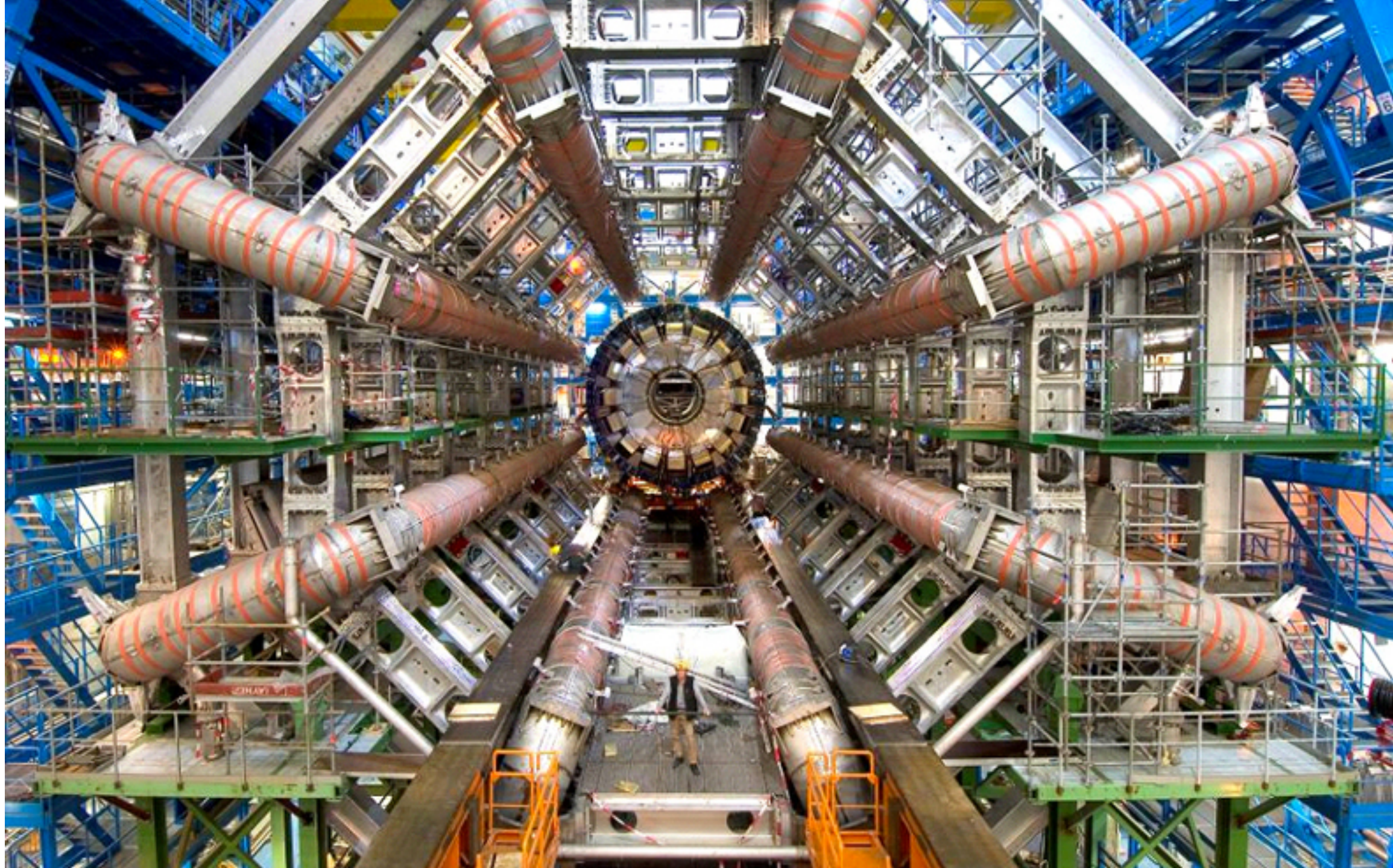
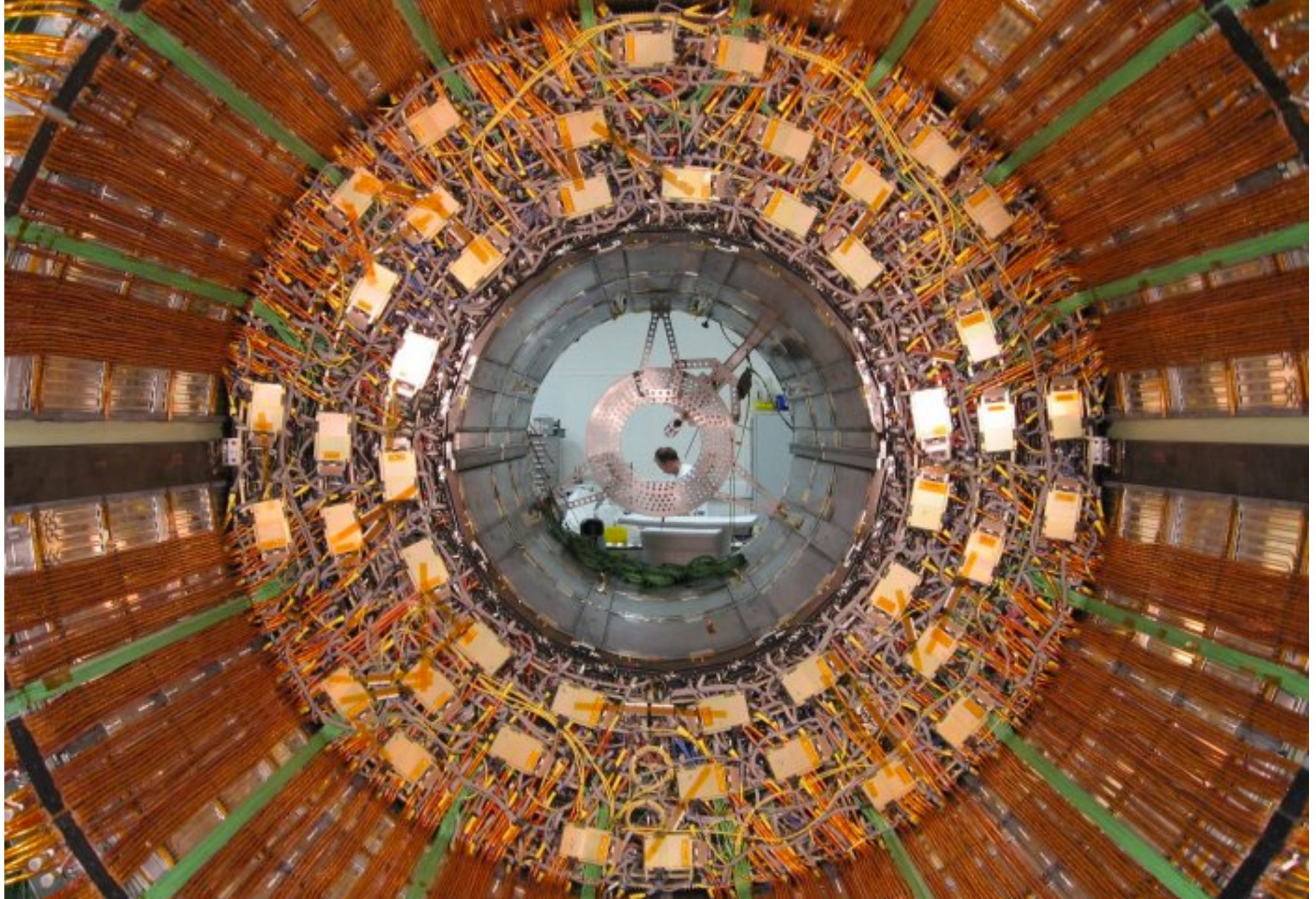


Rubbery elasticities and wobbly futures

Robert Smith
A2SE, Manly
February, 2016

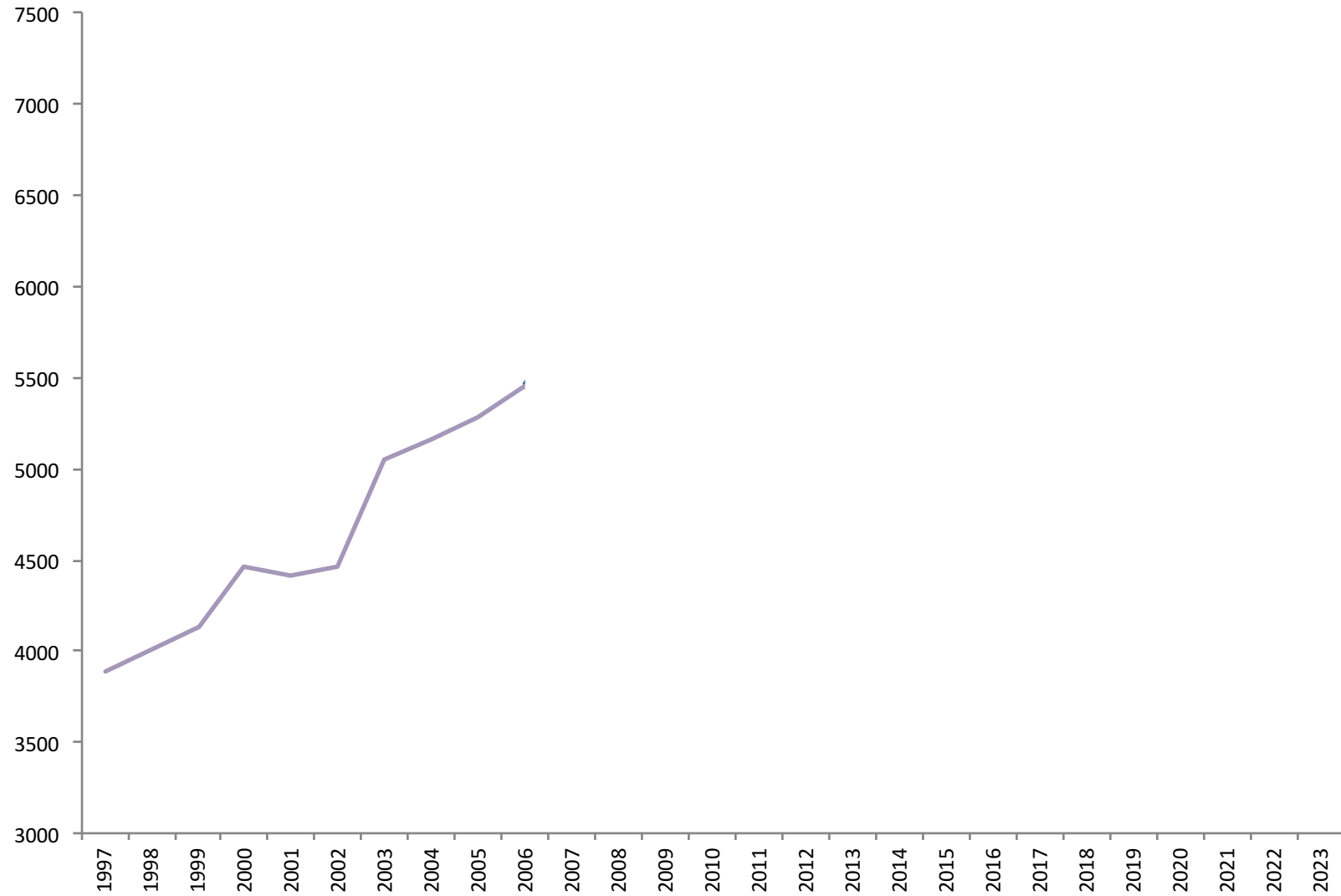




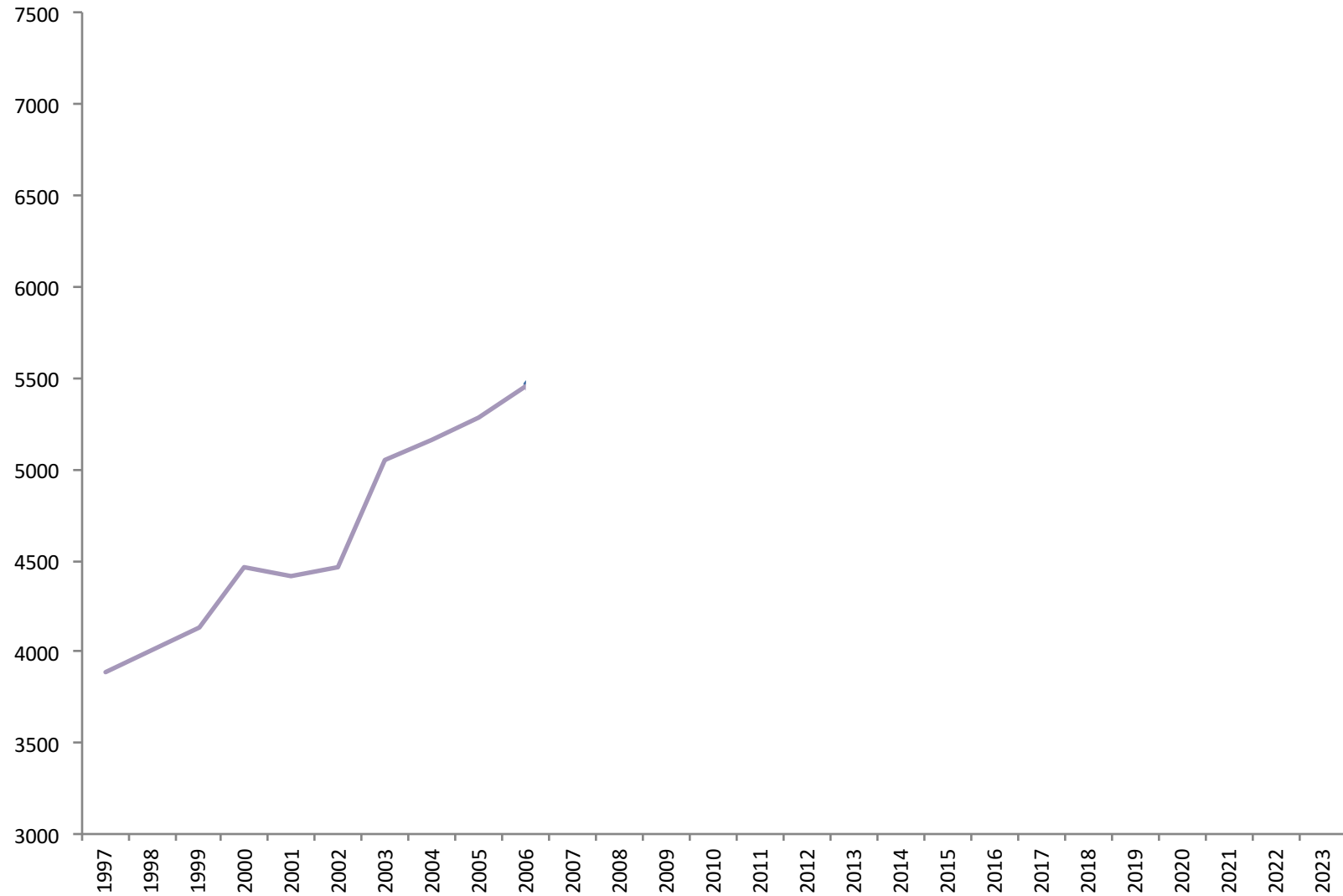




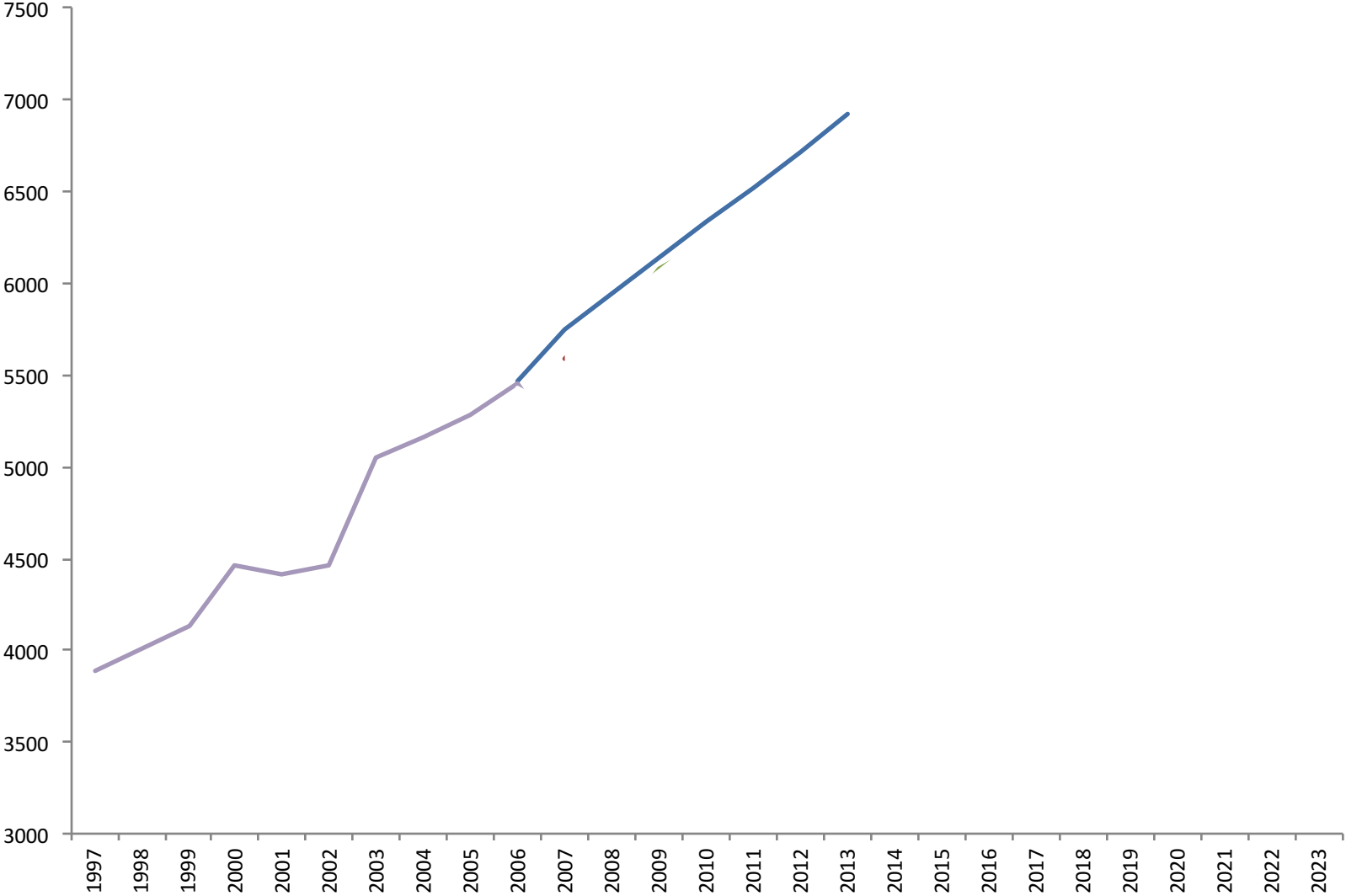
Forecasting



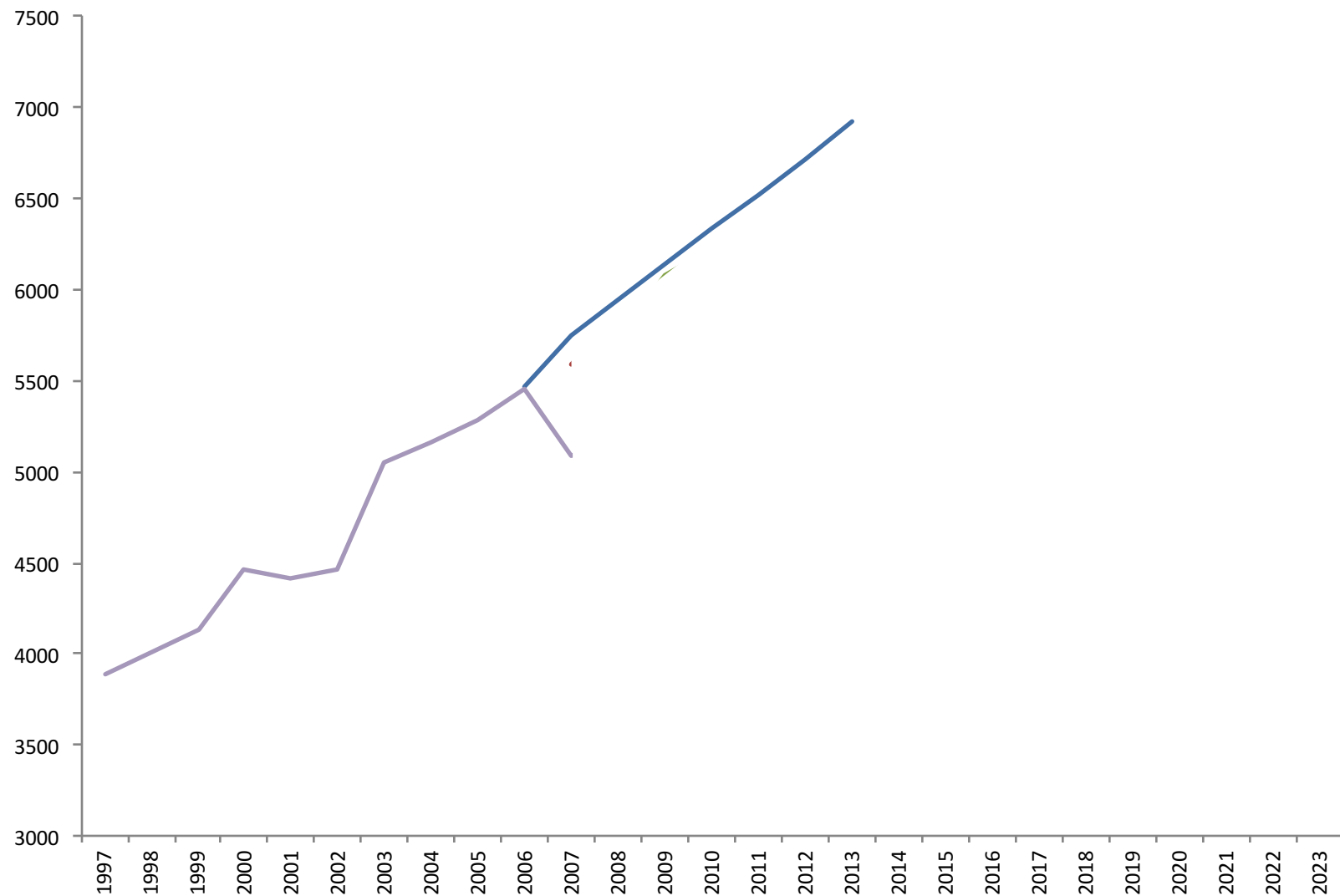
NSW peak demand 2006



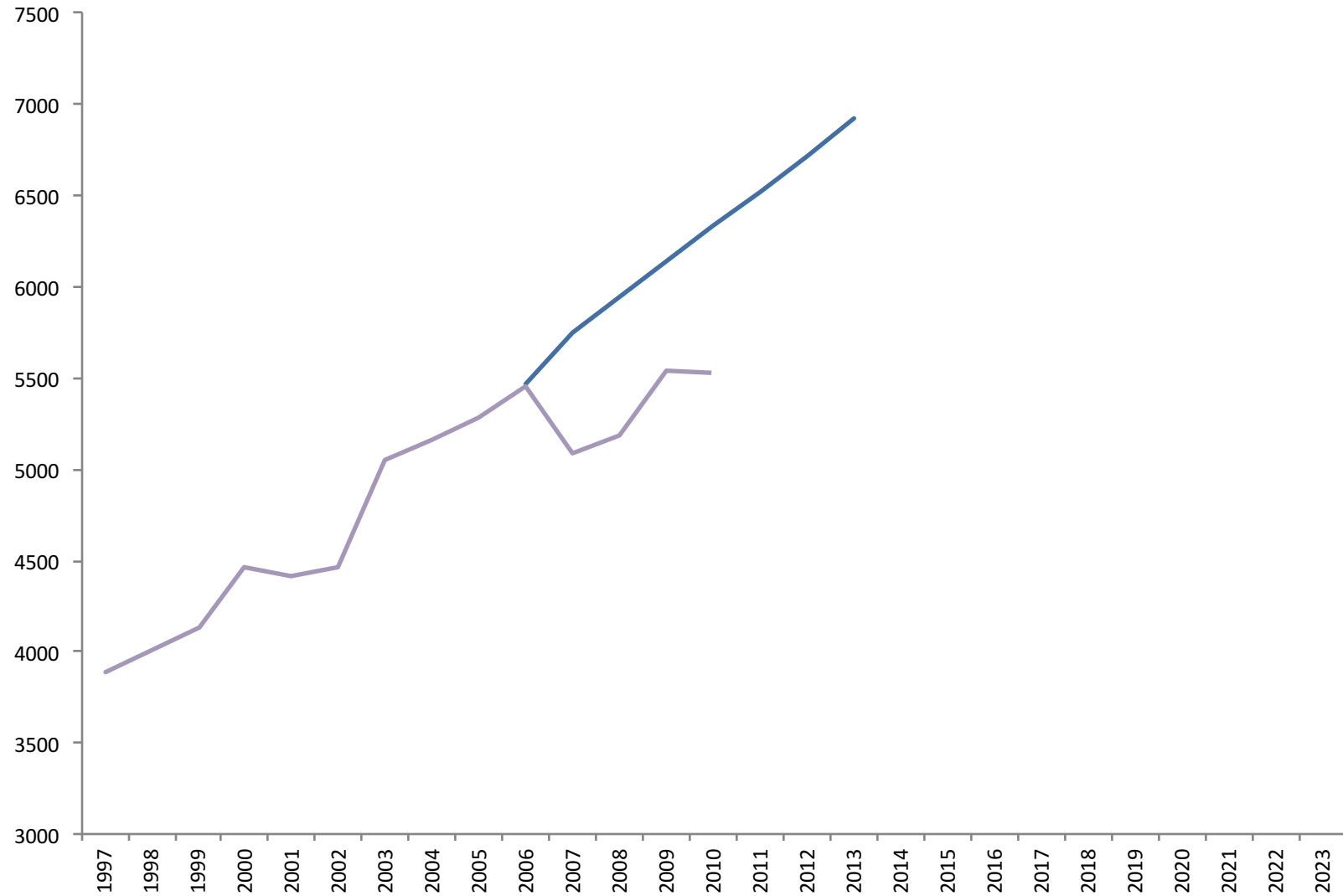
Not hard



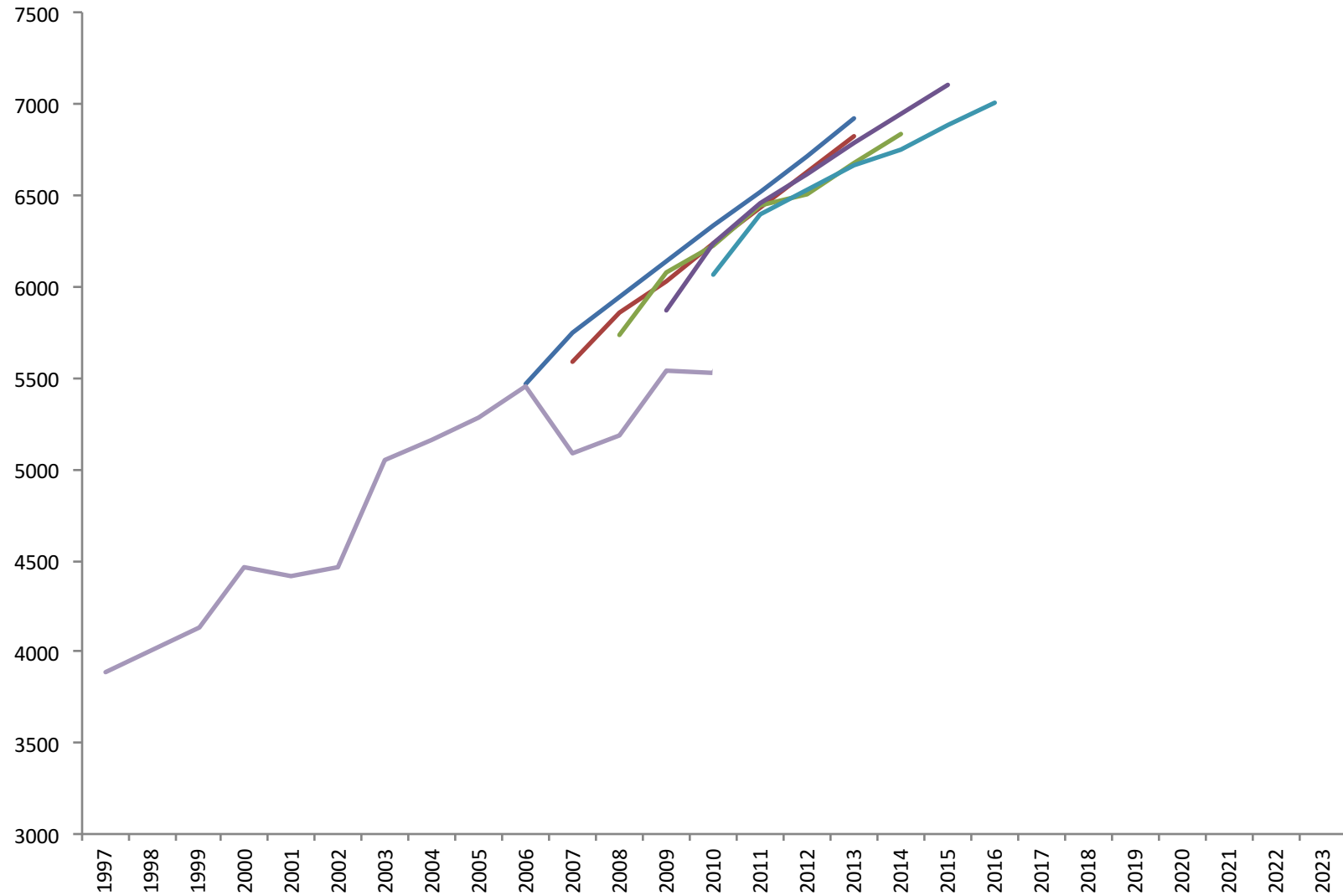
2007 small hiccup



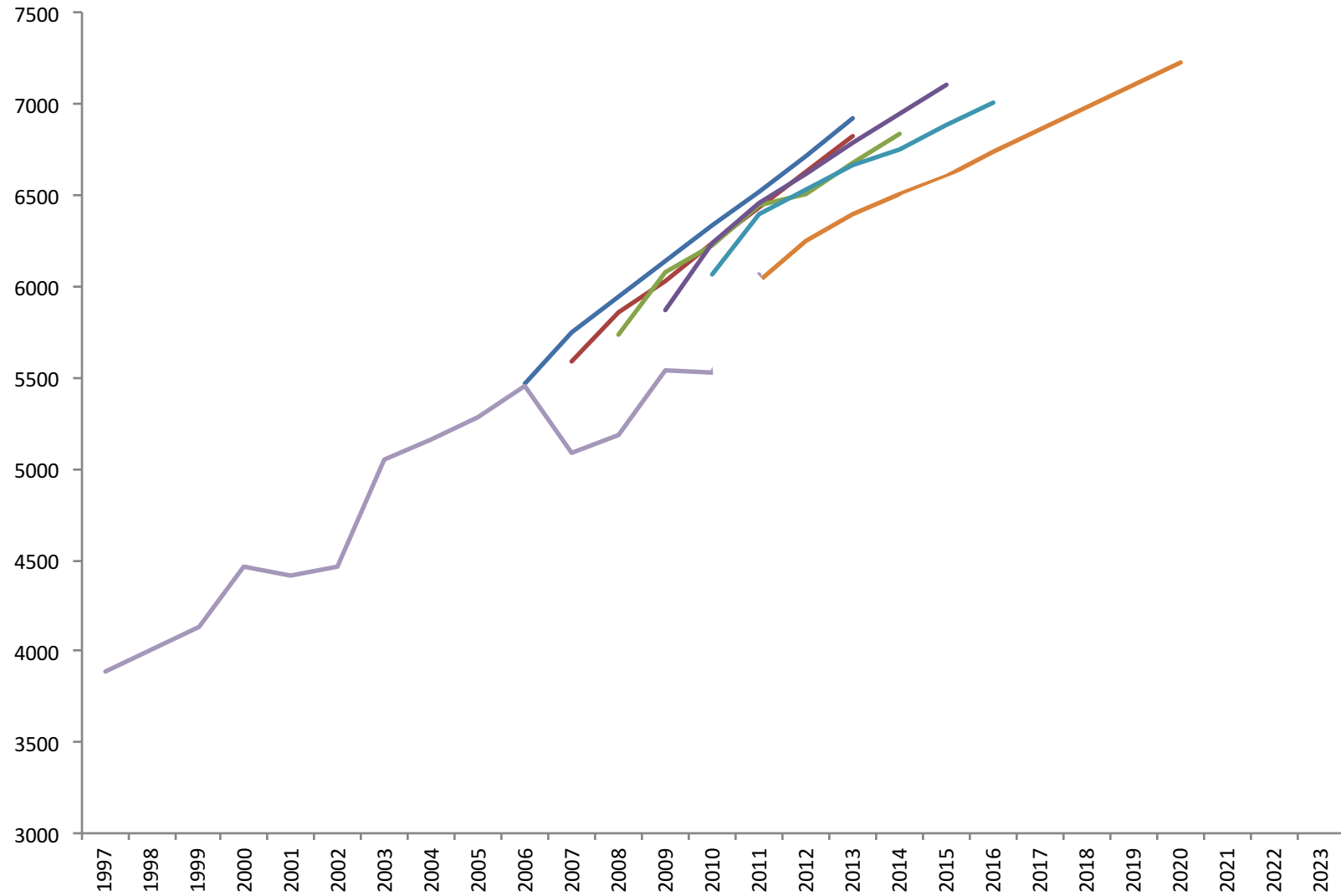
2007-10 - a case of hiccups



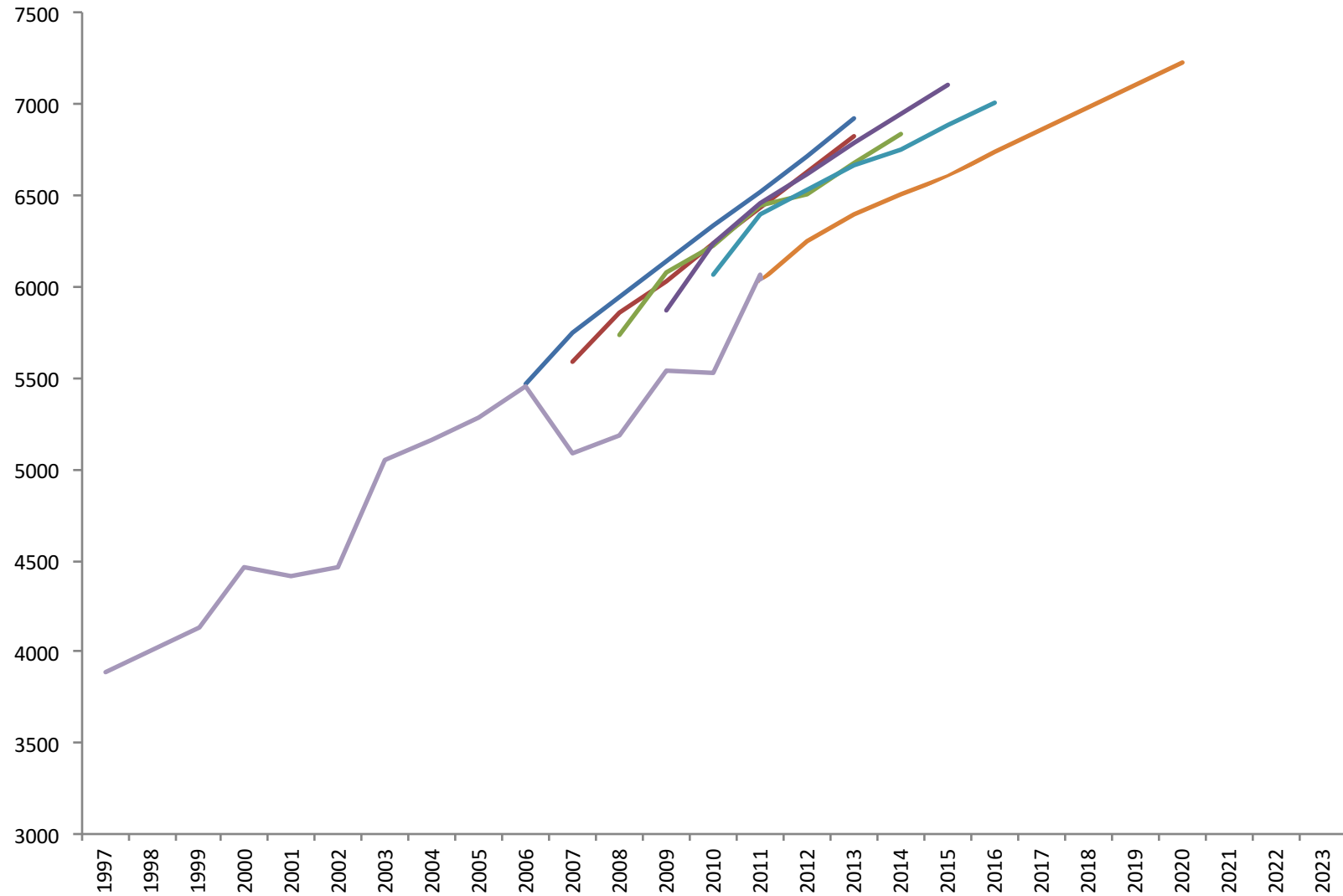
Forecast on - steady as she goes



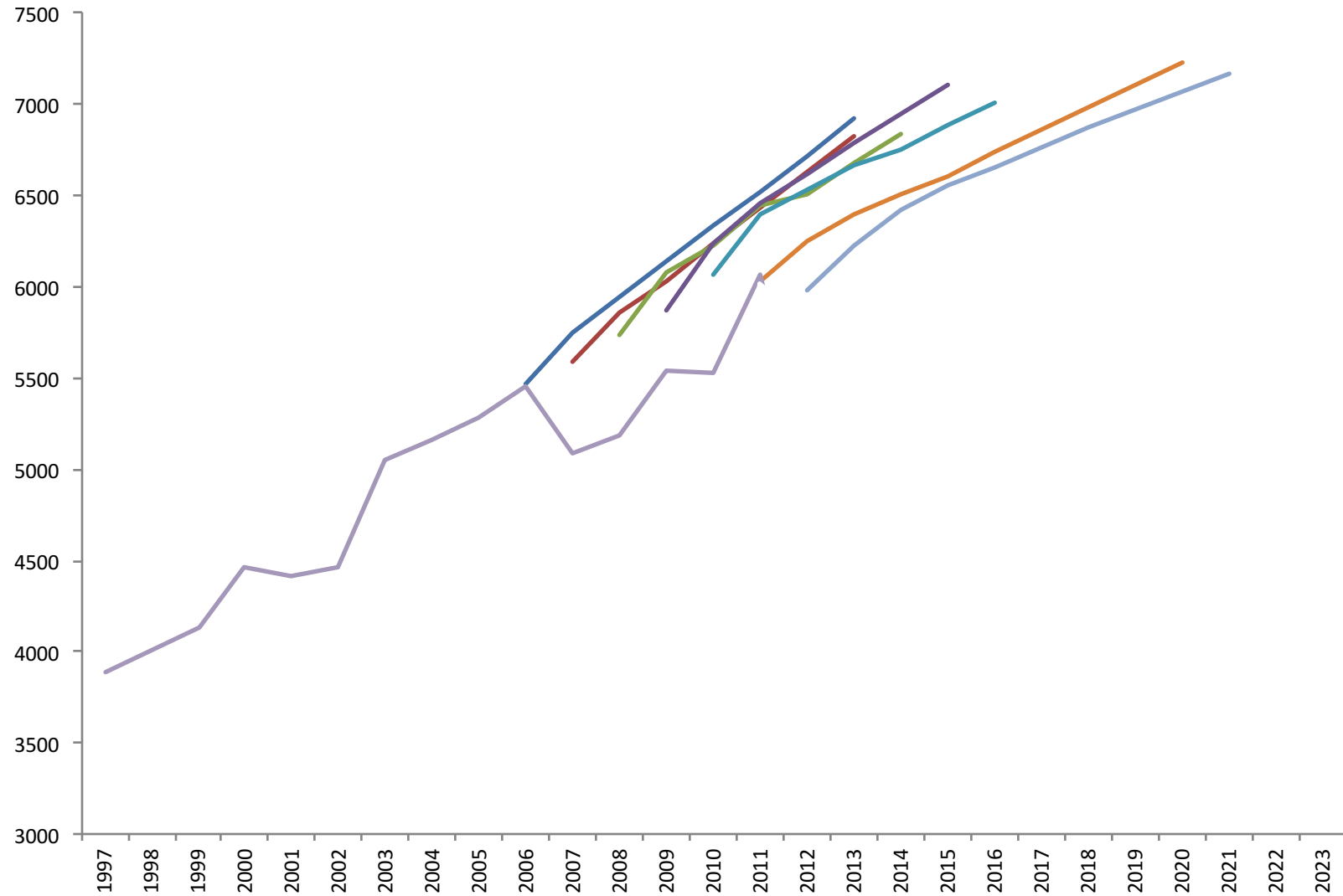
Hold your line!



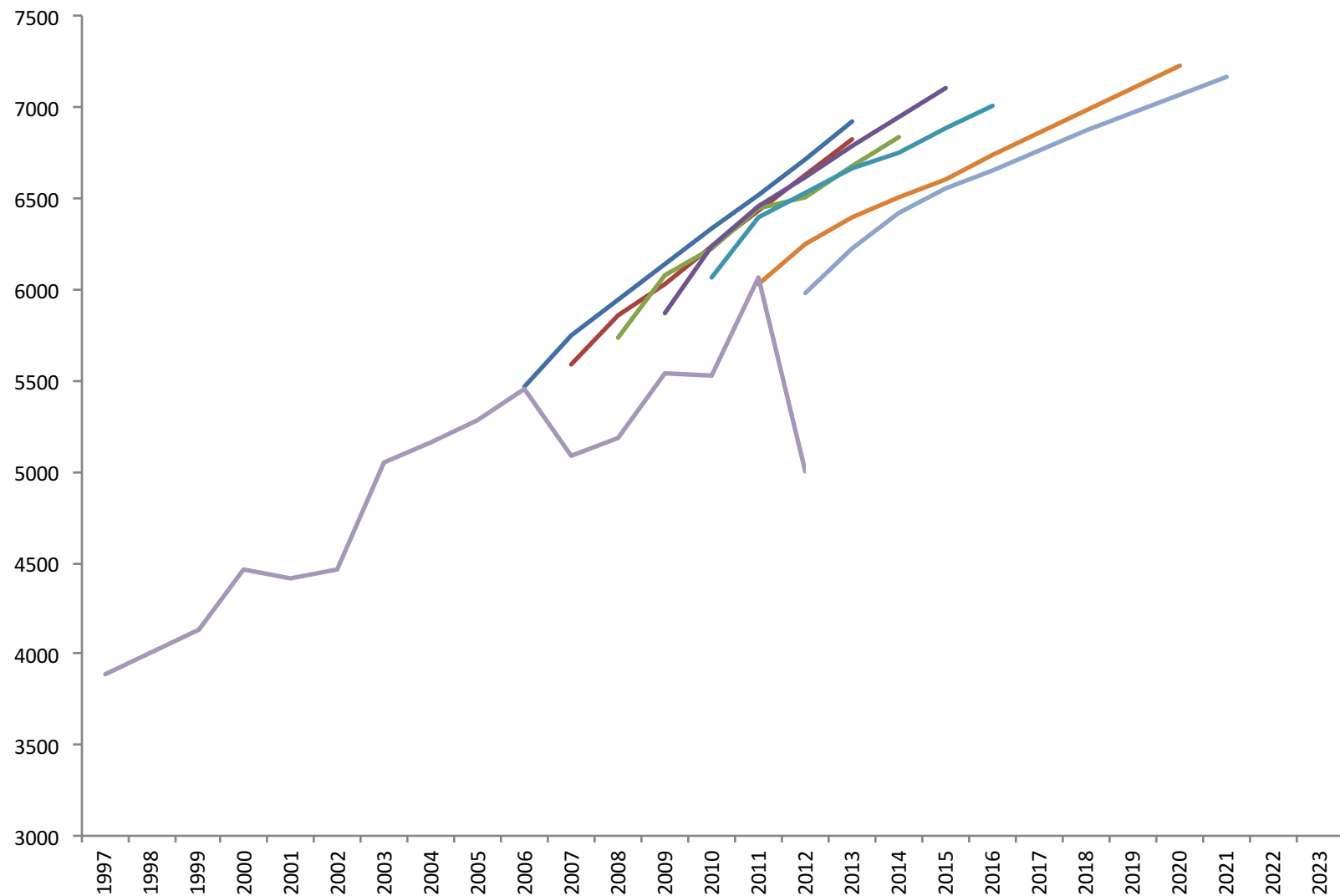
2011 peak reappears!



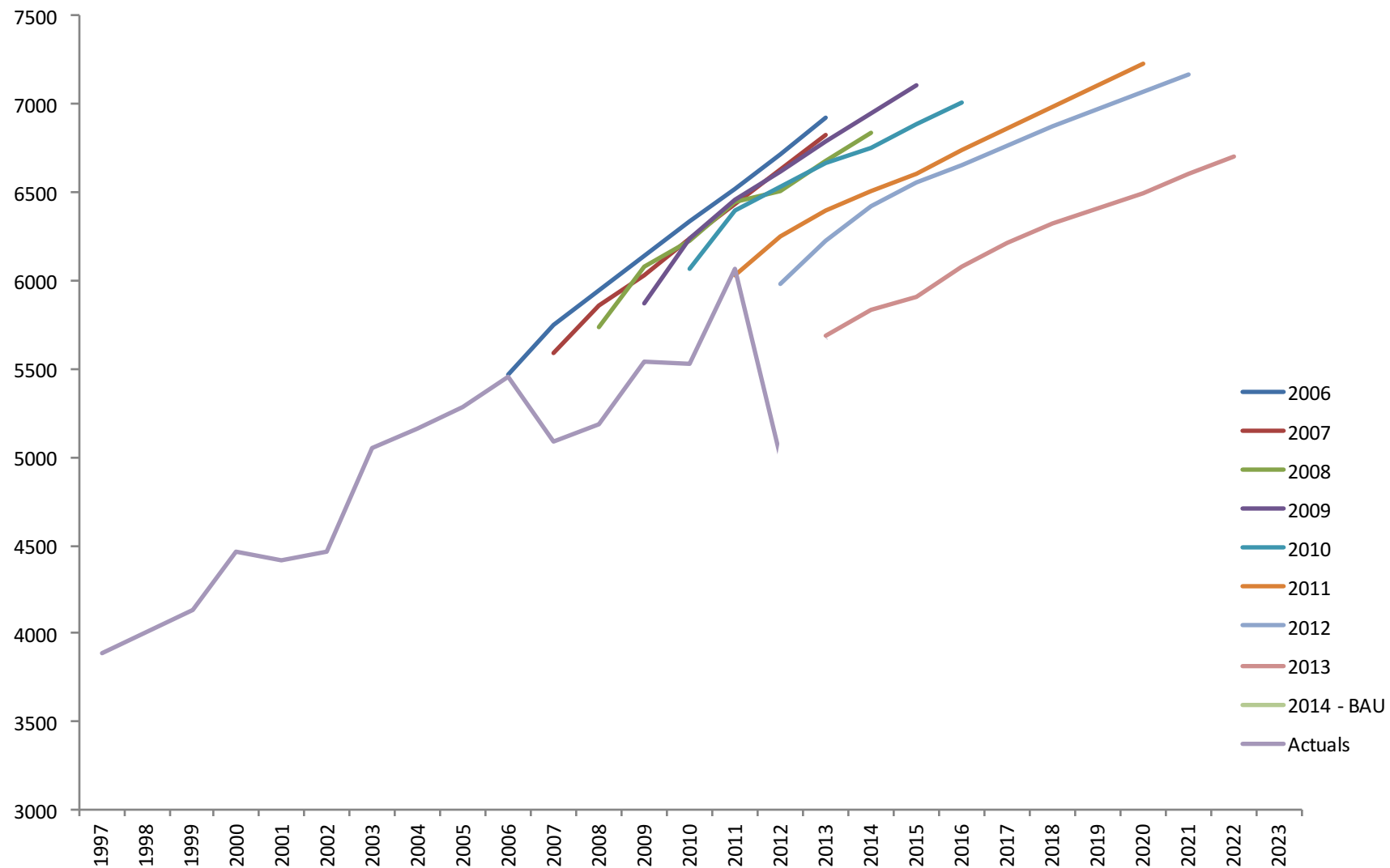
2012 - normal forecasting resumes



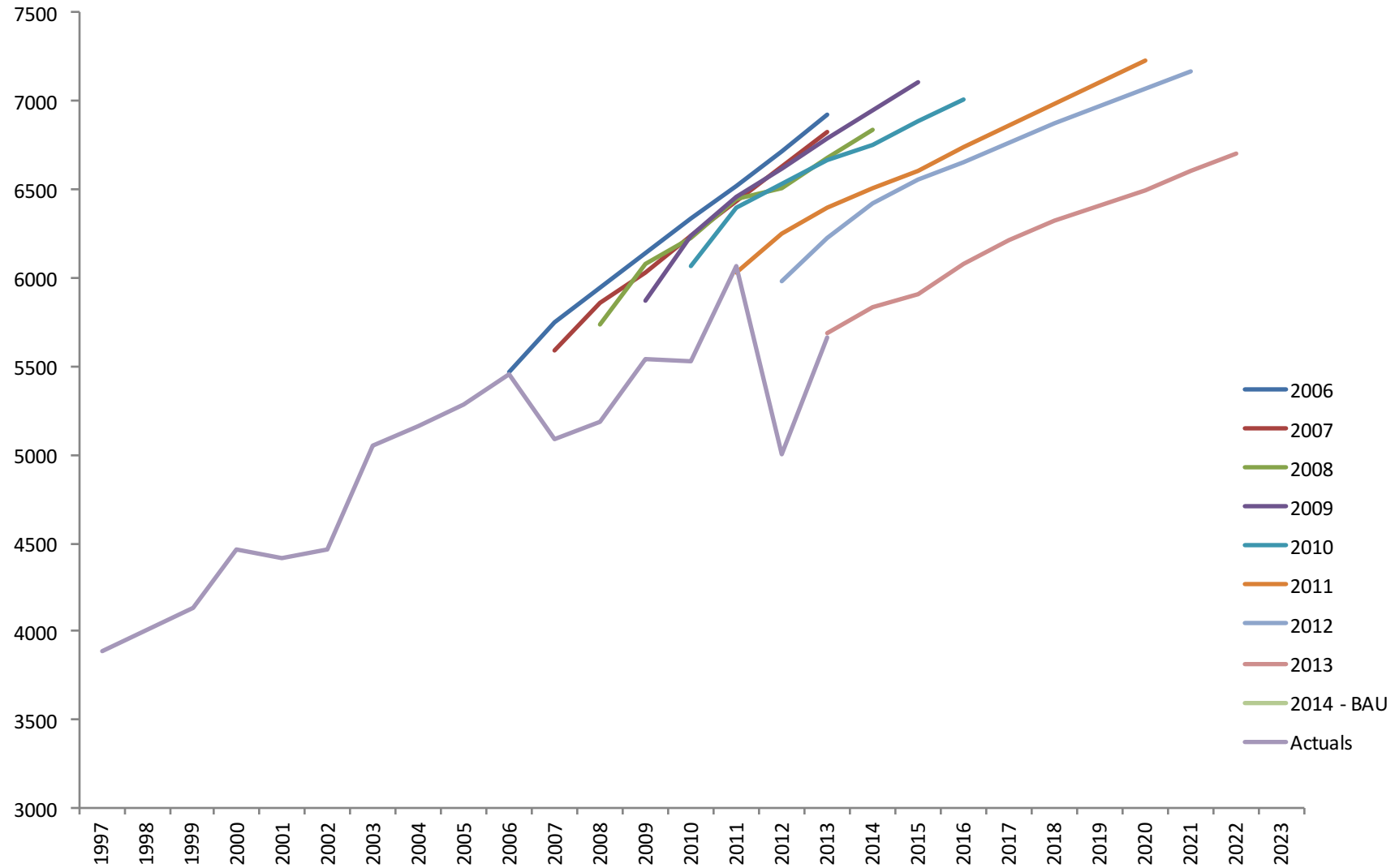
2012 - humongous hiccup



Forecasting ain't easy

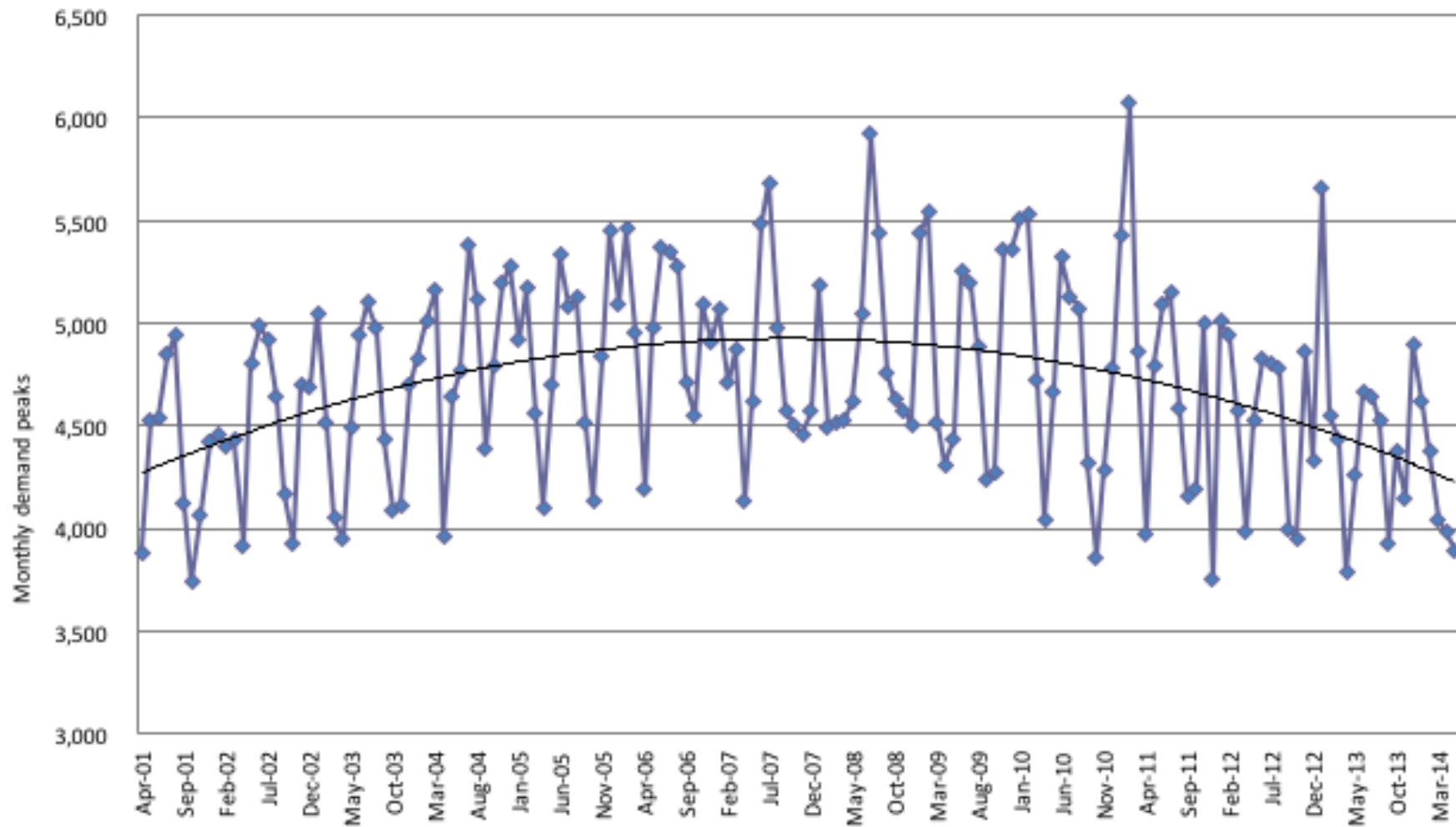


Small consolation

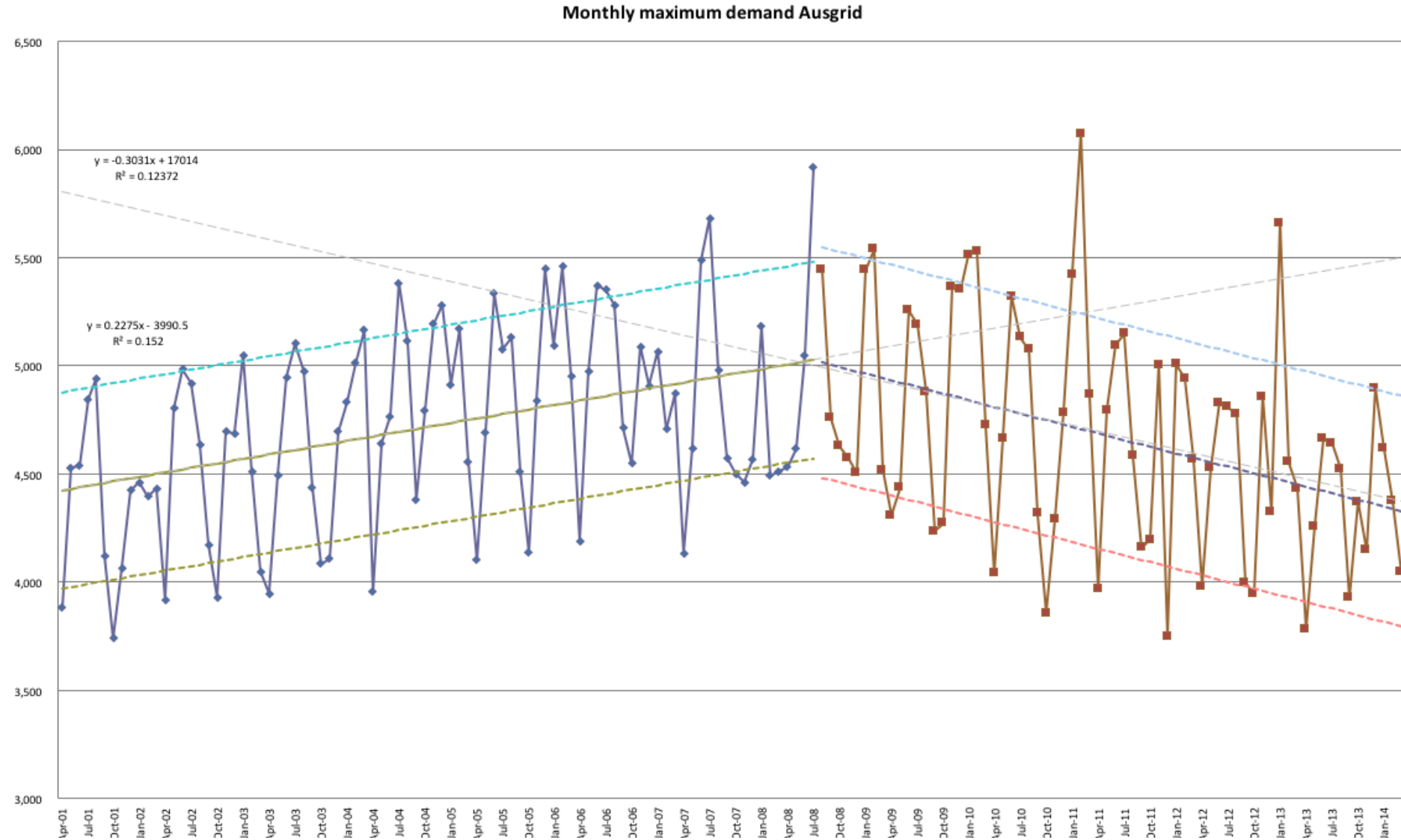


Curvaceous monthly peaks

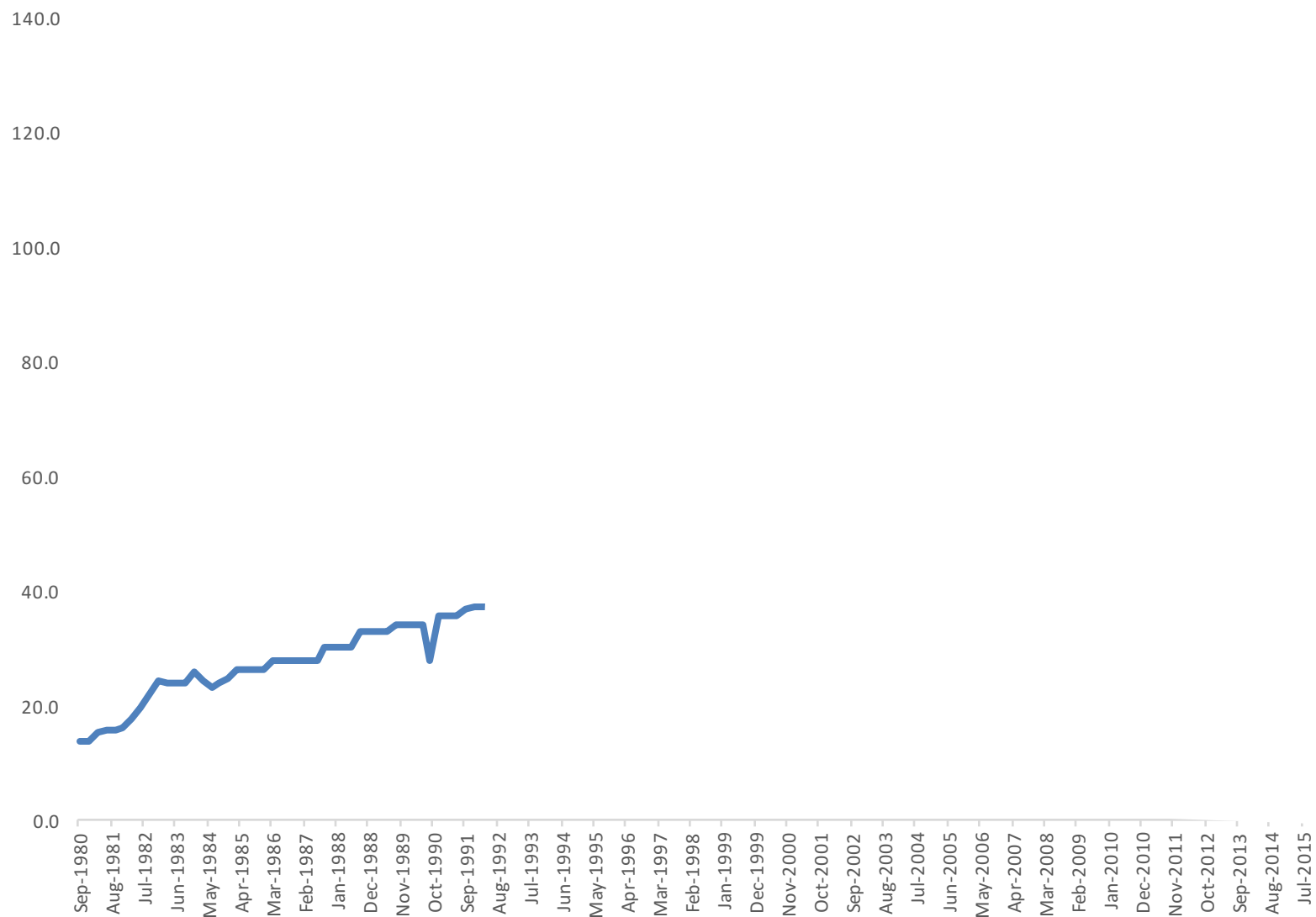
Ausgrid system monthly maximum demand & trend measures



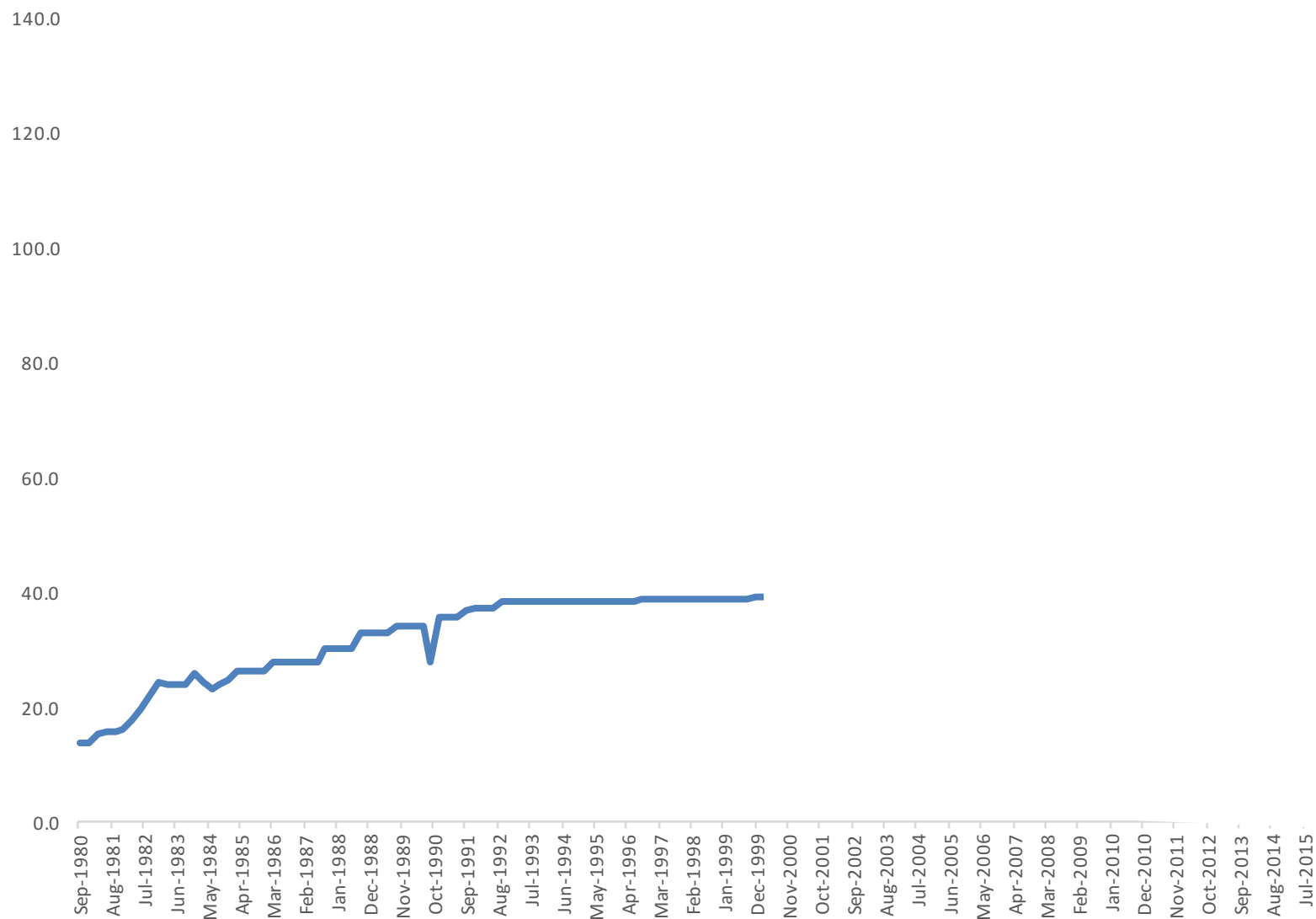
Linaceous monthly peaks



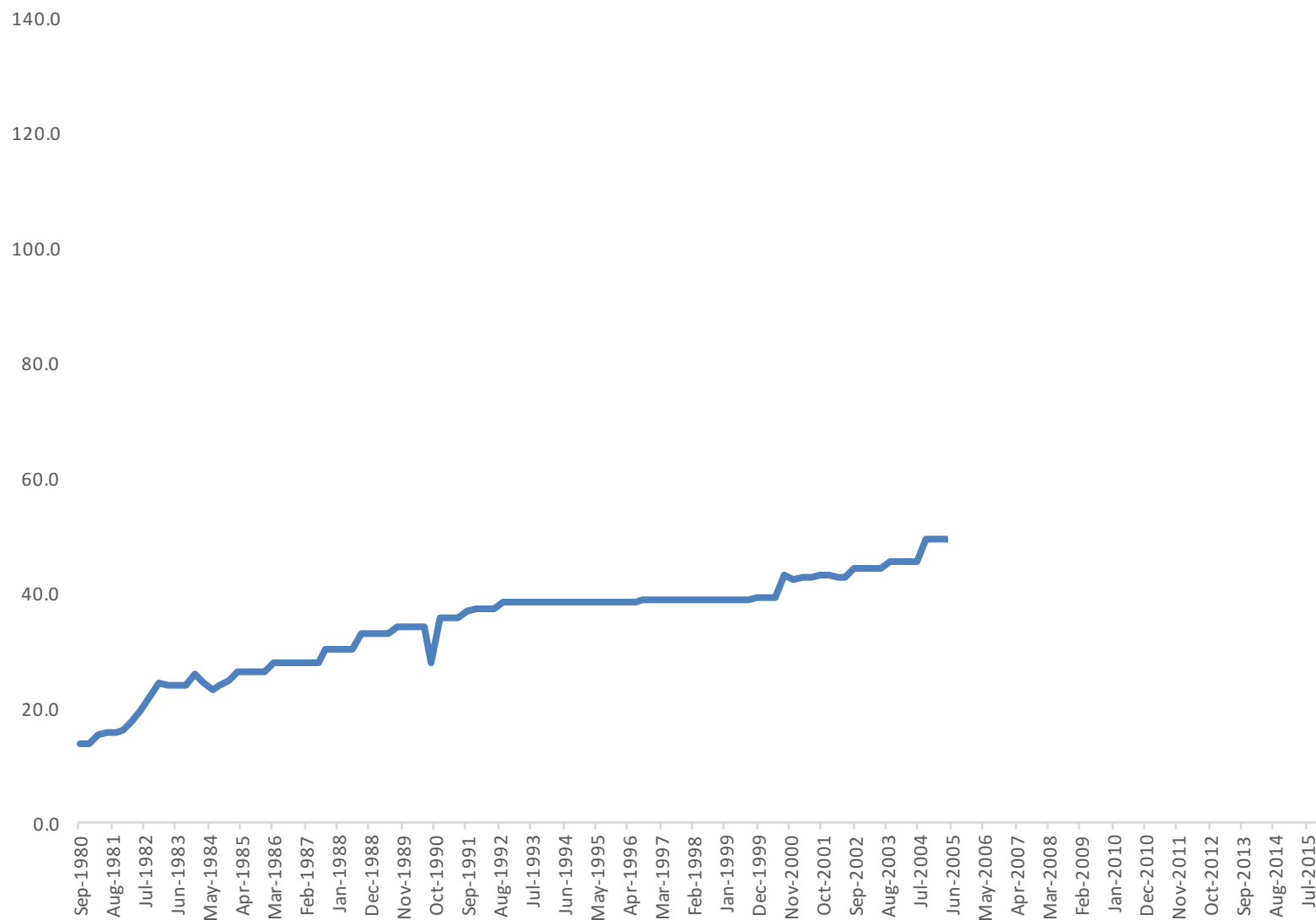
Forecasting part 2



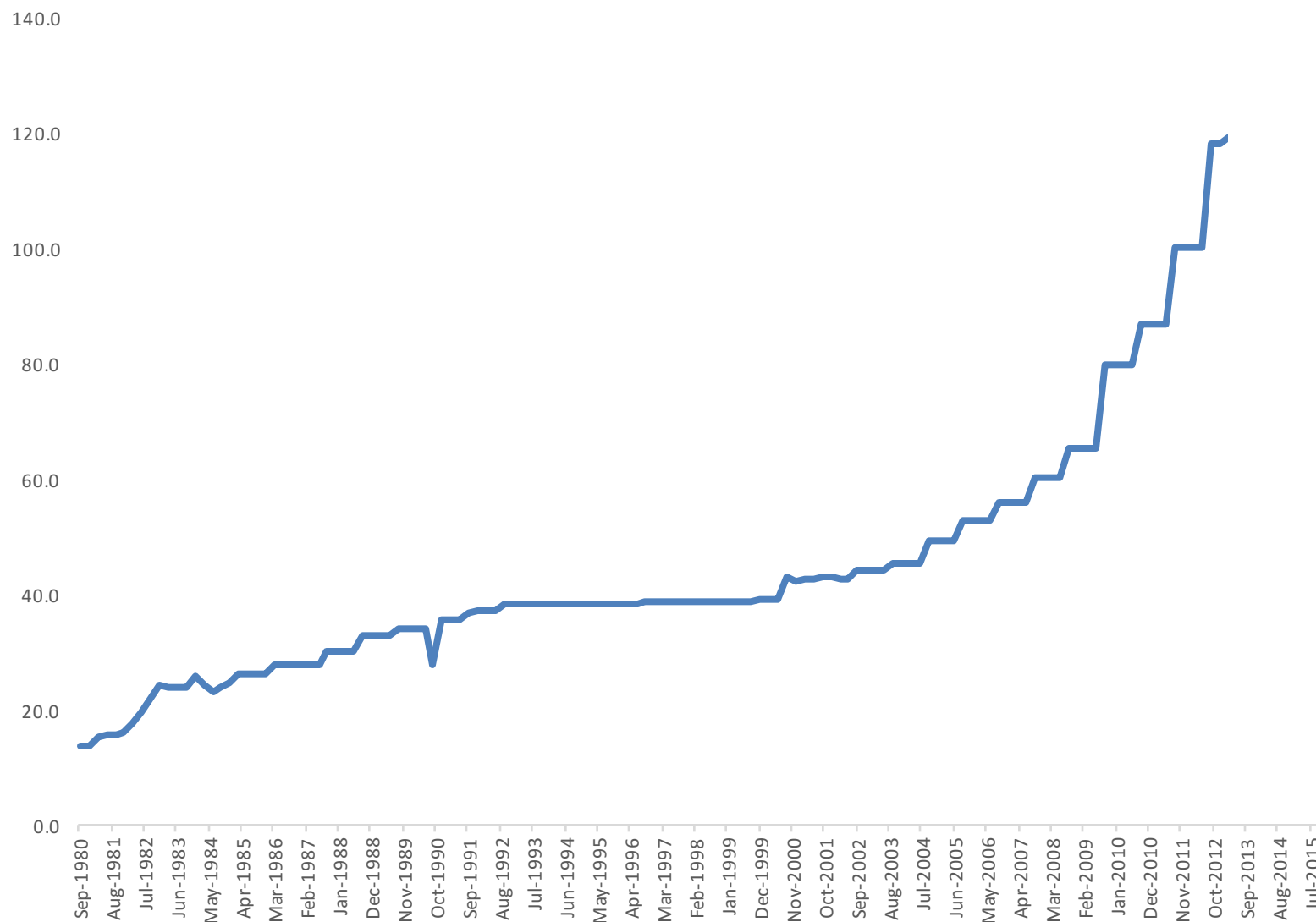
Forecasting part 2



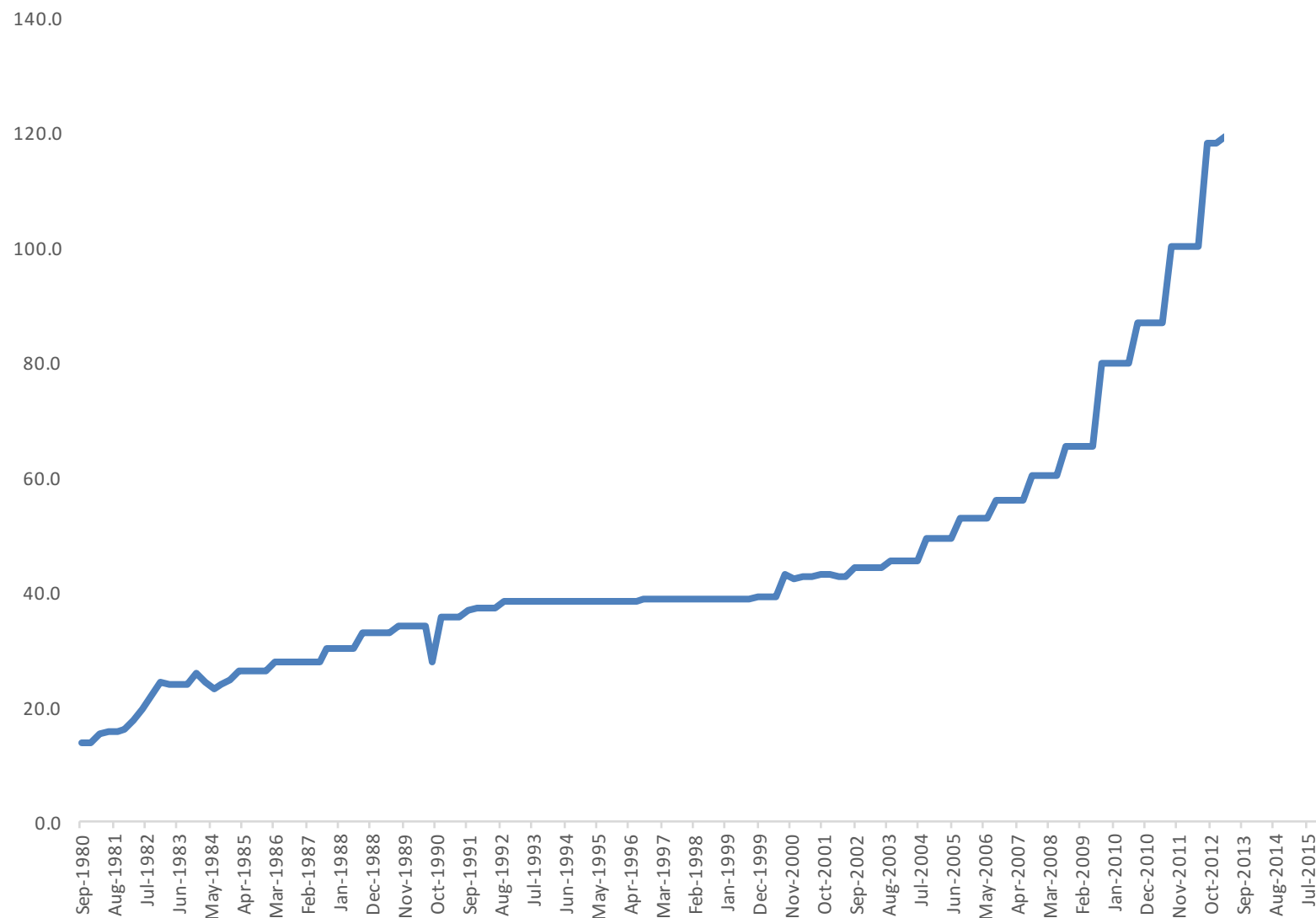
Forecasting part 2



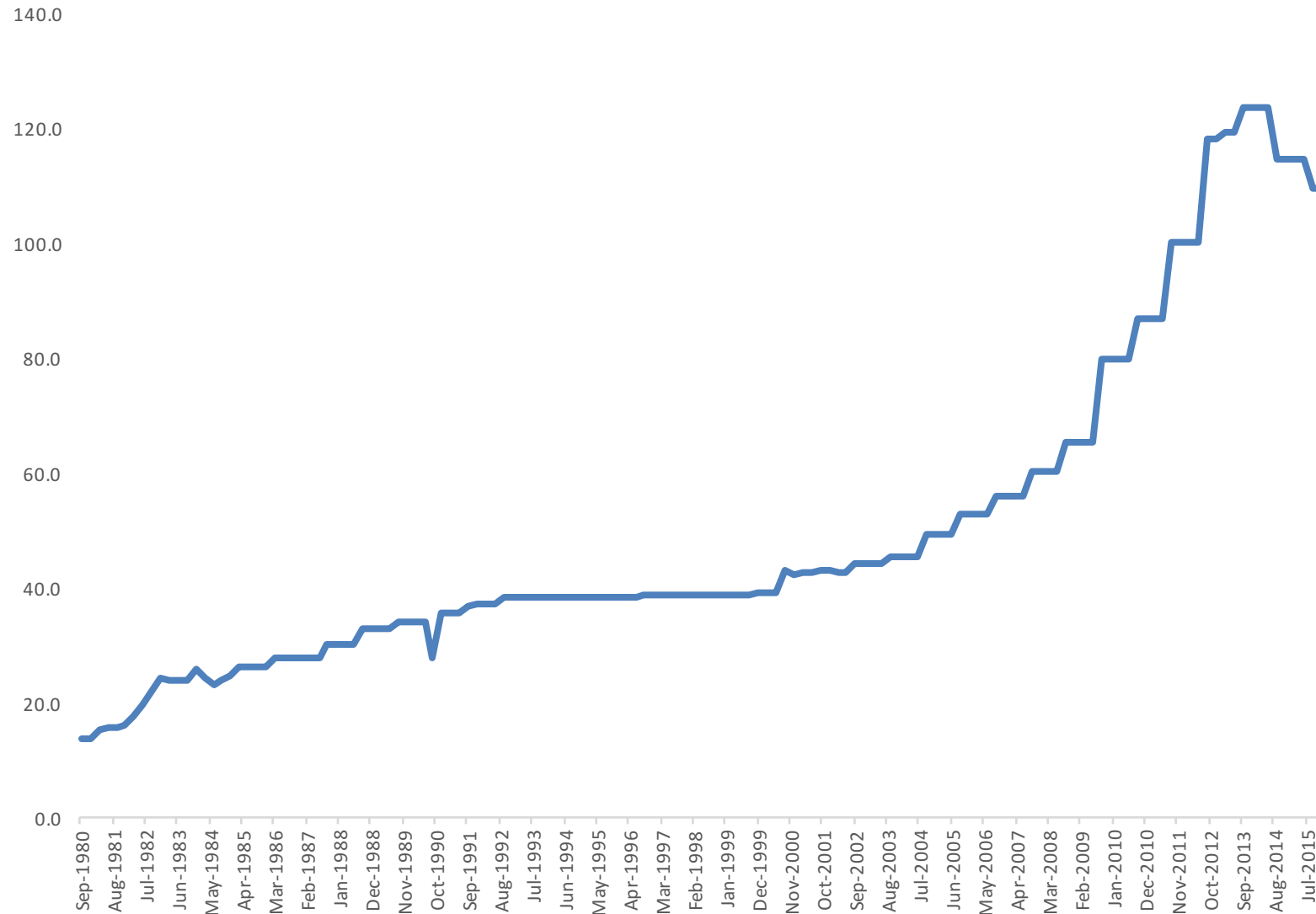
Forecasting part 2



Sydney nominal CPI – Electricity



Sydney nominal CPI – Electricity



Aged 'too scared for cup of tea'

Smart meters are gouging

IT is my understanding the new "time of use" (smart) meters now being installed in new homes, and eventually to be in all homes, are designed to encourage energy use in non-peak hours and discourage use in peak times.

This is achieved by charging much more during peak hours. The extra expense is a logical deterrent to adding to the already heavy demand at peak times.

What I think is grossly unfair is the daily service charge being about 7 per cent higher when one of these meters is compulsorily installed. Surely that is a disincentive to do the right thing?

EnergyAustralia says the price rise is to recoup higher meter-reading costs. I say the daily charge should be equal across the board. Surely EnergyAustralia should be encouraging people to take up these meters, rather than penalising us?

Annette Pryor
Corlette

Working families doing washing at 1am but still paying more

Richard Noone

IT IS not unusual for mother-of-four Kelly Behrend to be up at 1am doing washing to save money on electricity. But despite switching off lights and using appliances only at off-peak times, her quarterly bill increased more than \$50 in the past two years. "I'm always turning appliances off when we're not using them, I even pull out the plugs because I've heard they draw 'phantom power', even though they're not on," she said. Mrs Behrend and her choice of electricity provider when they

built rented house at Wadalba on the state's Central Coast. The property was fitted with smart meter from EnergyAustralia. "I only use the things of power — the washer, drier, the vacuum," said, "I have."

Pleading for a break from electricity bills

"I'm up until 1am," she said. "My quarterly bill used to be \$310, now it's \$360. I'm better off if I paid more in the morning, trying to get the kids to go to school. I felt trapped and her 'so-

move in you just want power switched on," she said. "I've got the time to analyse which company has the best plan?"



Power
struggle

dailytelegraph.com.au

exclusive

Time's up for meters

Brace for electric shock

By Sally Wainwright

THE cost of living is set to increase further with electricity prices to rise by up to 10 per cent.

While residents serviced by Energy Australia will face a 17.9 per cent rise, meaning electricity bills will rise by an average of \$200 a year.

The Independent Pricing and Regulatory Tribunal released a report that found that NSW electricity prices would rise about 6 per cent.

Prices previously approved by the tribunal chairman Iain Ramsay said that the federal government's renewable energy target would be difficult for many families to deal with.

"We are particularly concerned that these price increases will affect households with large consumption levels and low incomes," he said.

"Unaffordable federal and state policy settings may be contributing to necessary for electricity."

"Changes in policy settings could improve the future affordability of electricity by leading to more efficient costs of power supply," he said.

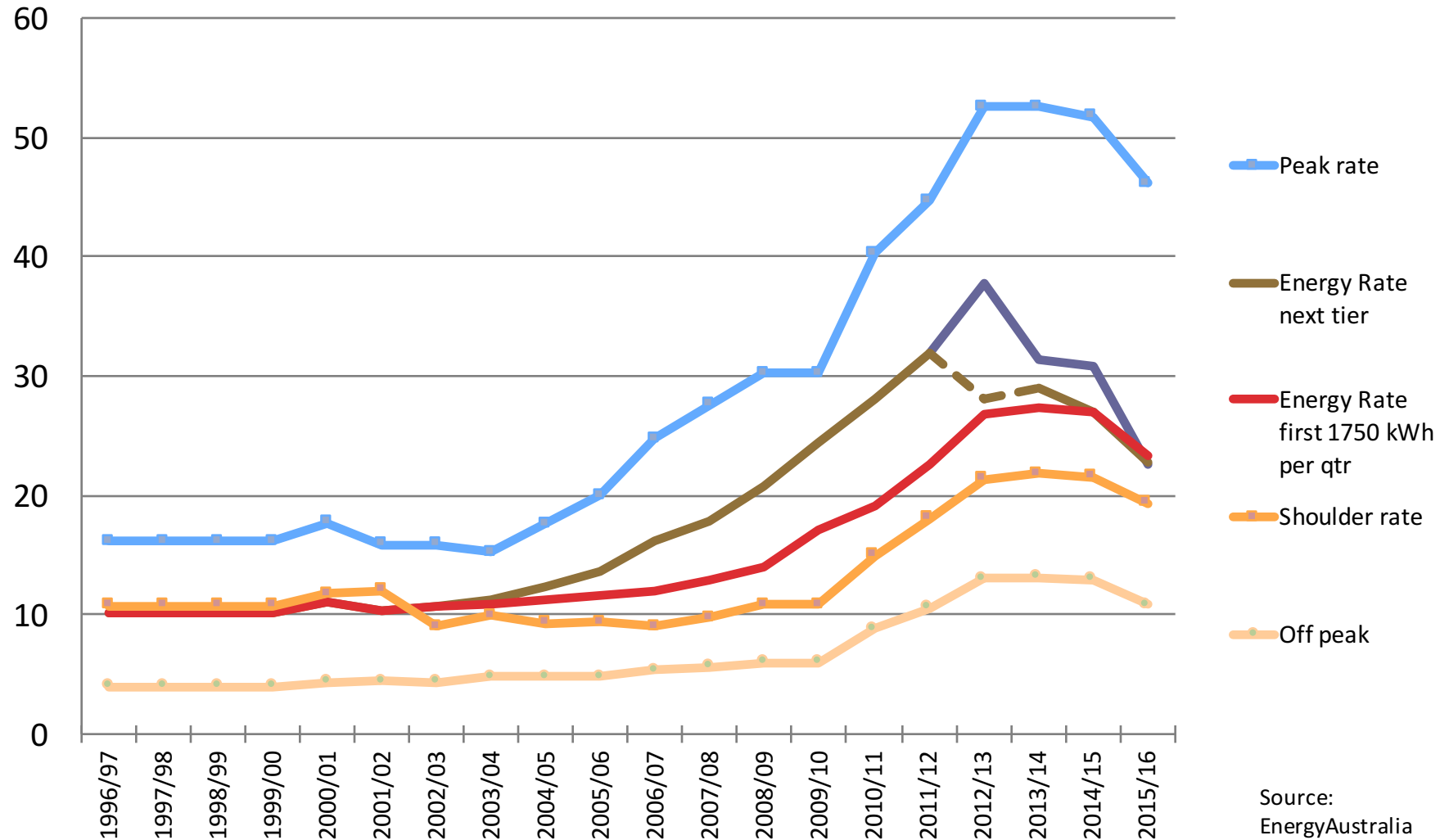
Castle Hill MP Dominic Perrottet said the NSW government would try to minimise the pain of rising electricity prices.

He said Premier Barry O'Farrell's plan to assist households included the introduction of a \$200 Low Income Household Rebate funded

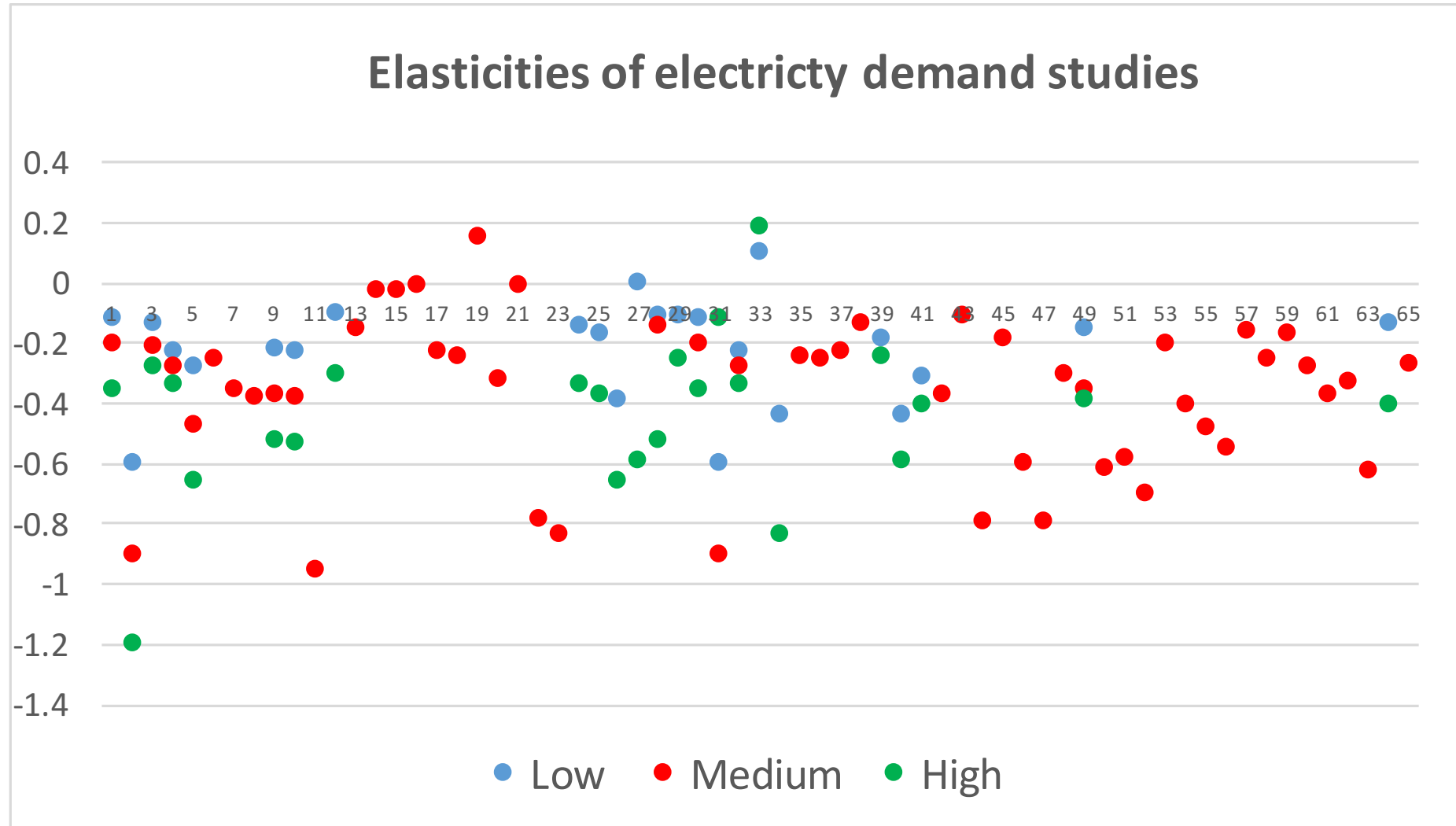
by merging three electricity distributors into two. Mr O'Farrell has also announced an immediate review of the electricity network licence conditions and will seek to halt over-spending from the federal government to offset the price rises caused by the renewable energy target. "Families in the Hills have had enough of soaring power prices and it's time something is done," Mr Perrottet said. He said he was disappointed the NSW Labor Party held back the tribunal's report until after the March state election, which was a "blatant attempt to hide these price rises from consumers".

Which price? 2 or 3 or 5 fold?

EnergyAustralia regulated residential kWh prices 1996-2014 & 2014-16

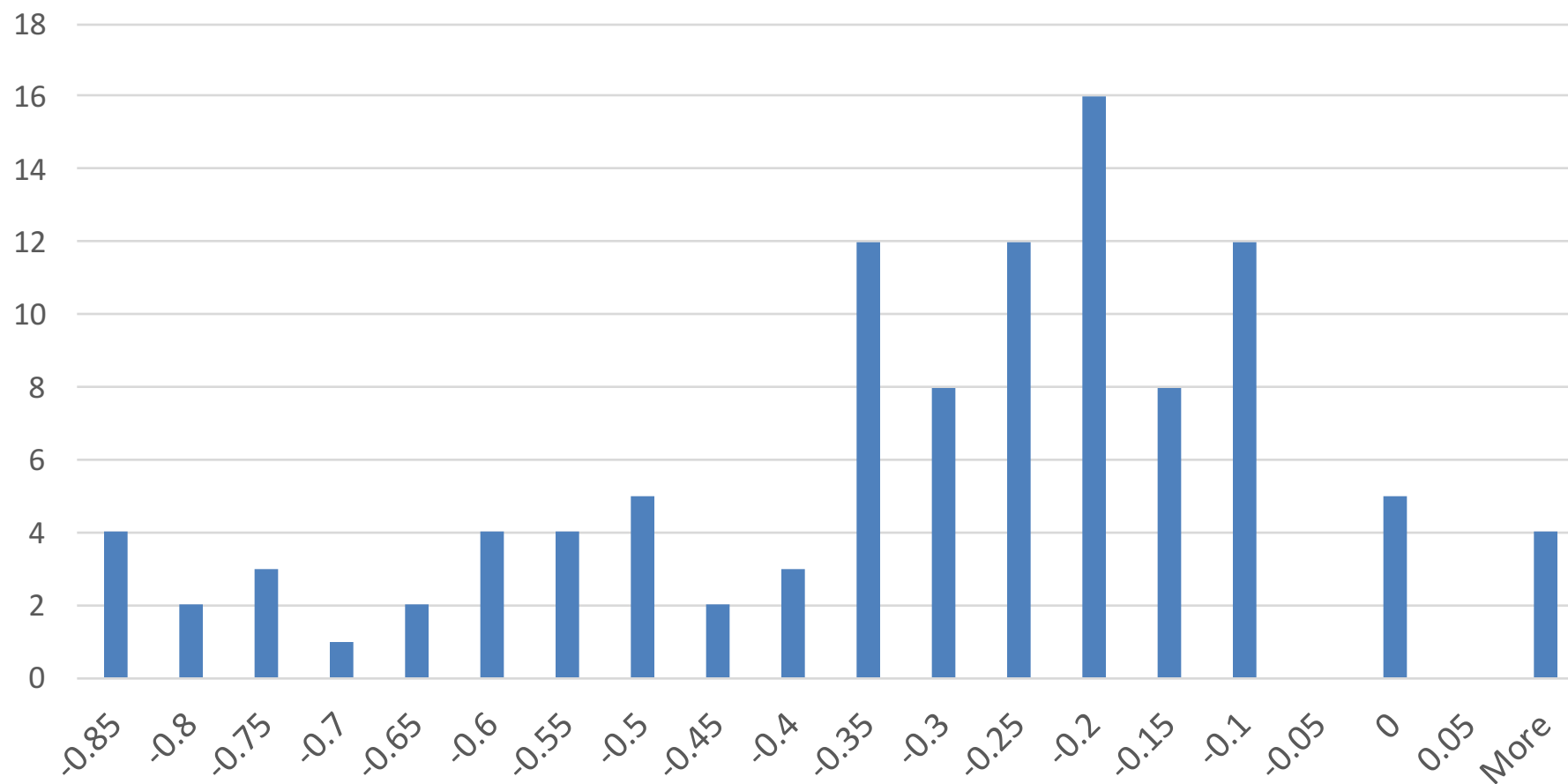


Price elasticity fairy bread

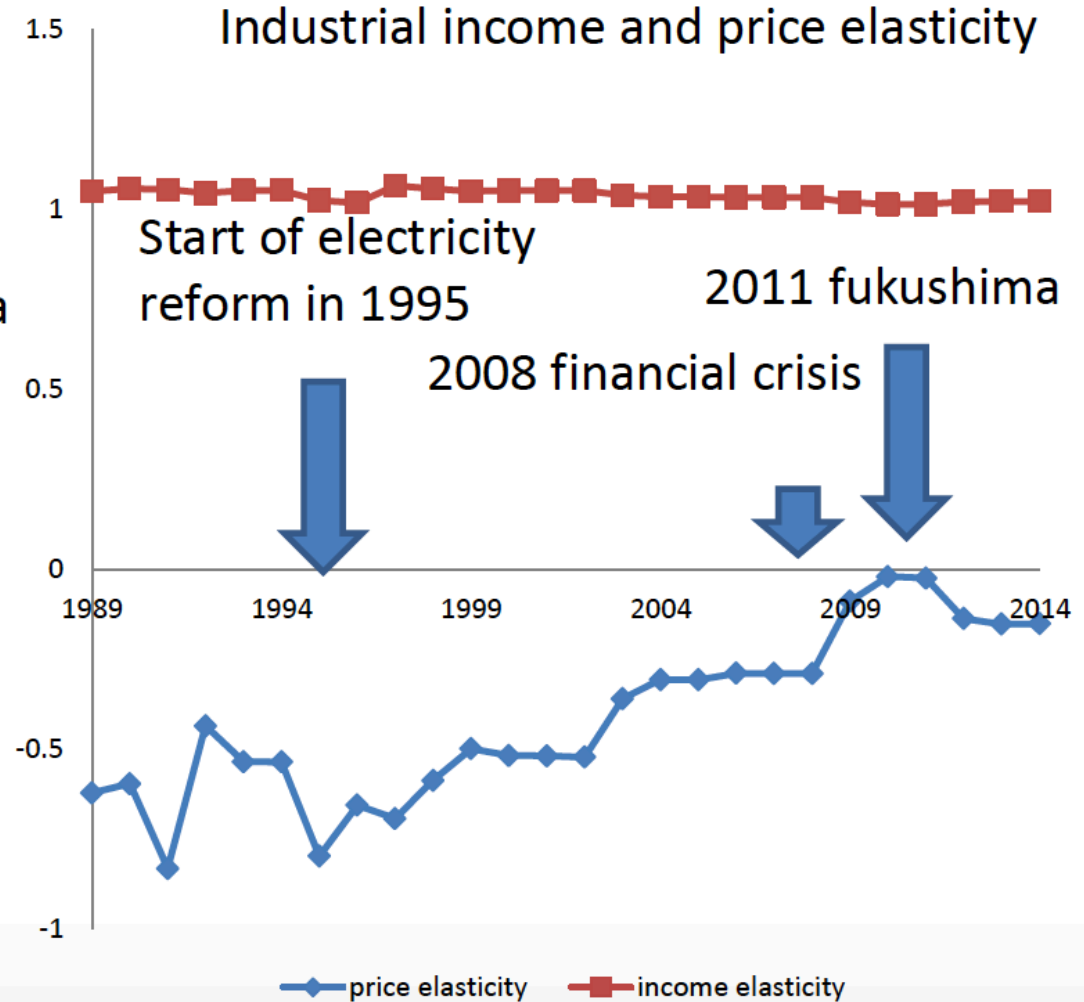
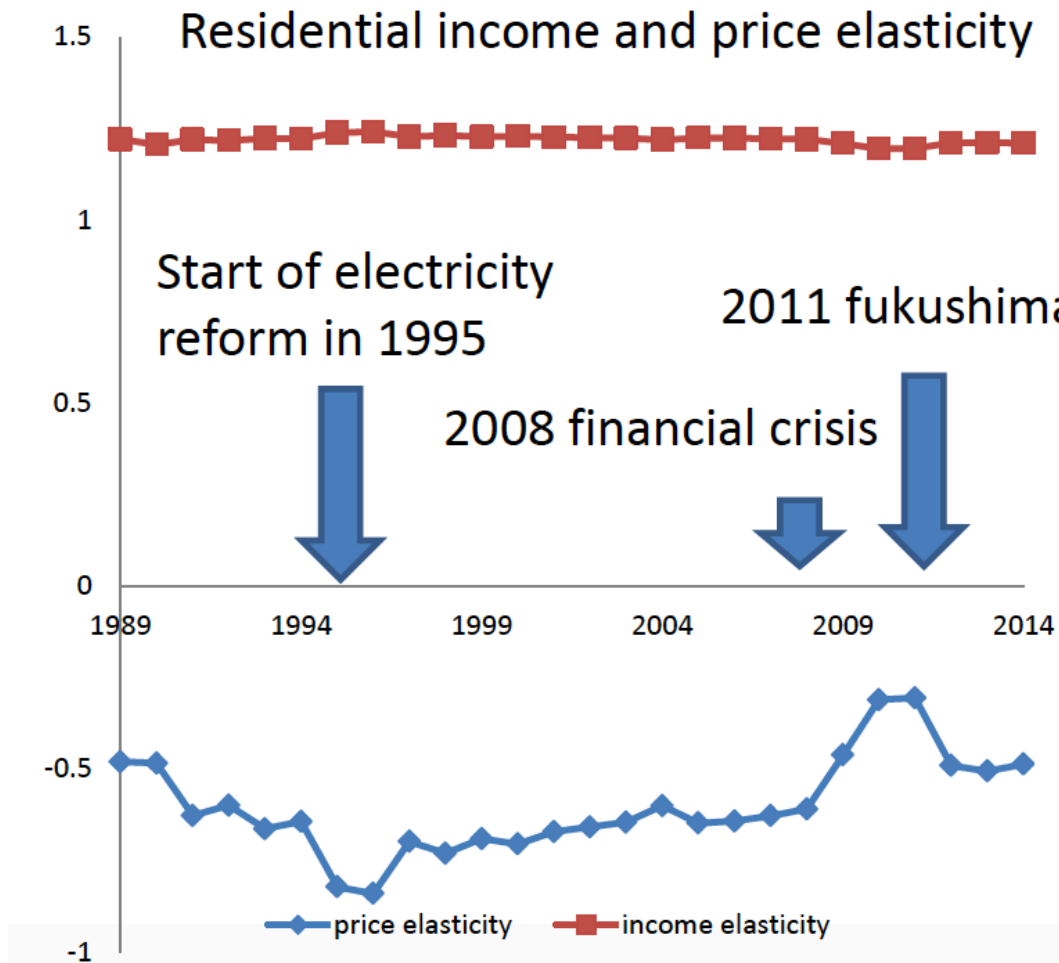


Price elasticity bars

Sample of electricity price elasticities



Japanese elasticities



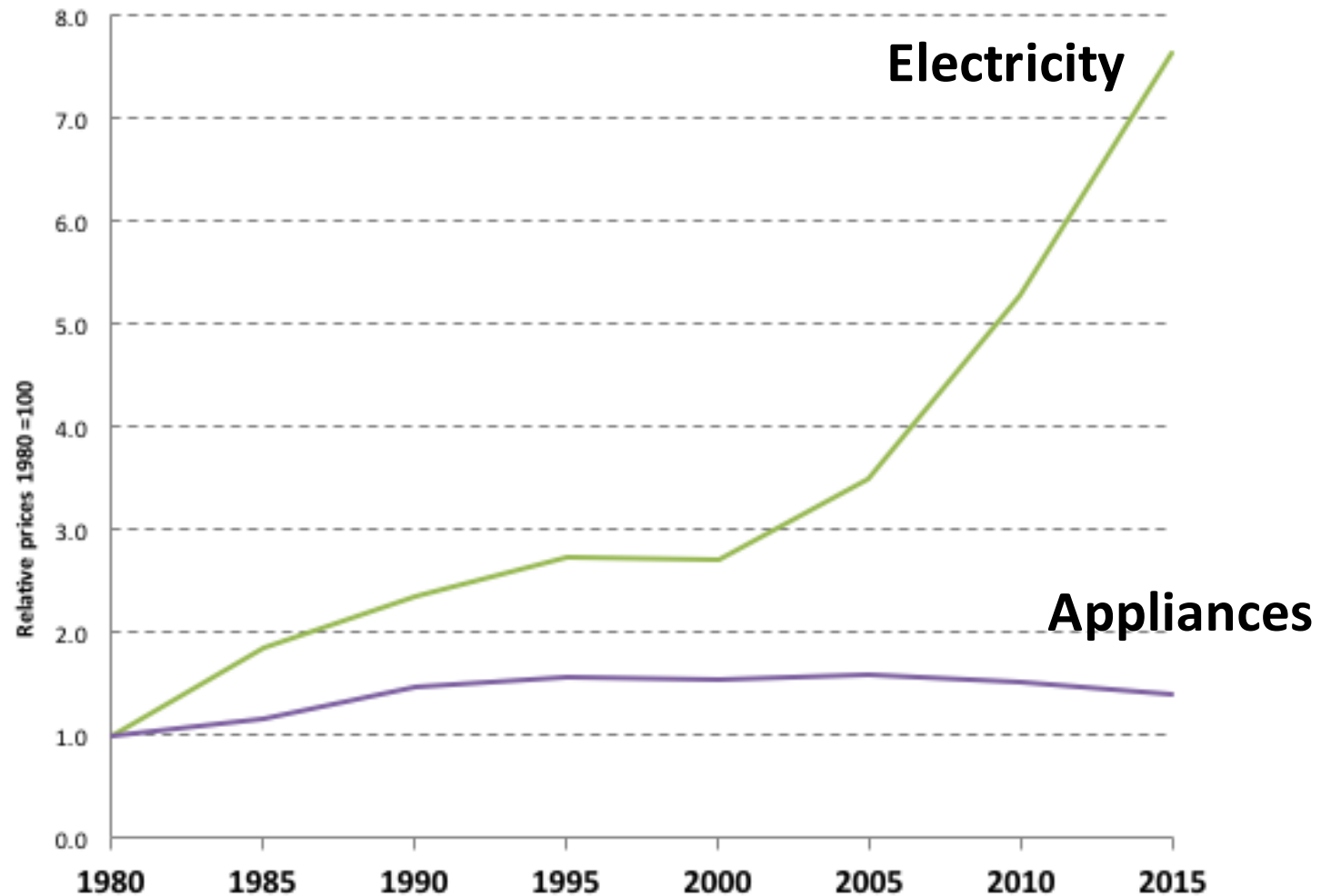
AN EMPIRICAL STUDY OF THE INDUSTRIAL AND RESIDENTIAL ELECTRICITY DEMAND DYNAMICS IN JAPAN: A TIME VARYING PARAMETER APPROACH

Nan Wang¹, Junichi Ogasawara², Mogi Gento¹ ¹Department of Technology Management for Innovation, U of Tokyo ²The Institute of Energy Economics, Japan

The 5th IAEE Asian Conference 2016, Perth, Australia ; 15th, Feb, 2016

Cross-elasticity & lifetime cost

Price of electricity & household appliances 1980 - 2015

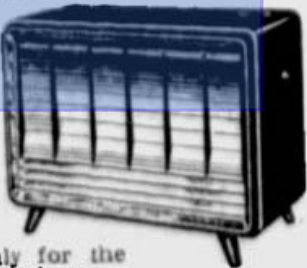


2000W then



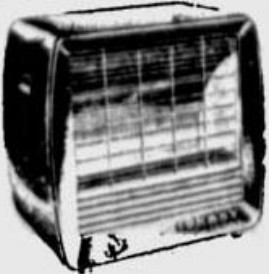
VULCAN-CONRAY
"Superheat"

Most effective heater made, yet costs no more to operate. Exclusive "spread heat" principle warms entire room. Can be switched to personal or wide beam — pay only for the warmth you need. Five colors — Mist Grey, Golden Bronze, Pacific Blue, Turquoise, Charcoal. £19/10/-.



VULCAN-CONRAY
"Standard"

Australia's most popular model. "Spread heat" principle warms the coldest room quickly, economically. Available in same colors as "Superheat." £16/5/-.



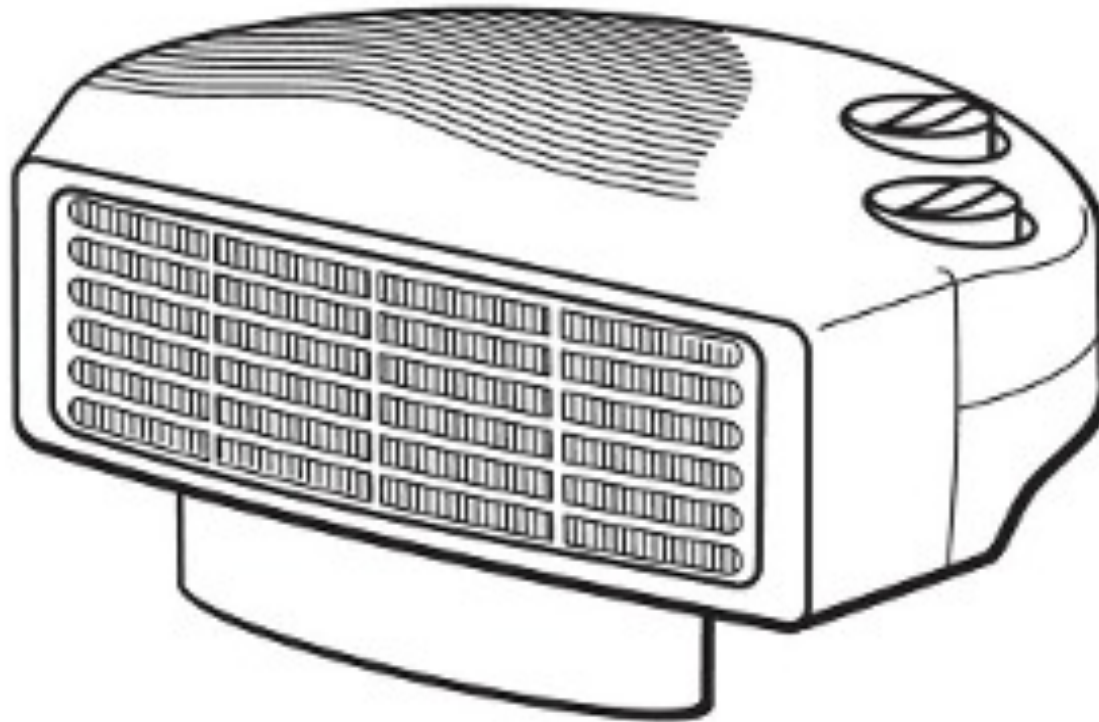
VULCAN-CONRAY
"Flame Shell"

Twin chrome reflectors and twin beam radiation give maximum warmth — no heat loss to ceiling as with ordinary radiators. Available in Bone or Ocean Blue. 1000 W. — £3/15/-; 2000 W. — £5/17/6.



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Storage Box \$2.99	Stacked \$12.50	Step Ladder \$6.50	Paint \$4.99

"We won't be beaten on price"

PRICE GUARANTEE
If you happen to find a lower price in a printed ad, we'll beat it by 10%.

Electric Blanket Package \$48.70	Decorative Plant \$10.70	Electric Chainsaw \$165	Paint \$25
Power Drill \$179	Electric Quilted Outdoor Heater \$69	Electric Sander \$99	Step Ladder \$199
Electric Heater \$29.88	Electric Fan Heater \$14.90	Paint \$10	Paint \$3

BUNNINGS warehouse

LOWEST PRICES ARE JUST THE BEGINNING

A tale of two kettles



Kmart \$7.50



SMEG \$199

A tale of two cars



TATA nano

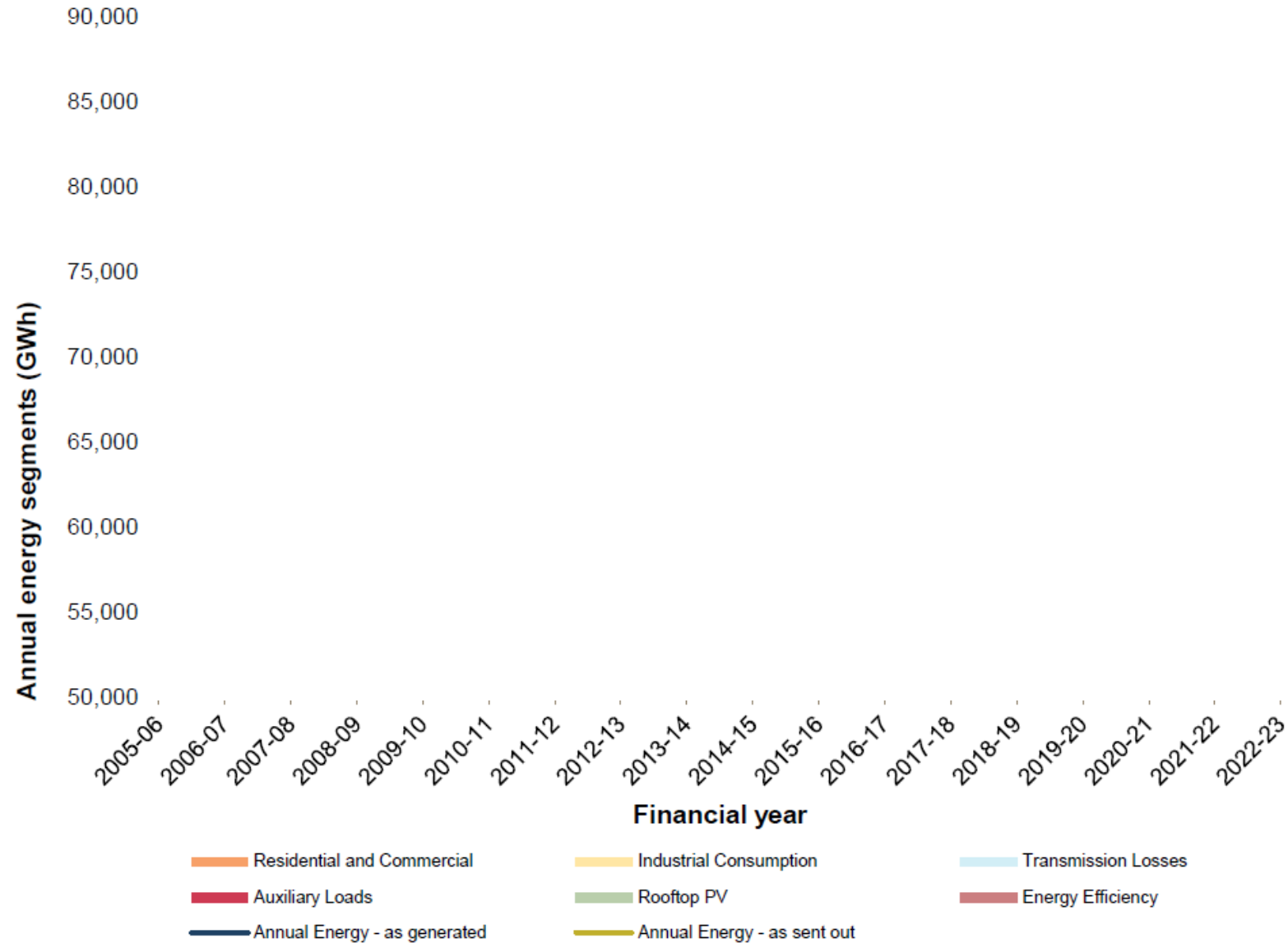


TESLA

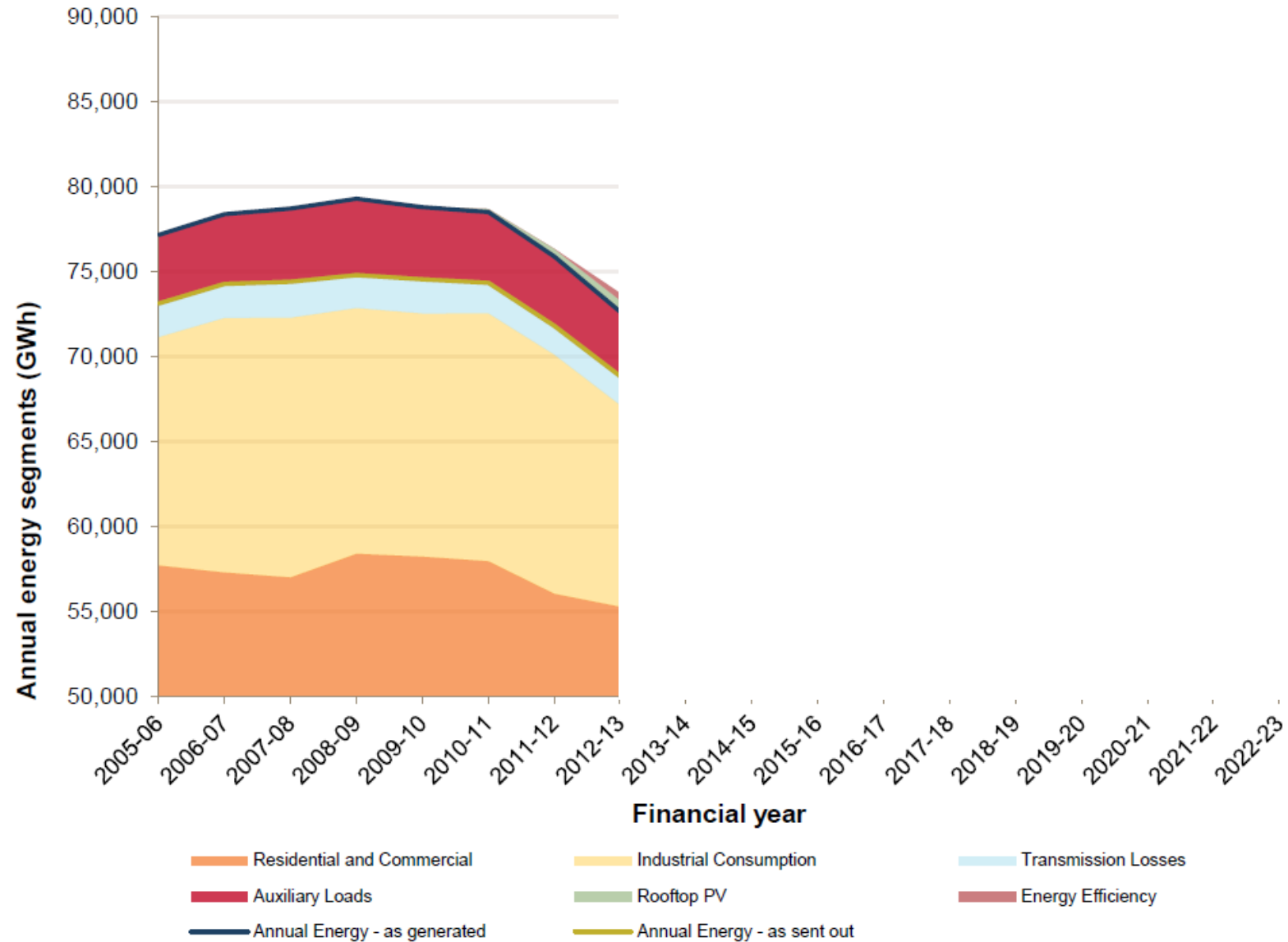
A tale of two phones



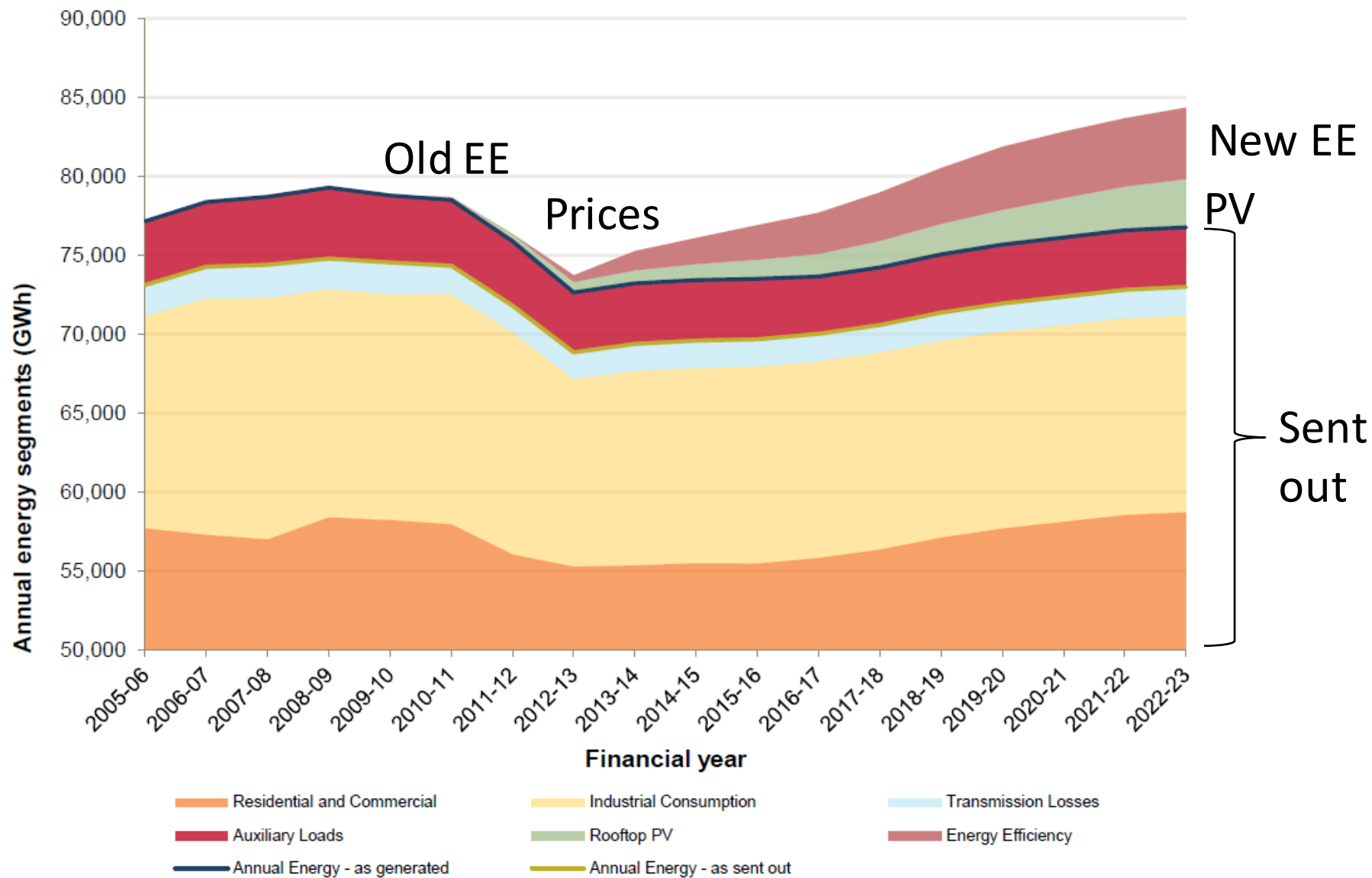
Forecasting part 3



Forecasting part 3

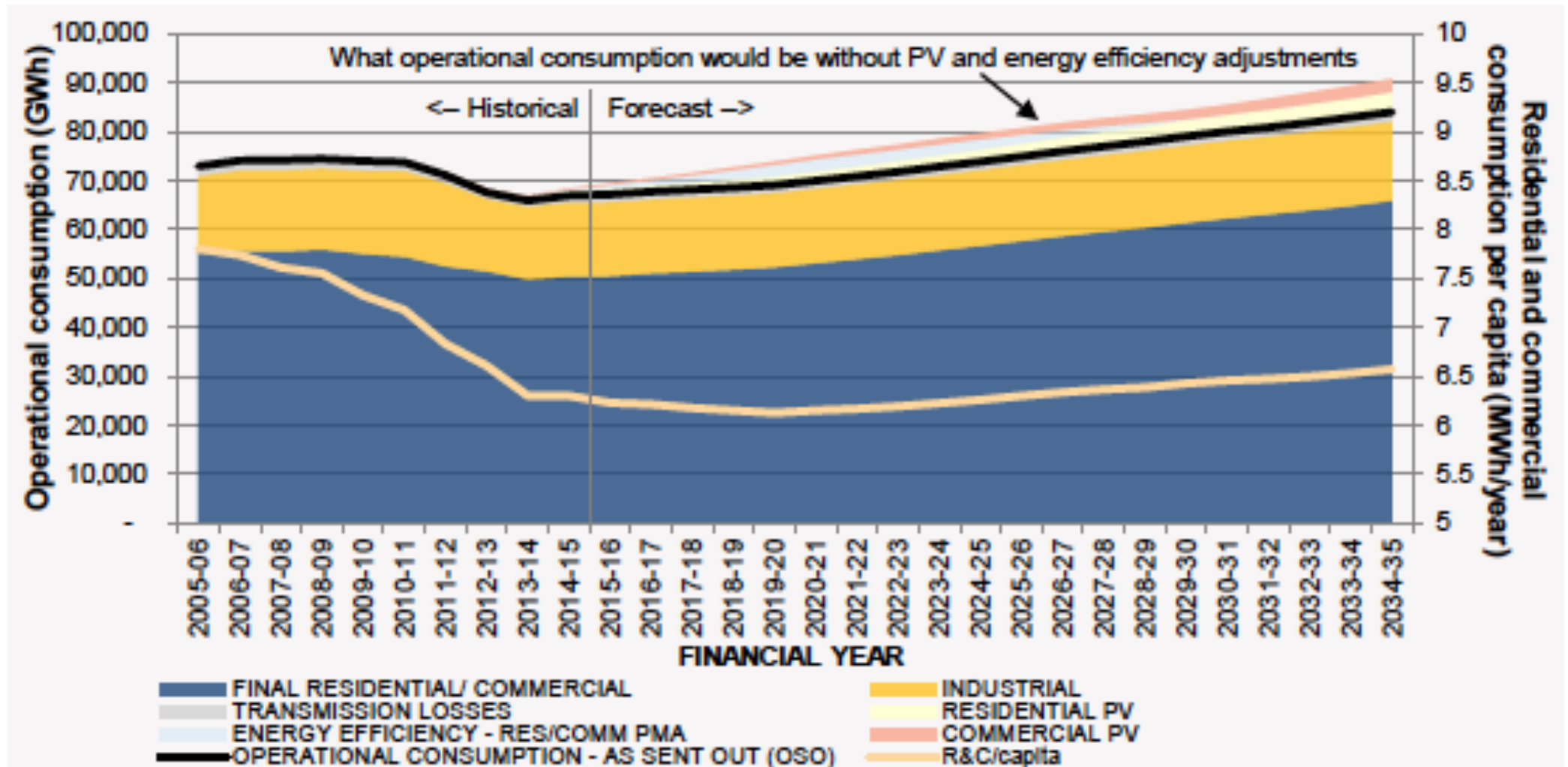


AEMO Forecast NSW 2013

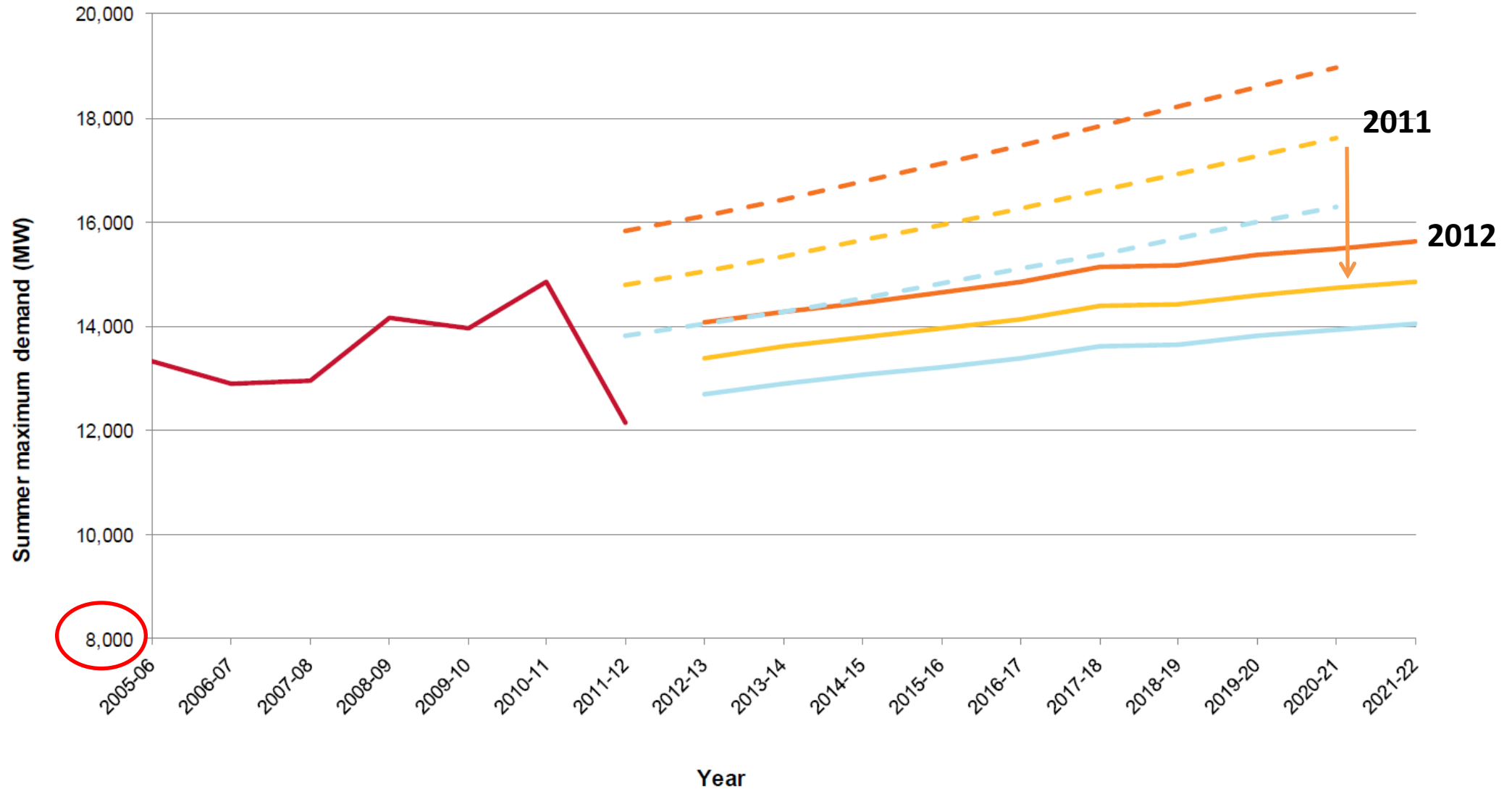


AEMO Forecast NSW 2015-35

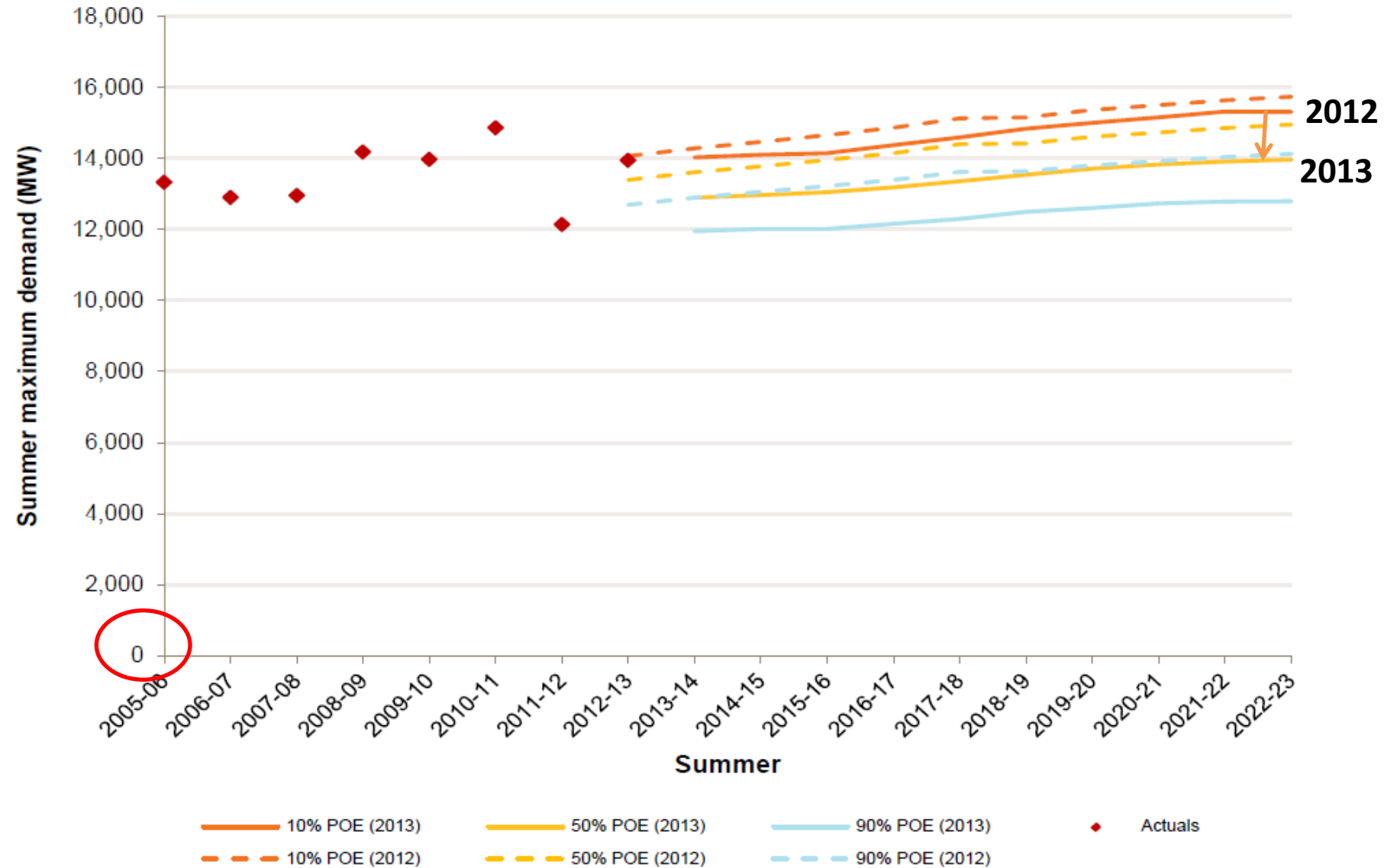
Figure 16 Operational forecasts by key component in New South Wales



AEMO NSW summer 2012

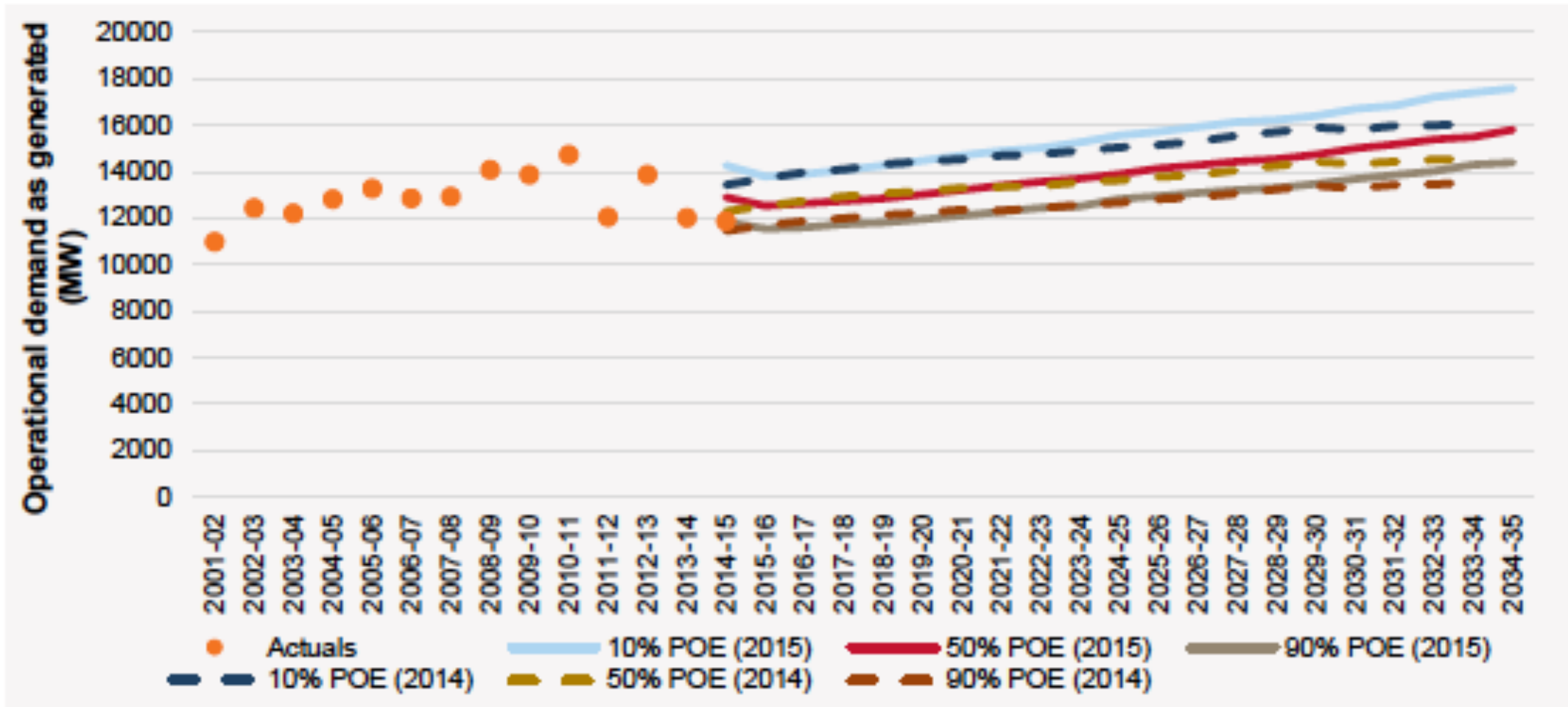


AEMO NSW summer 2013



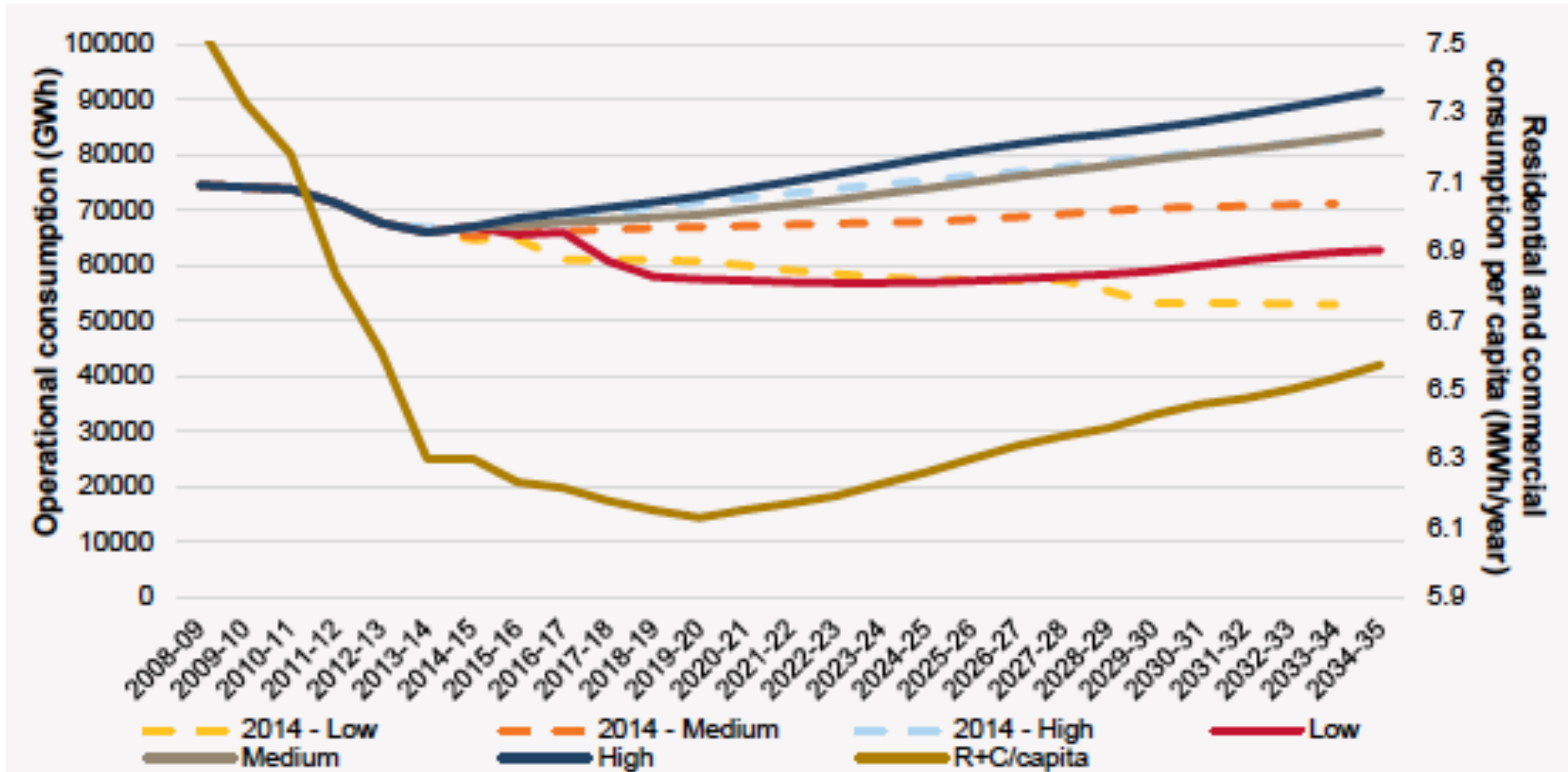
AEMO SUMMER NSW 2015

Figure 23 Summer 90%, 50% and 10% POE maximum demand forecasts for New South Wales



AEMO consumption NSW 2015-35

Figure 21 Comparison of low, medium and high operational consumption for New South Wales



Welcome To

UNCERTAINTY

Est. 2008

Forecasting's six P's



Forecasting's six P's

Prices



Forecasting's six P's

Prices



Forecasting's six P's

Prices

Population



Forecasting's six P's

Prices

~~Population~~



Forecasting's six P's

Prices

~~Population~~



Prosperity

Forecasting's six P's

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Productivity

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Preferences



Productivity

?

