Split Incentive – Renters and PV

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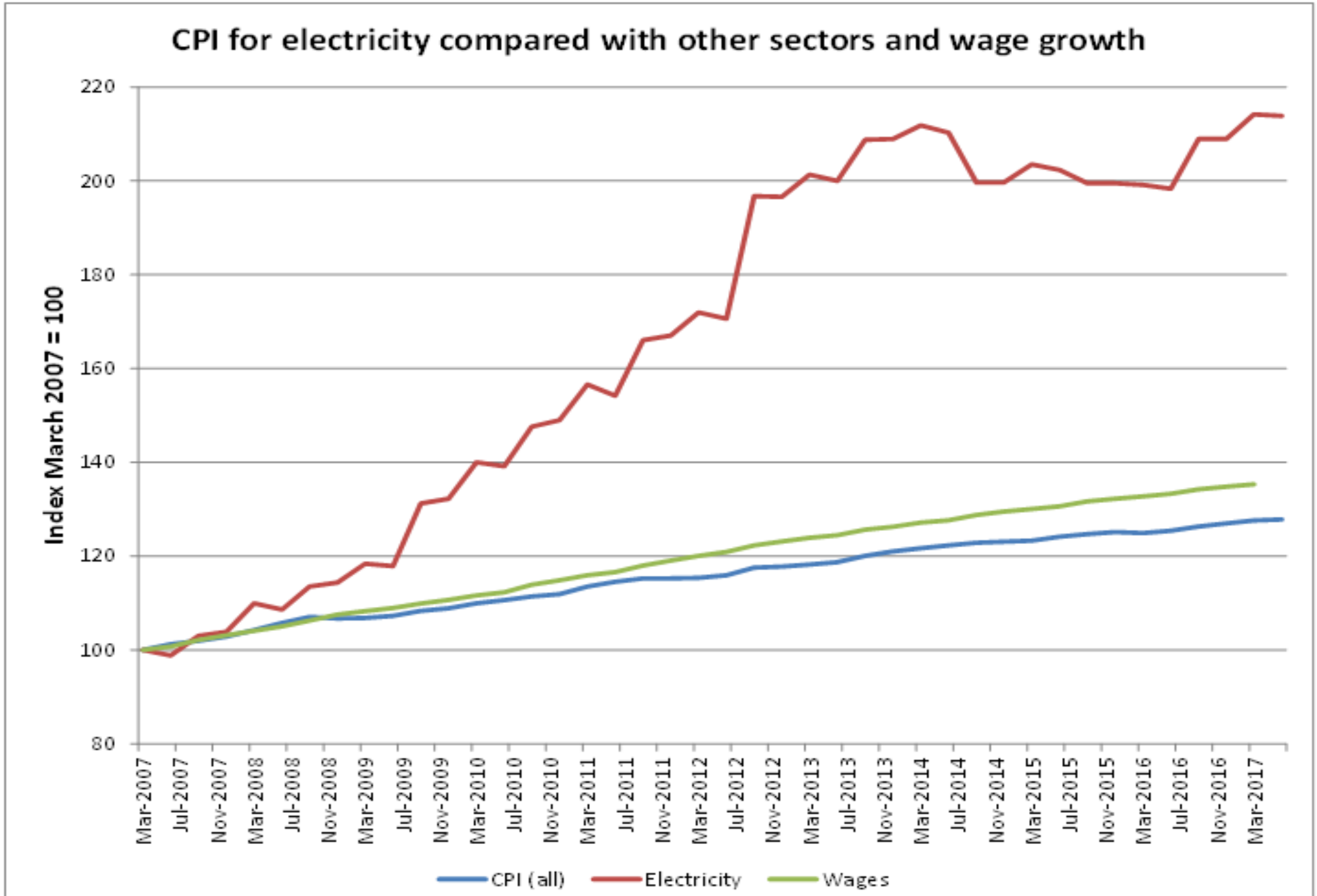
UNITING COMMUNITIES

Solar Rising - World's largest floating solar power plant

- China is now the world's number one investor in renewable energy, and the largest-ever floating solar plant has recently gone live in the country. Located on an old coal mine in the eastern province of Anhui, the $151 million (£115m) Three Gorges project can power 94,000 homes at full capacity.


CPI for electricity compared with other sectors and wage growth
Index March 2007 = 100
220
200
180
160
140
120
100
80
Mar-2007
Jul-2007
Nov-2007
Mar-2008
Jul-2008
Nov-2008
Mar-2009
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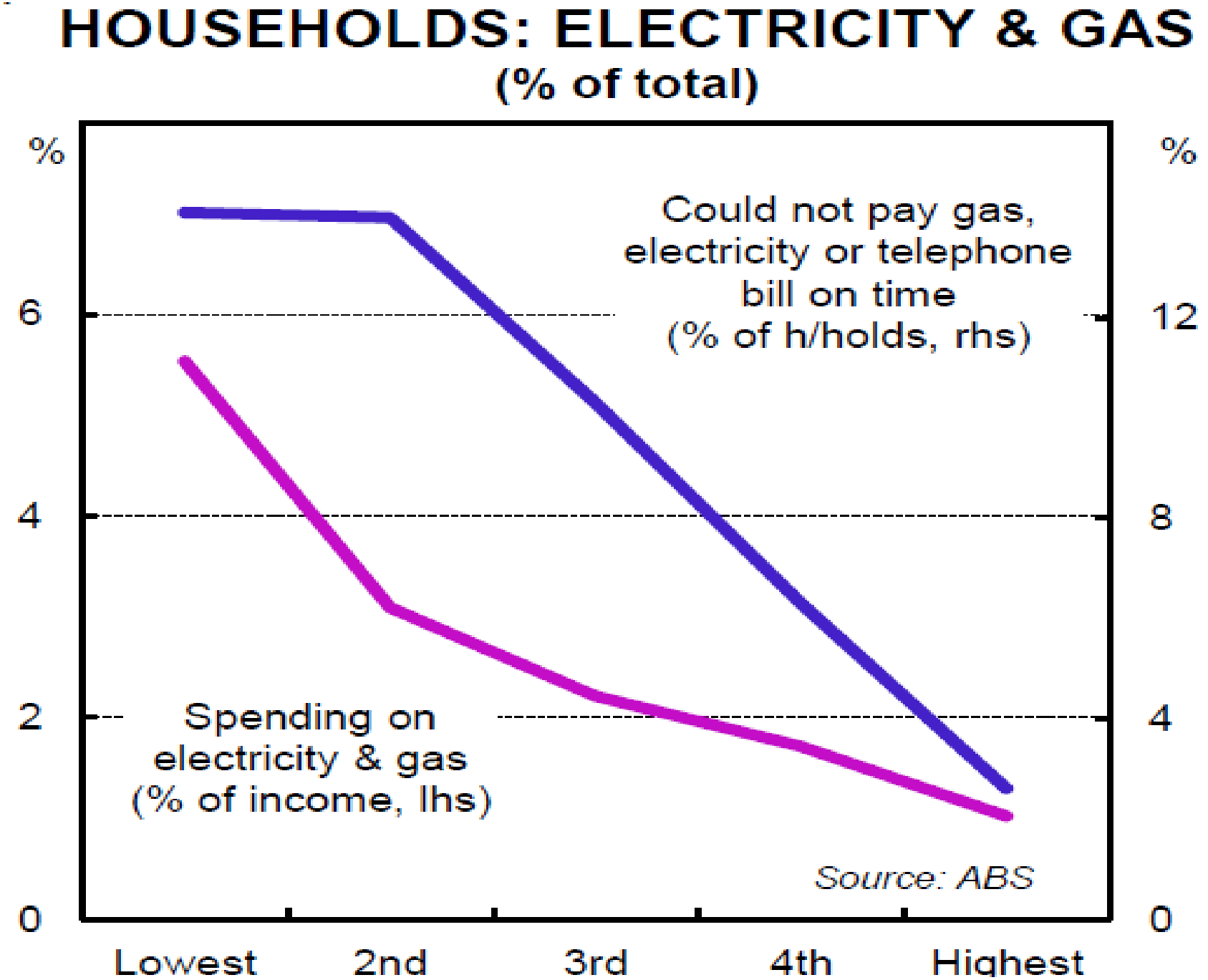
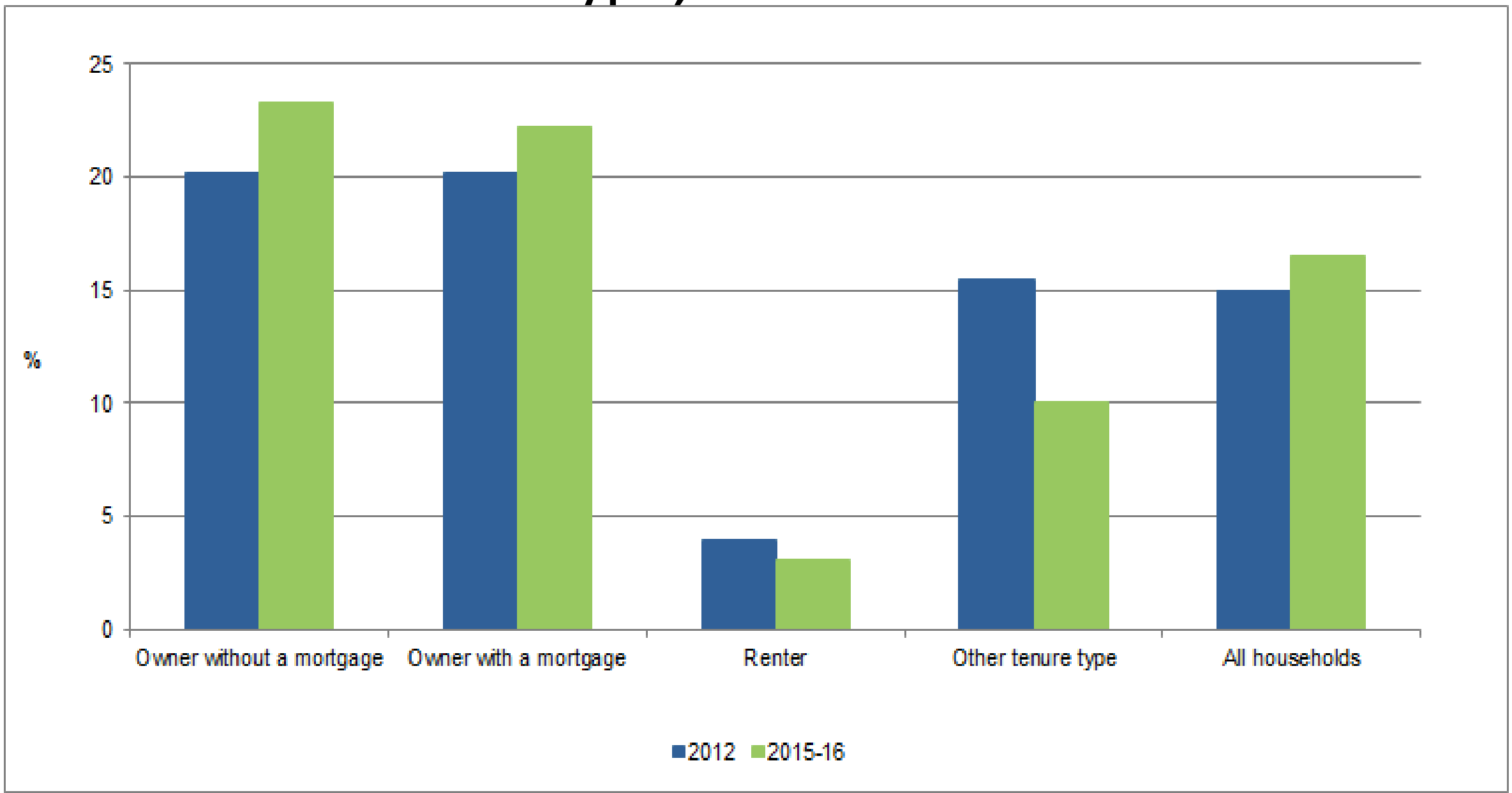
Nov-2014
Mar-2015
Jul-2015
Nov-2015
Mar-2016
Jul-2016
Nov-2016
Mar-2017
CPI (all)
Electricity
Wages

Energy Stress



PROPORTION OF HOUSEHOLDS WITH SOLAR PANELS - by tenure type, 2012 to 2015-16



Objectives and Variables

Our objectives are to maximise the benefit to tenants through reduced bills and to optimise the incentive for landlords, so that it is just enough for them to "buy in".

- **There are four variables that we have considered:**
- **size of PV installation**
- **storage (Zen lithium ion) or not**
- **level of upfront subsidy for landlords (from State revenue ultimately)**
- **the notion of a PV system rent that landlords could pass onto tenants (we have checked their ability to do this with Residential Tenancies Tribunal and AER and there are no major barriers)**

Solar Only Model

With $10pw solar rent, saving is $862.00 which is 31% saving

	Capital Cost	10 Year Generation
ZEN Premium 4.4kW System	$5,000	64,240
**Average Daily Generation	17.6kWh's	
**Peak Generation Summer	25kWh's	
**Low Generation Winter	10.5kWh's	

Finance Model

System Cost	$5,000
Subsidy	$2,000
Finance Principal	$3,000
Interest	6.00%
Term Yrs	10
Months	120
Future Value	$5,373

Social Housing Model

		Year 1-10
System Size Kw	4.4	
Total Average Generation @ PSH	4	6,424
Consumption @ 20kWh's per day	20	7,300
Typical Bill @ 20kWh's /Day @ 38c/kWh	0.38	$2,774
Solar Penetration (self-consumption)	71%	
Estimated Bill Saving (displaced kWh's)	0.38	$1,733
Annual Cost including interest	Compound	$537
Annual Export earned c/kWh	10	$186
Total Annual Saving		$1,382
% of Bill		50%

PV and Battery

With $10pw solar rent, saving is $371 which is 13% saving

	Capital Cost	Finance Term Generation
ZEN Premium 6.6kW System	$6,800	96,360
13.6kWh Home Battery	$10,000	
**Average Daily Generation	26.4kWh's	
**Peak Generation Summer	37.0kWh's	
**Low Generation Winter	15.8kWh's	

Finance Model

System Cost	$16,800
Subsidy	$2,500
Finance Principal	$14,300
Interest	4.00%
Term Yrs	10
Months	120
Future Value	$21,167

Social Housing Model

		Year 1-10
System Size Kw	6.60	
Total Average Generation @ PSH	4	9,636
Consumption @ 20kWh's per day	20	7,300
Typical Bill @ 20kWh's /Day @ 38c/kWh	0.38	$2,774
Solar Penetration (self-consumption)	100%	
Estimated Bill Saving (displaced kWh's)	0.38	$2,774
Annual Cost including interest	Compound	$2,117
Annual Export earned c/kWh	10	$234
Total Annual Saving		$891
% of Bill		32%

Incentivising Landlords

- Upfront Government subsidy
- Tax write downs, depreciated over 10 years (too long for many Landlords)
- Capacity to charge “Solar Rent” from tenants. Legally possible under Residential Tenancies Act in SA. We suggest that anything over $10pw leads to diminishing value for tenants.
- Peer / community pressure

Note that there exist commercial options from third parties who will pay for PV, minimising any expenditure by Landlord, but these schemes generally capture most of the benefit, leaving very modest benefits for renters

Observations

- It is evident that there potential for a program that provides adequate saving to renters while providing enough incentive to Landlords to install PV, even with a ‘solar rent’ of up to $10 per week
- PV is more cost effective than PV + battery
- Resistance / inertia from landlords is still strong. Some leaders are required to demonstrate ease and effectiveness of adding PV