

Redesigning a 20th century regulatory framework to match 21st century energy technology

Presented by
Tim Nelson

Date
August 2016



Agenda.

①

Some context

②

What's changed
and what hasn't

③

Roles and
responsibilities

④

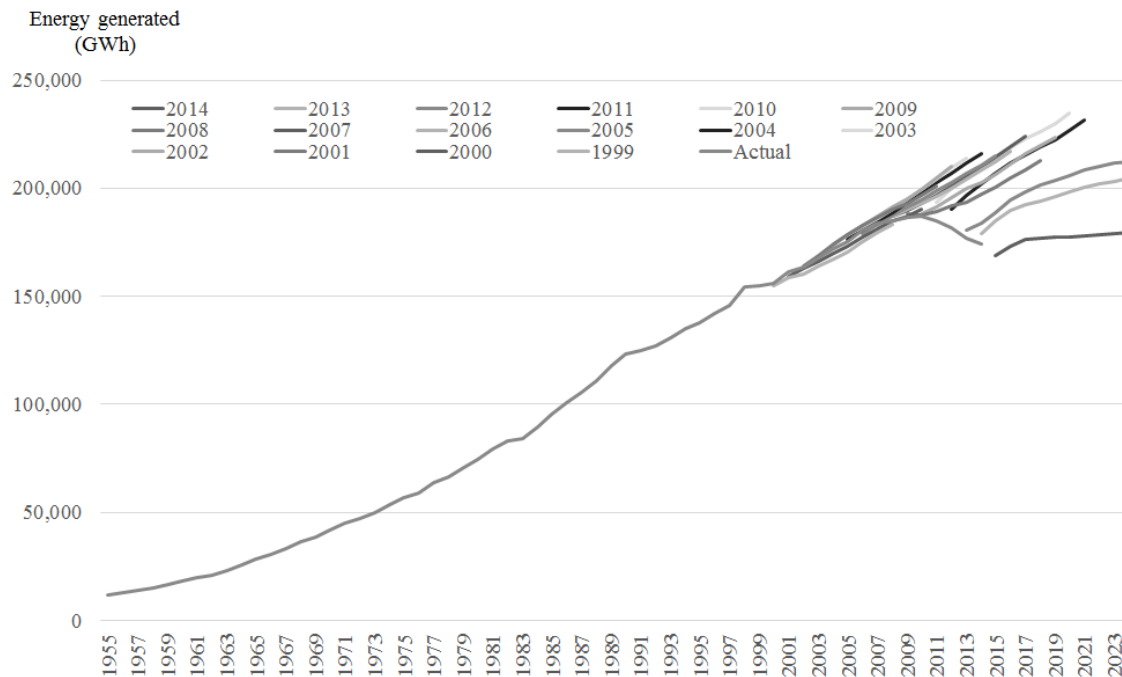
Principles to
guide reform

1

Some
context.

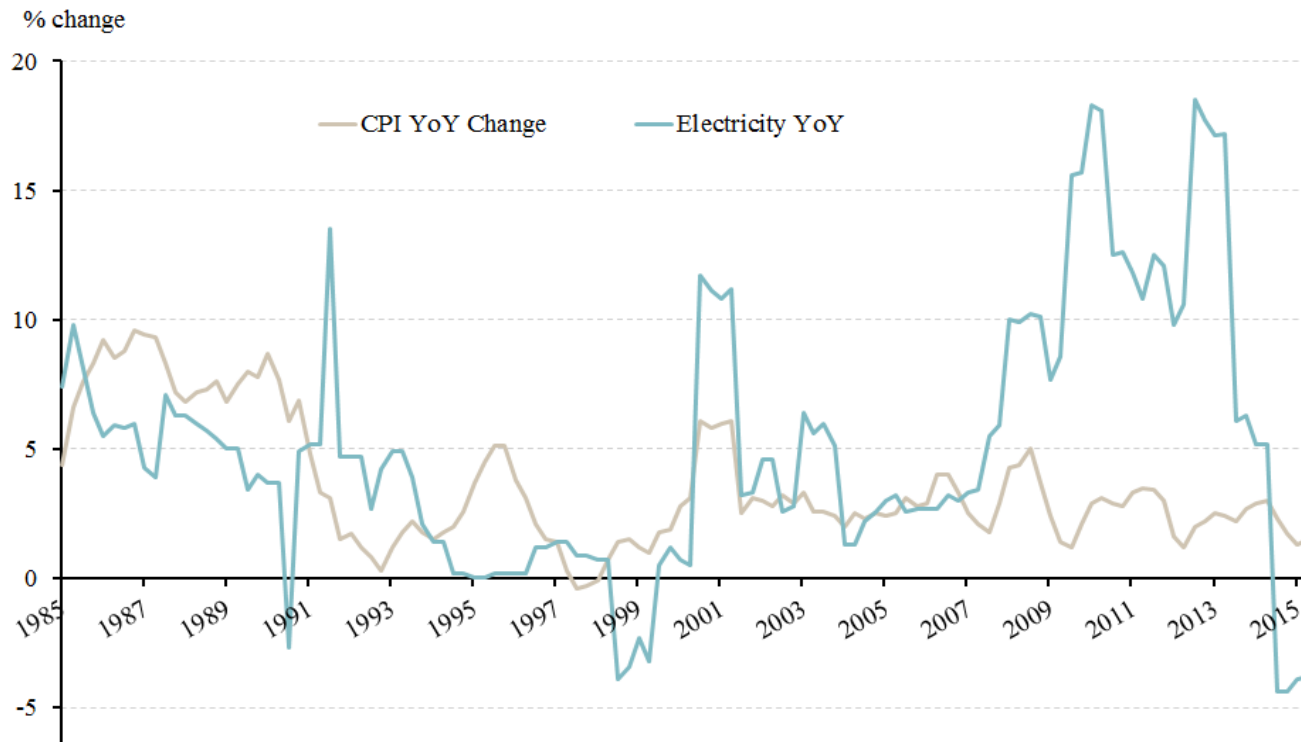
A forecastable world has changed.

Demand was once predictable – will it be predictable in the future?



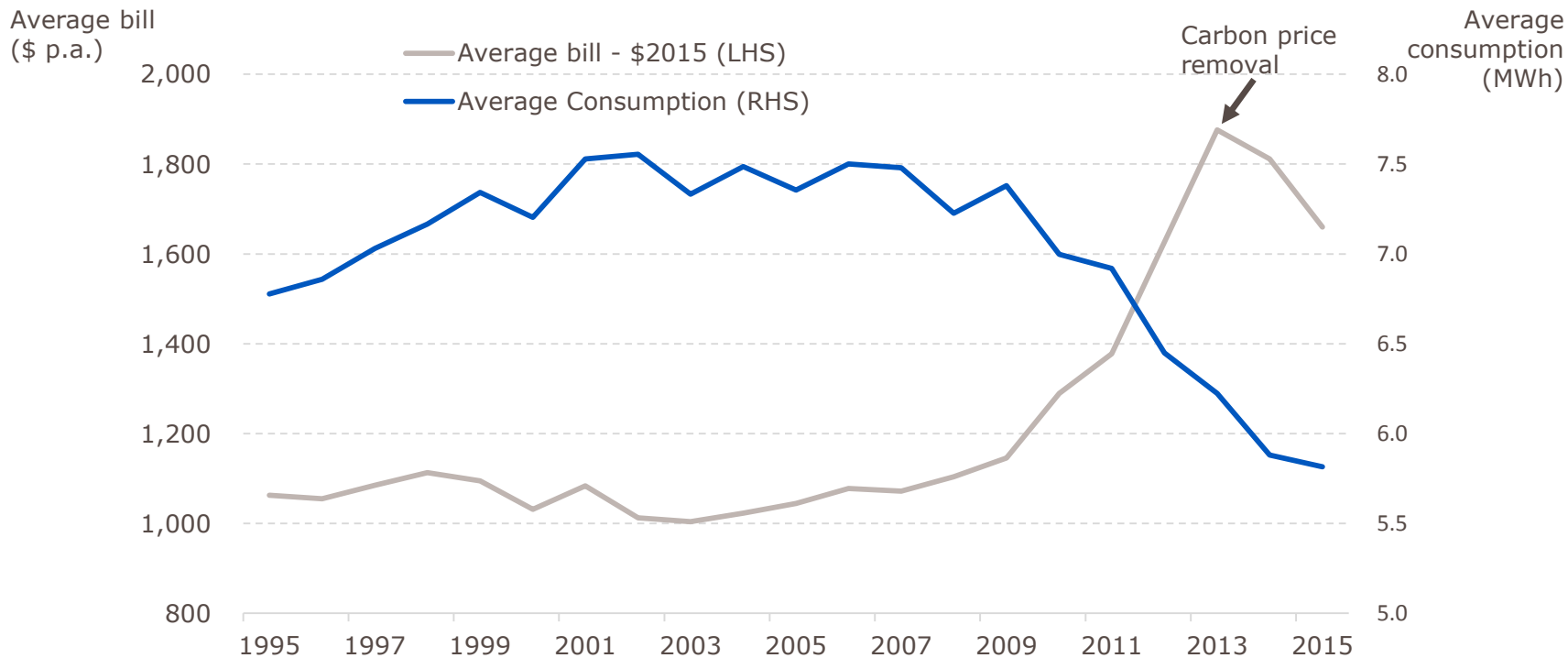
Electricity prices have risen.

One consumer once stated: 'The price has gone up but the lights aren't shining any brighter'



Consumption has responded to higher prices.

Average household electricity bills are a function of both price and consumption

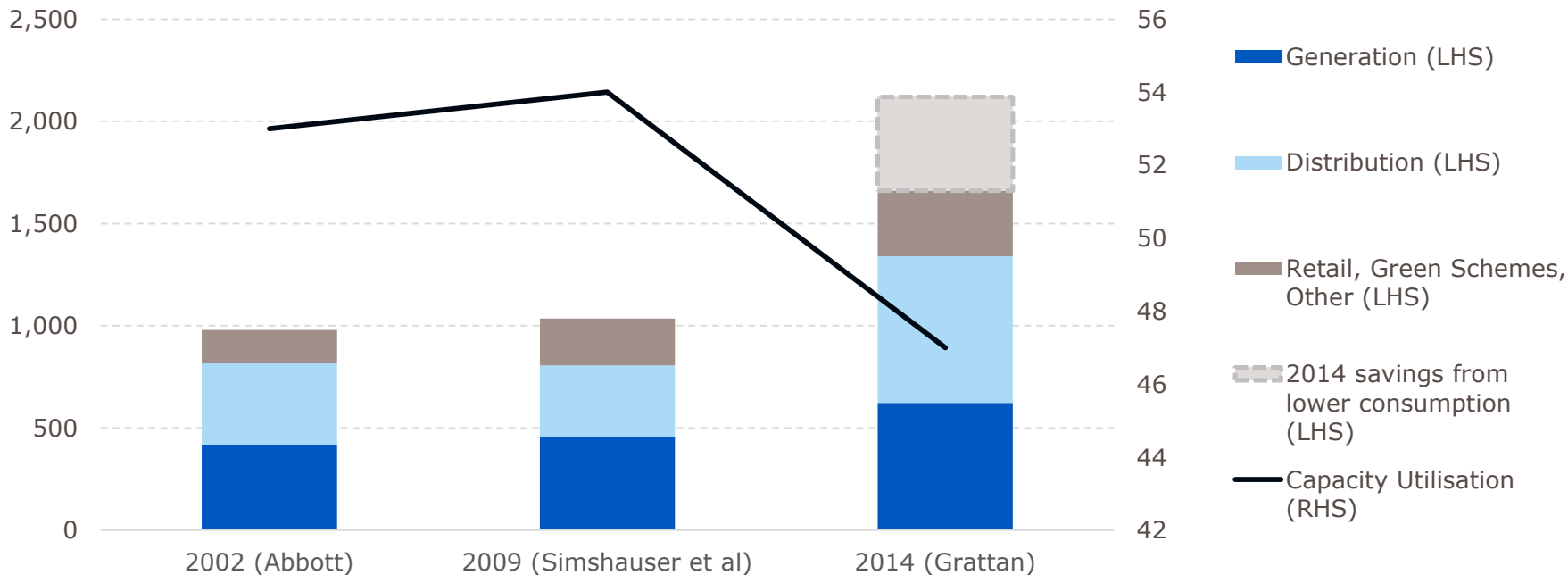


Electricity prices and capacity utilisation.

Bills could have been materially higher without consumption response

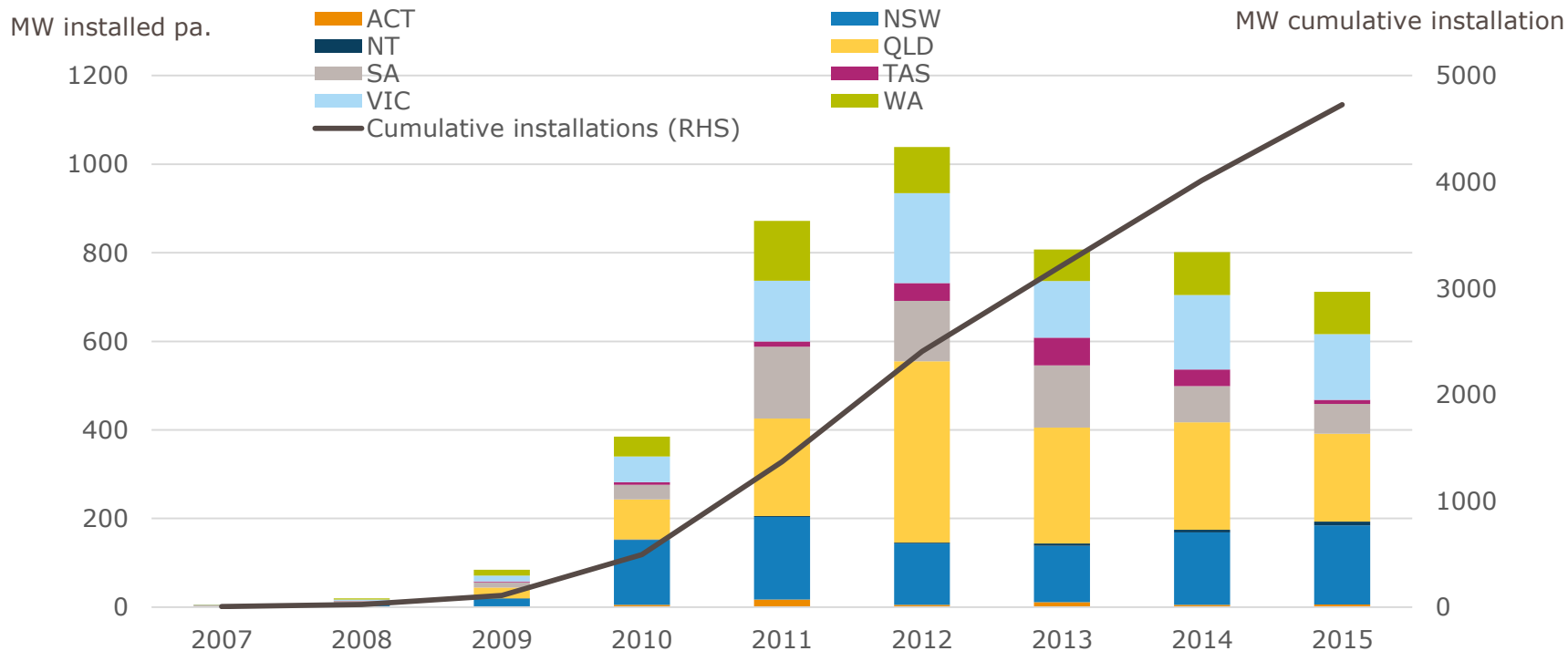
Annual average household electricity costs (\$)

System capacity utilisation (%)



Embedded solar has grown significantly.

One in four households have solar in some jurisdictions



2

What's
changed and
what hasn't.

What has changed?

Technology and consumer preferences have evolved – homogenous product to a suite of heterogeneous products/services

- > Consumer sentiment and technology have changed
 - > Solar – firms must keep pace with rapidly changing *generation* technologies
 - > Digital – consumers are now able to *respond* more quickly to pricing/information
 - > Batteries just around the corner?
- > In some ways, the regulatory framework has been lagging behind
 - > Pricing is still largely regulated and non-cost reflective (c.a. 50% of the bill)
 - > Roles and responsibilities – prescribed by regulation
 - > Metering
 - > Solar
- > Intersection between regulation and financial markets

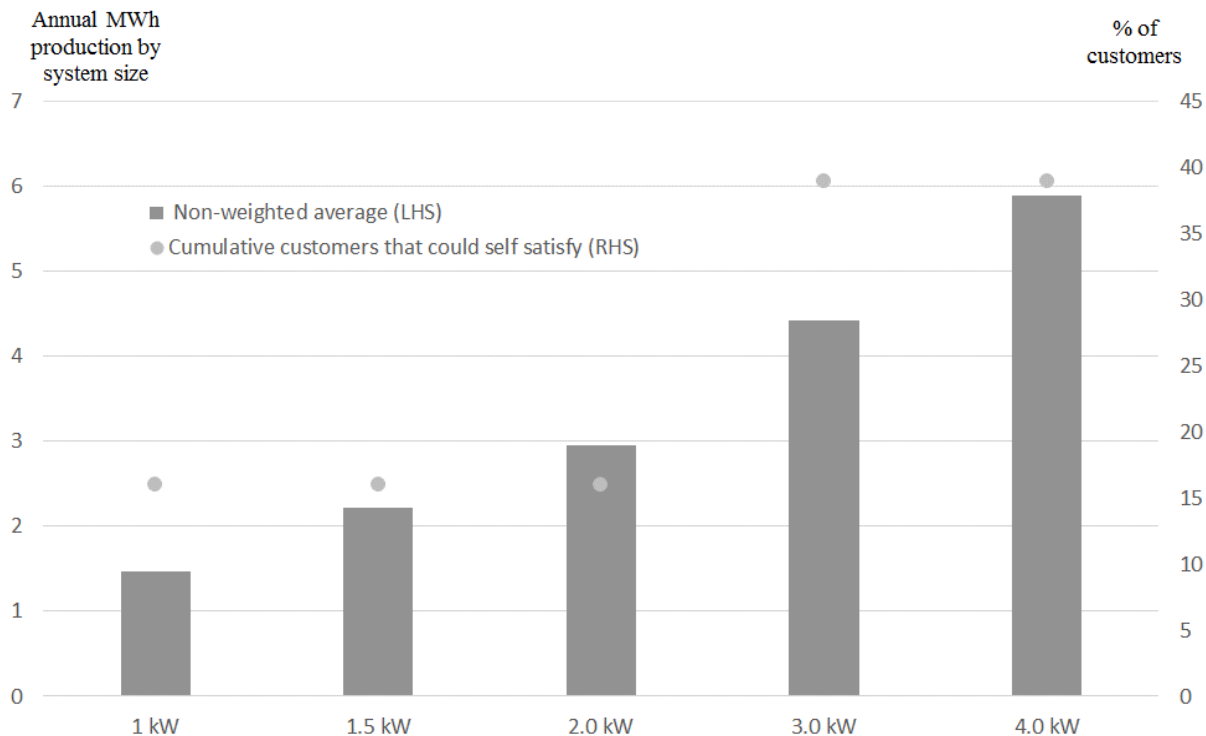
Some things won't change.

Customer and community expectations about policy

- › Stakeholders driving change, not just technology and consumers
 - › Investors (divestment), governments (policy), NGOs (political pressure)
- › Issues of focus unlikely to change and are sometimes in conflict
 - › Reliability – unlikely consumers will accept lower reliability
 - › Consumer choice – partial grid substitute
 - › Affordability – electricity considered an essential service, should other services (e.g. solar, batteries) be thought of in the same way?
 - › Environmental – increased focus on reducing emissions
- › With all of this to be considered, it is little wonder the regulatory framework is lagging in some areas!

Grid defection is unlikely.

Very few customers will be able to 'self-satisfy'



3

Roles and responsibilities.

Competitive neutrality for new products and services.

- › Customers are best served by competitive markets where they can select products and services that suit their circumstances from a wide range of options
- › A level playing field for different technologies, different suppliers and between existing and new energy resources
- › Robust ring-fencing is required - regulated entities should not derive competitive advantage from their position as a monopoly service provider
- › Regulated revenue should strictly be for monopoly services
- › Services provided 'beyond the meter' should be contestable
- › A customer-led approach to distributed resources will allow households to capture personal value from new technologies (i.e. for managing in-home comfort), as well as offer services to networks or in the wholesale market – sharing in the value created along the supply chain

4

Principles to
guide reform.

Regulatory support for a modern energy system.

- > Integration of climate change and energy policy
- > Customer-led uptake of new technologies and services, based on contestability rather than regulation (in the absence of market failure)
- > Competitive neutrality as a cornerstone for vibrant competitive markets
- > National consistency
- > Allocative efficient (cost-reflective) pricing for regulated entities
- > Appropriate consumer protections reflecting society's expectations that energy is an essential service, applied in a consistent way
- > Technology standards to guarantee safe use of energy within the home, and minimum performance levels

For more information:

AGL Blog – aglblog.com.au

Twitter - @tanelsonaus

This presentation has been based upon:

Nelson (2016) *Redesigning a 20th century regulatory framework to deliver 21st century technology*, as published in the Journal of Bioeconomics

Thank you.

