

15 September 2014, Wenjin Hotel, Beijing

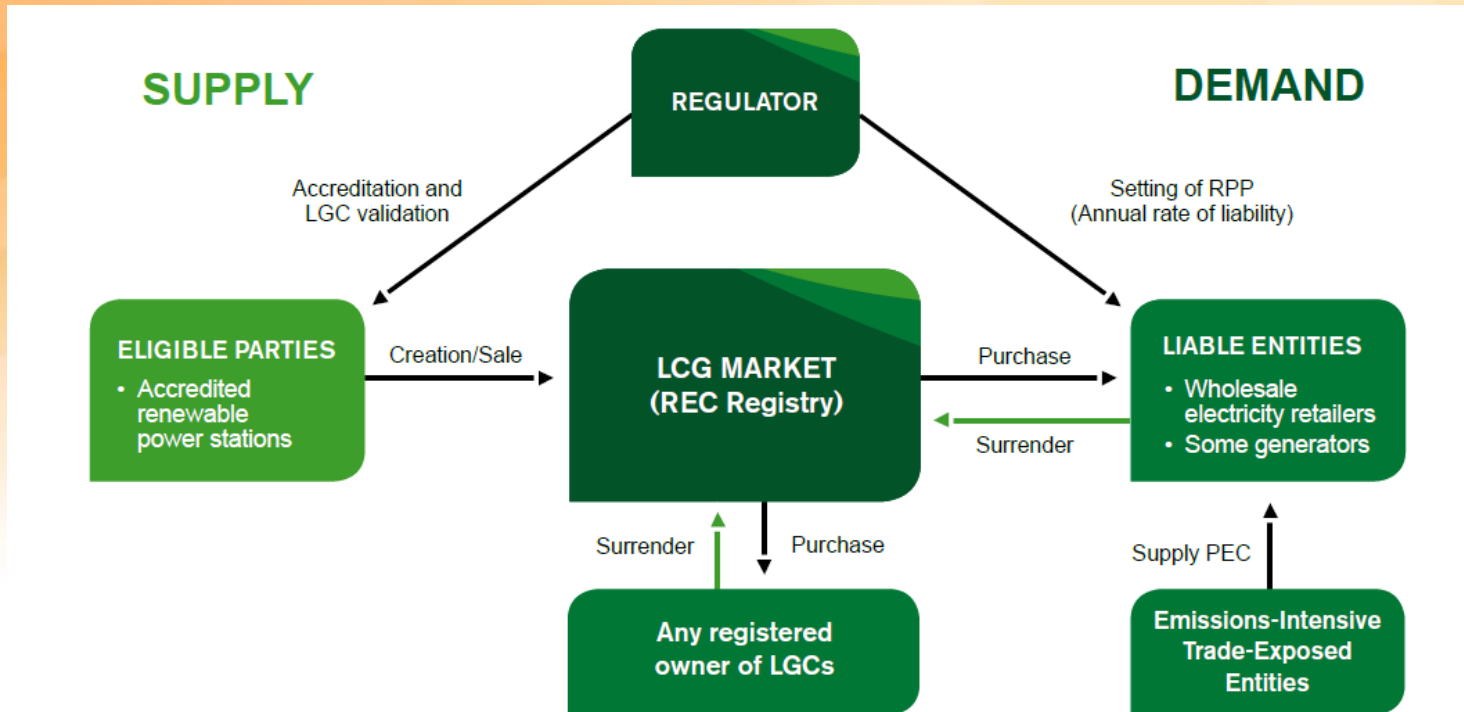
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Electricity generation by wind and PV



Sources: BREE (2014), AG Energiebilanzen (2014); own illustration

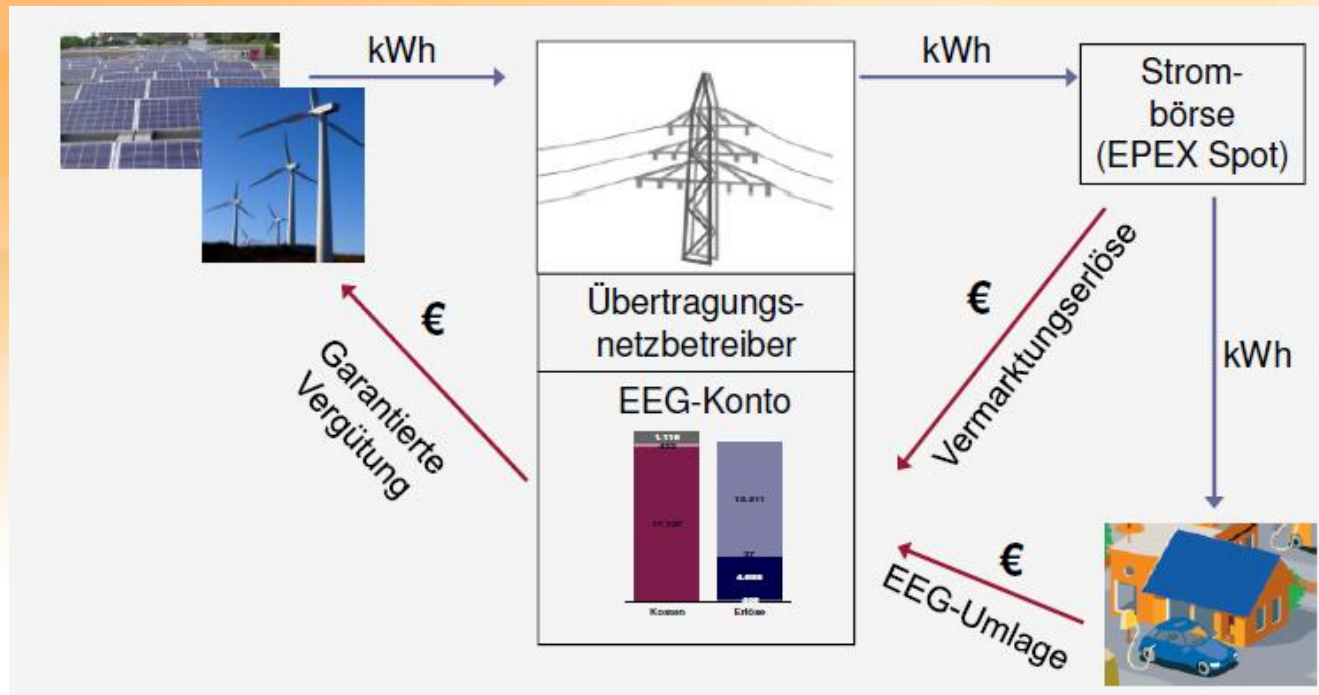
The Australian RET



Source: Clean Energy Regulator (2014)

- Green certificate scheme
- Significant risk allocation / market signal to renewable projects in both energy and green certificate market
- Review recently published suggests reduction of target

The German Renewable Energy Sources Act



Source: BDEW (2012)

- Fixed feed-in tariff
- In the past: no market risk for renewable projects (still technical performance risk) → many small / private investors
- Reform exposes (large) renewable generators to market signal to larger extent

Costs and benefits of renewable energy support policy

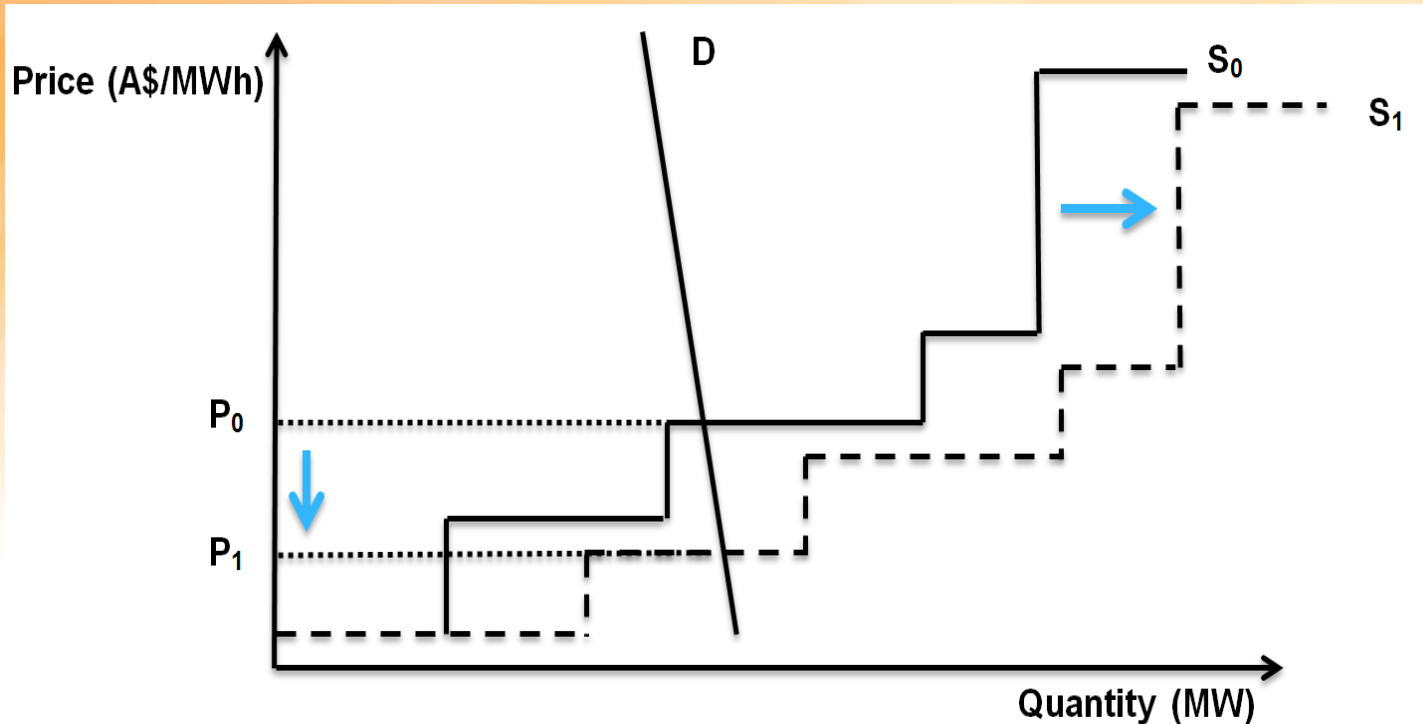
Cost of renewable energy schemes non-negligible

- Australia: A\$ 1 bln (¥ 5.5 bln) in 2013, 5% of household electricity prices
- Germany: € 20 bln (¥ 160 bln) in 2013, 20% of household electricity prices

But also significant benefits from reduced emissions

- Climate change mitigation
 - Reduction of local air pollution and associated health benefits
- not taken into account here, but estimated to be very large elsewhere

Merit-order effect of renewables



Source: Own illustration based on Forrest and MacGill (2013)

Merit-order effect estimates

- Wind in Australia: 3 A\$/MWh in 2013 (17 ¥/MWh)
- Wind and PV in Germany: 15 €/MWh in 2013 (120 ¥/MWh)

Pass-through of costs and merit-order effects

The Australian Large-scale RET

Small customer on regulated tariff		Pass-through RET costs (A\$/MWh)		
		100%	40%	10%
2011-12		3.38	1.35	0.34
Pass-through	0%	2.23	0.20	-0.81
merit-order effect	50%	1.08	-0.95	-1.96
(A\$/MWh)	100%			
Large customer on negotiated tariff		Pass-through RET costs (A\$/MWh)		
		100%	40%	10%
2012-13		5.29	2.11	0.53
Pass-through	0%	3.64	0.47	-1.12
merit-order effect	50%	1.99	-1.18	-2.77
(A\$/MWh)	100%			

Large exempt user

Determinants of pass-through rates to individual consumer

- Pass-through of costs: Exemptions for industry
- Pass-through of merit-order effects: Structure of wholesale and retail markets

The German Renewable Energy Sources Act

2013	Merit-order effect (ct/kWh)	Surcharge (ct/kWh)
Privileged group (energy-intensive companies)	1.54	0.05
Non-privileged group (households, small business)		5.28

Conclusions

- Different design of renewables policy in Germany and Australia, but similar distributional implications in both jurisdictions
- Determined to a large extent by the design of the policy and structure of electricity markets
- Reform of the EEG does not fundamentally cut industry privileges; RET review recommends to extend them for industrial own-consumption



Thank you very much for your attention



Questions?

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