

## Putting the customer back in front

How to make electricity cheaper

Tony Wood



## Shock to the system

Dealing with falling electricity demand

Tony Wood and Lucy Carter



## Getting gas right

Australia's energy challenge

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# GRATTAN

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**Sundown, Sunrise**  
How Australia can finally get solar power right

**David Blowers**  
**11 June 2015**

## A bright future

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- **Falling costs of solar and the emergence of battery storage will change the way we use electricity**
- **Combined with more cost-reflective pricing, households and businesses with these technologies will save on electricity bills and reduce costs for others**
- **Going off-grid will be a real possibility for households and communities in remote and rural areas**
- **This will challenge the way in which the traditional electricity sector is managed and regulated**
- **Governments will need to take appropriate action so that solar can take its place in the sun**

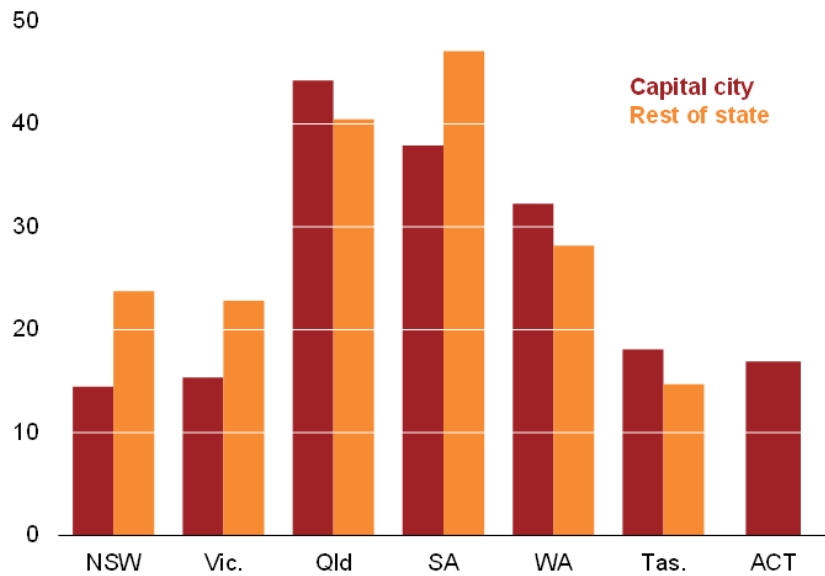
## Solar PV and batteries as a disruptive technology?

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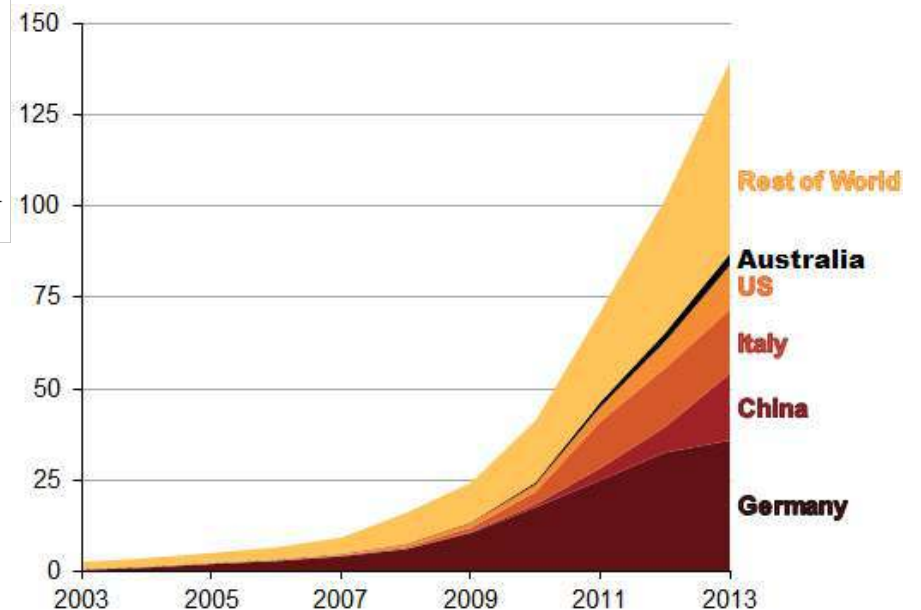
- **Traditionally, all consumers, with the exception of those in some remote areas, have relied on centralised generation and the grid**
- **Generous subsidies have driven the high adoption of solar PV, as more and more urban households have some form of distributed generation**
- **Emergence of battery technology provides the opportunity for consumers to leave the grid altogether**
- **The death spiral and the end of the grid?**

# The rise of solar PV

## Take-up has been huge in Australia

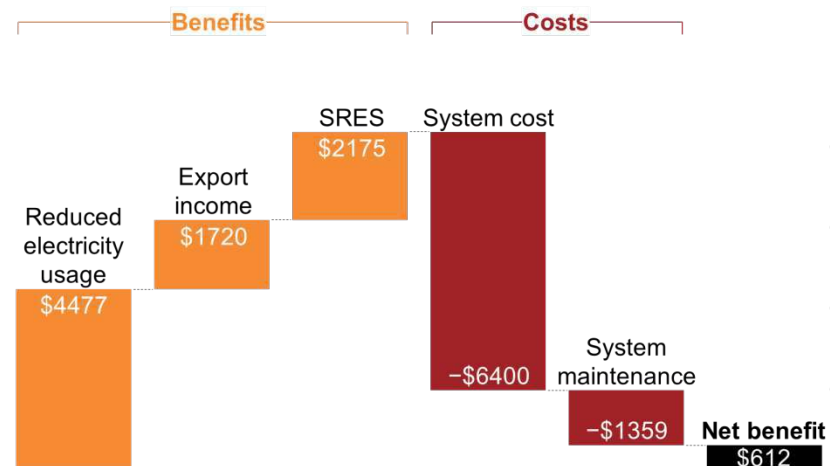


## ... and in the rest of the world

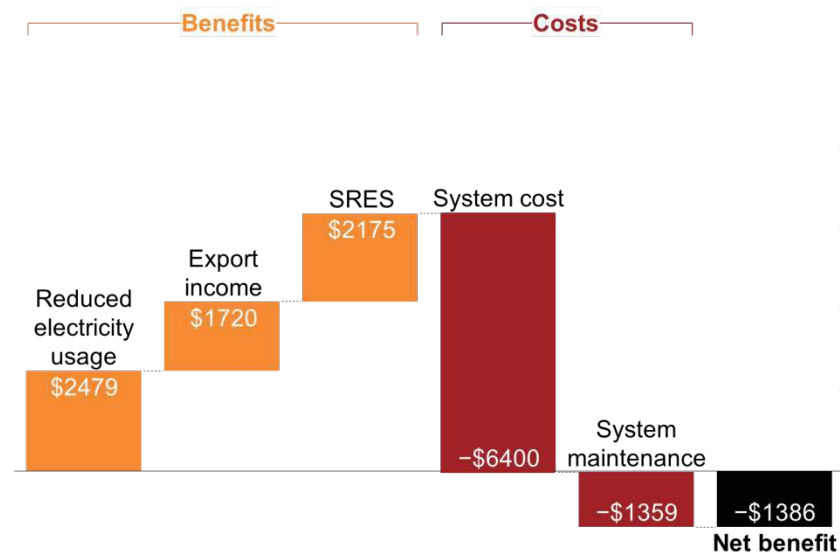


## Demand tariffs will make solar PV less attractive

### Solar PV in the money now

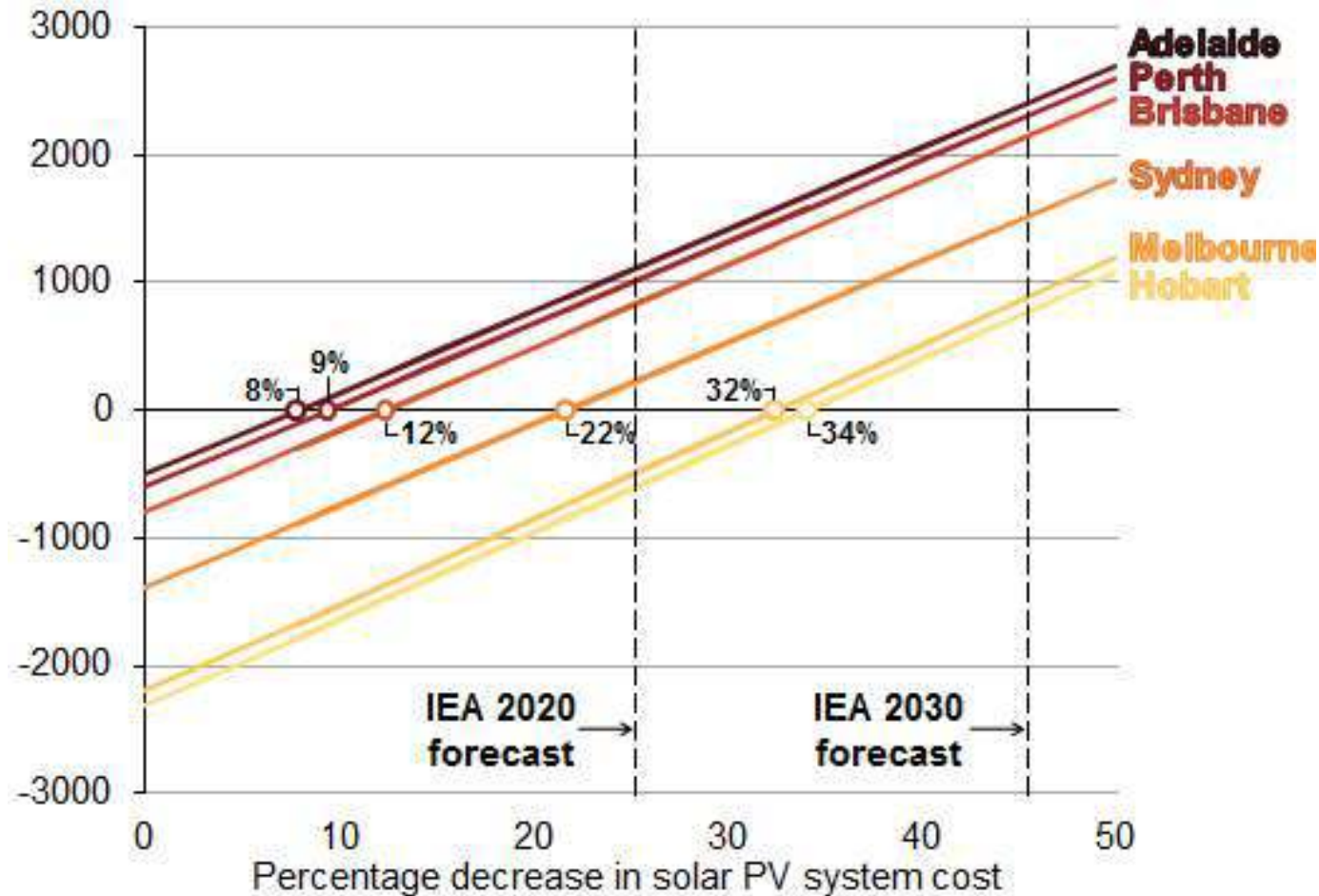


### But not under demand tariffs

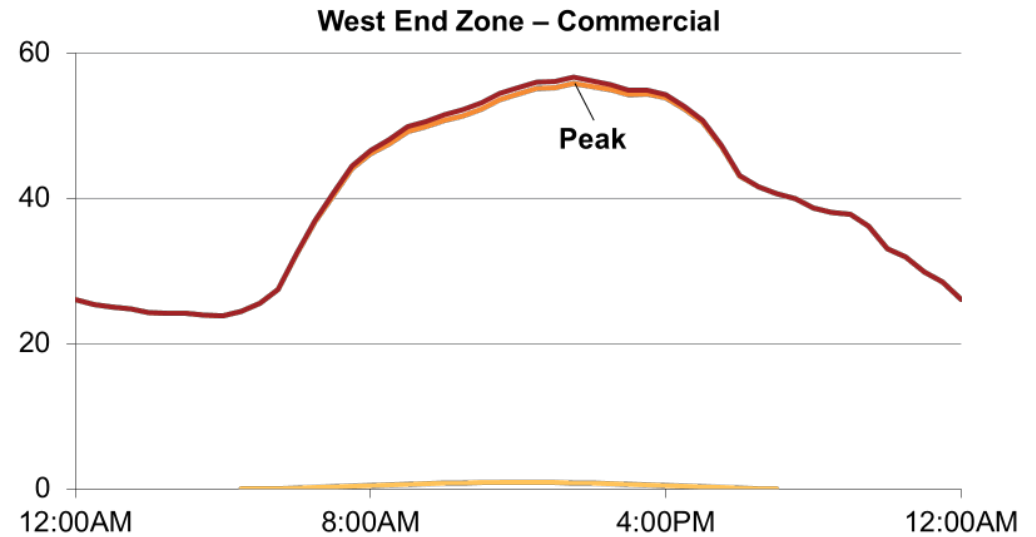
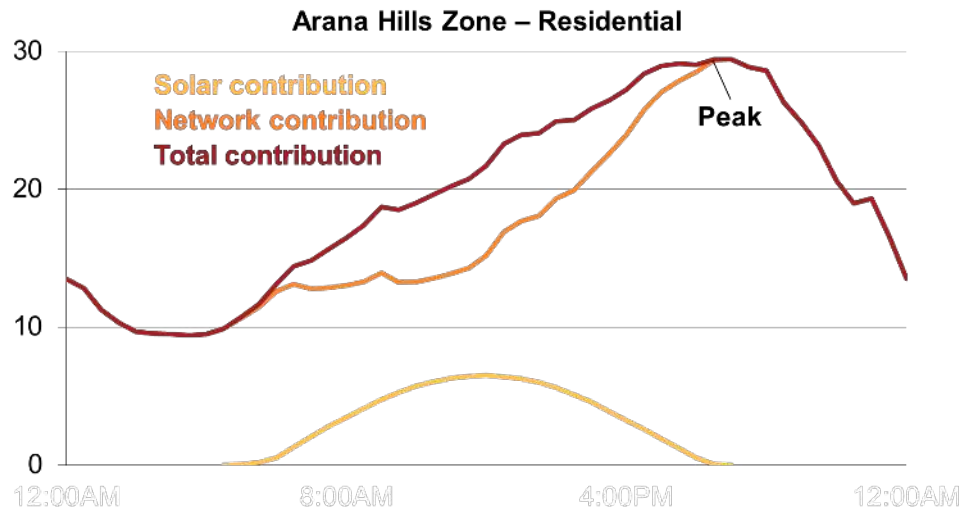


## But it won't be long before solar PV is back in the money

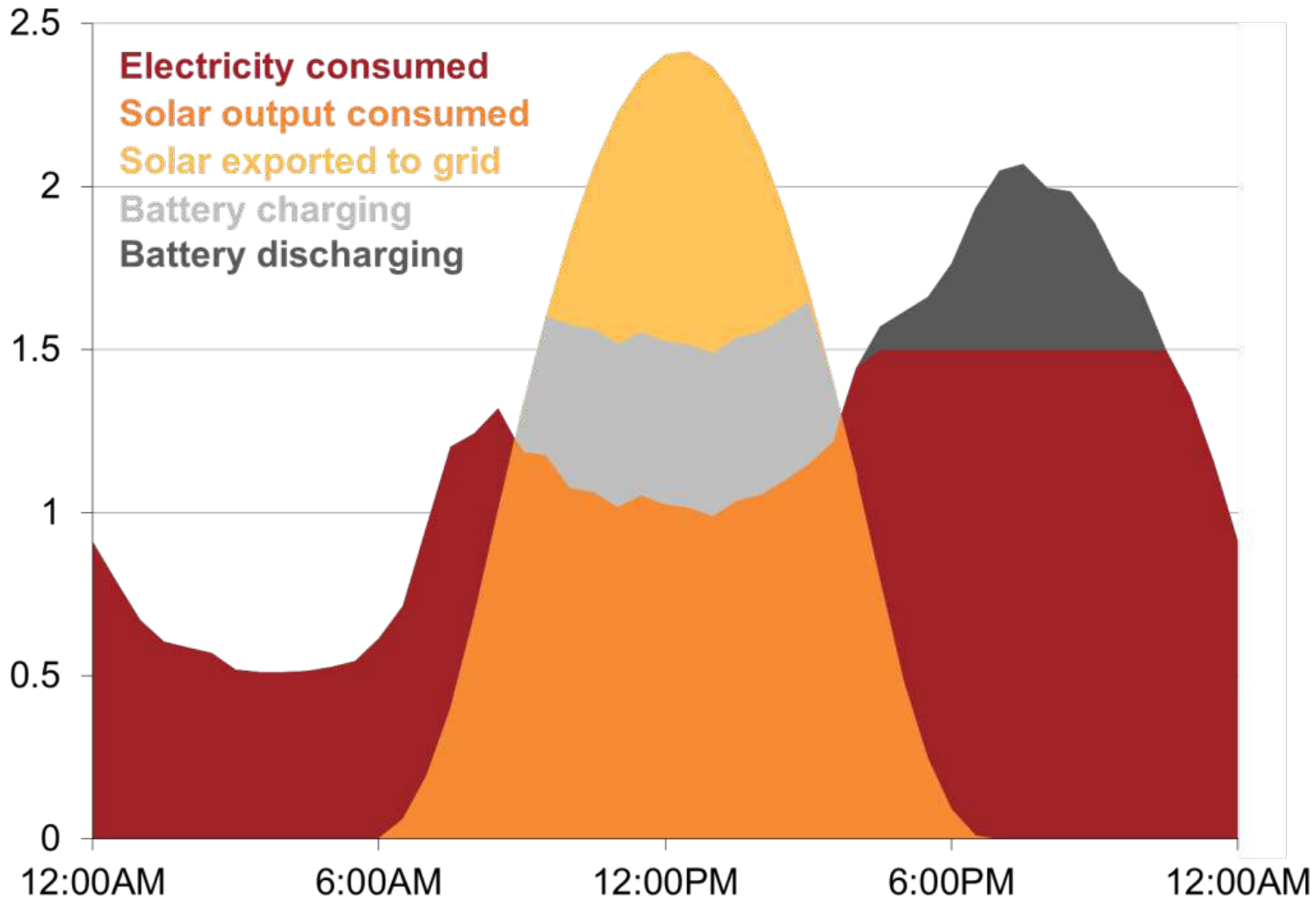
The cost of solar PV will fall even further



## Solar PV may be limited in reducing peak demand...

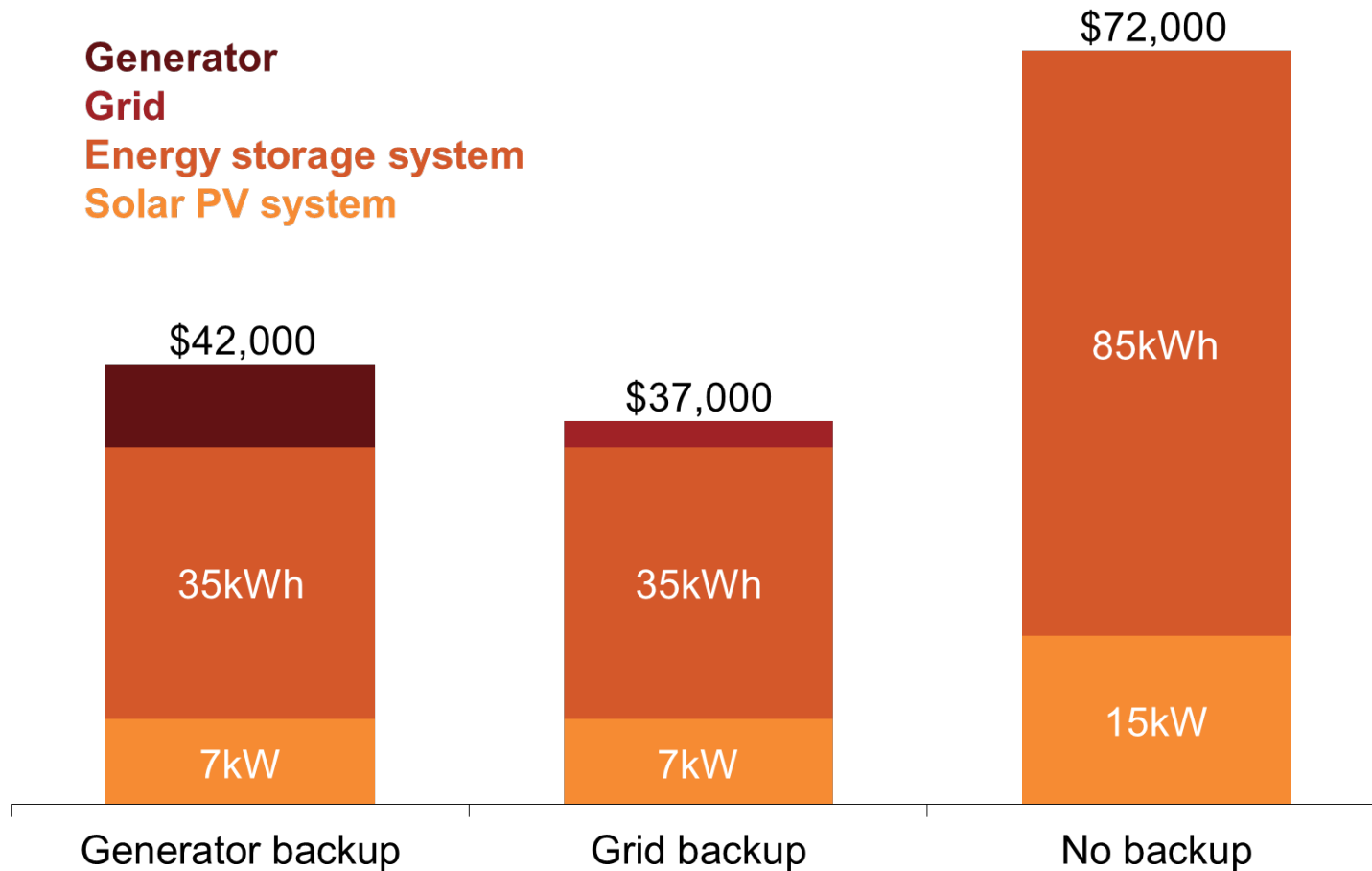


... unlike batteries





## But going off-grid is unlikely for most urban households



## **There will be challenges for network businesses**

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- **Death spiral unlikely**
- **There may still need to be asset write-downs**
- **Regulatory and licence conditions will need to evolve to remove barriers to efficient investment**
- **Stability issues will need to be overcome**

## Where going off-grid does make sense

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- **For new connections at the edge-of the grid**
- **For regional and remote communities and individuals**
- **But pricing and regulatory barriers can prevent off-grid options being realised**

## **Getting solar PV right**

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- **Solar PV and storage can save all consumers money and make a contribution to reducing emissions without costing the earth**
- **Learn from the past. Do not put in place policies that have unintended consequences, specifically cross-subsidies.**
- **Get tariff reform right**
  - Mandatory demand tariffs
  - Roll-out of advanced meters
  - Critical peak pricing
  - Cost-reflective feed-in tariffs
- **Redundant assets will need to be addressed**
- **Policy and regulations need to ensure network businesses make efficient decisions**
- **Remove barriers to the uptake of off-grid solutions**
- **Get it right, and solar PV and storage can become an integral part of Australia's electricity system**

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