



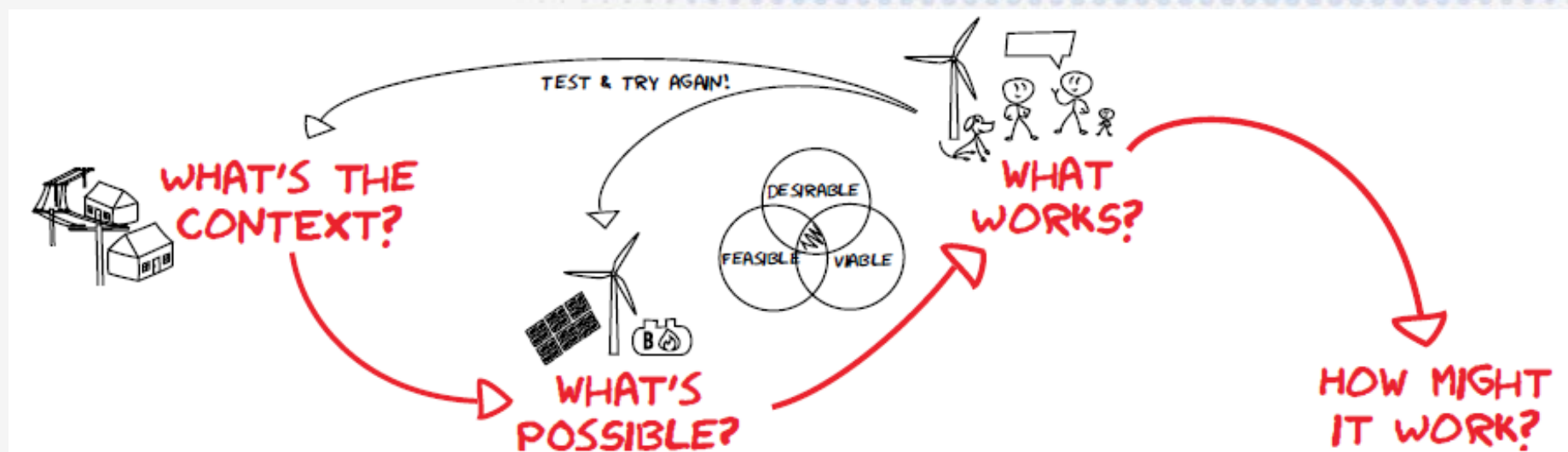
Moreland
Energy
Foundation

Benalla Community Forum

Zero Net Energy Town approach

16 September 2015

Thinking about energy at the community scale

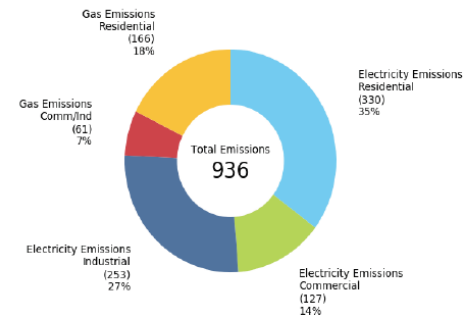


Community / Energy Context

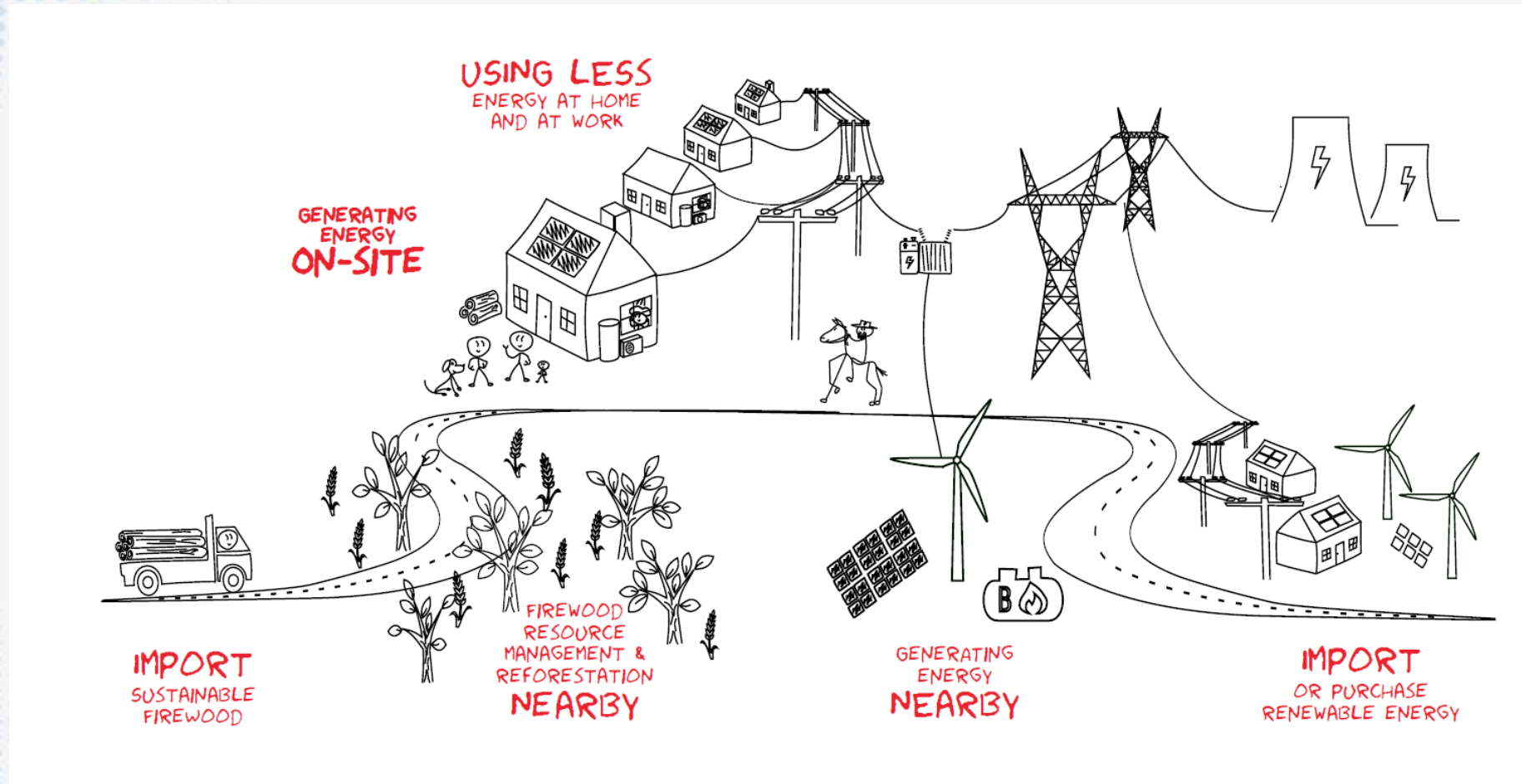
Community, ambition, business and Council, baseline



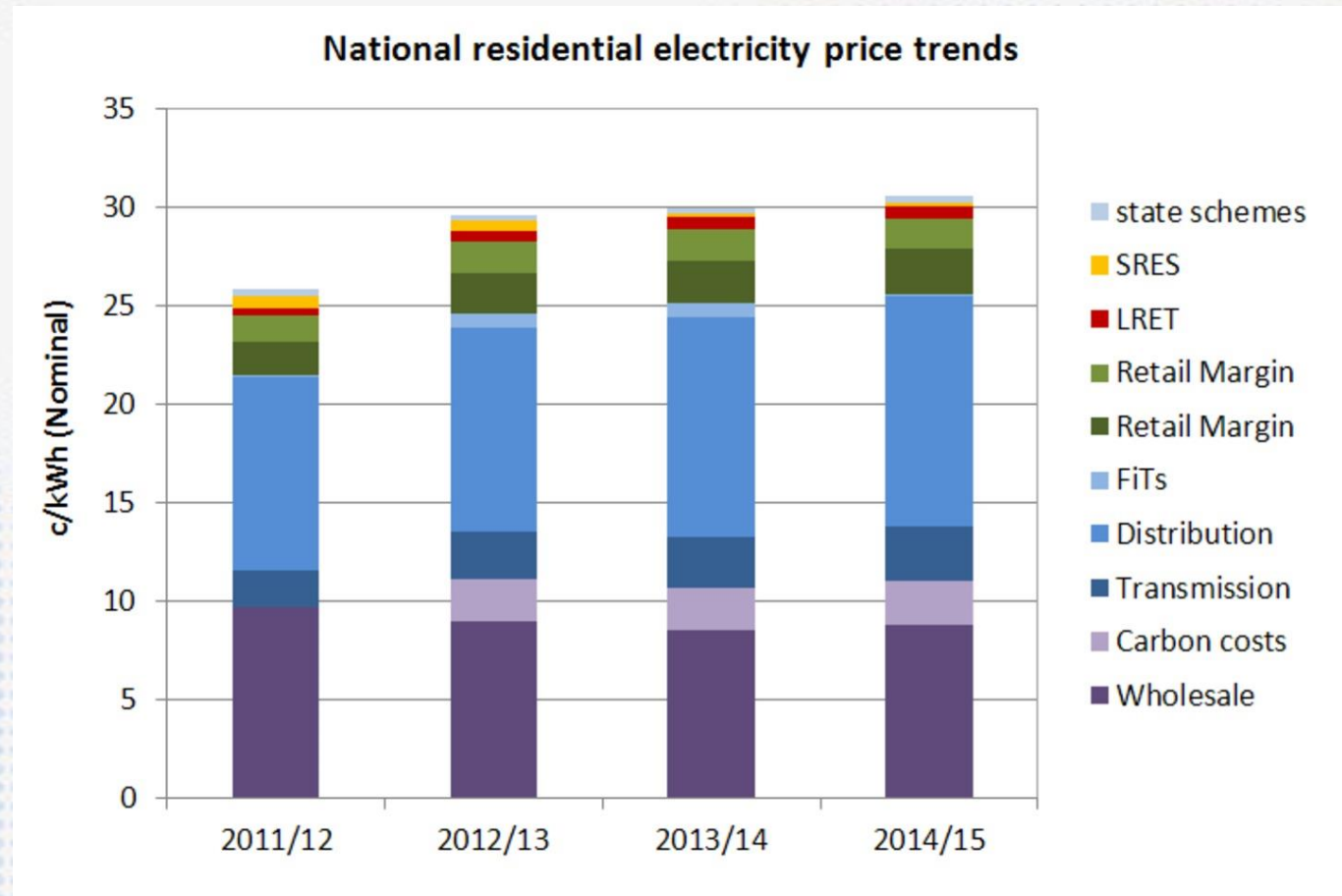
2013 Sector Emissions kt CO₂-e/year



Understanding the energy operating environment

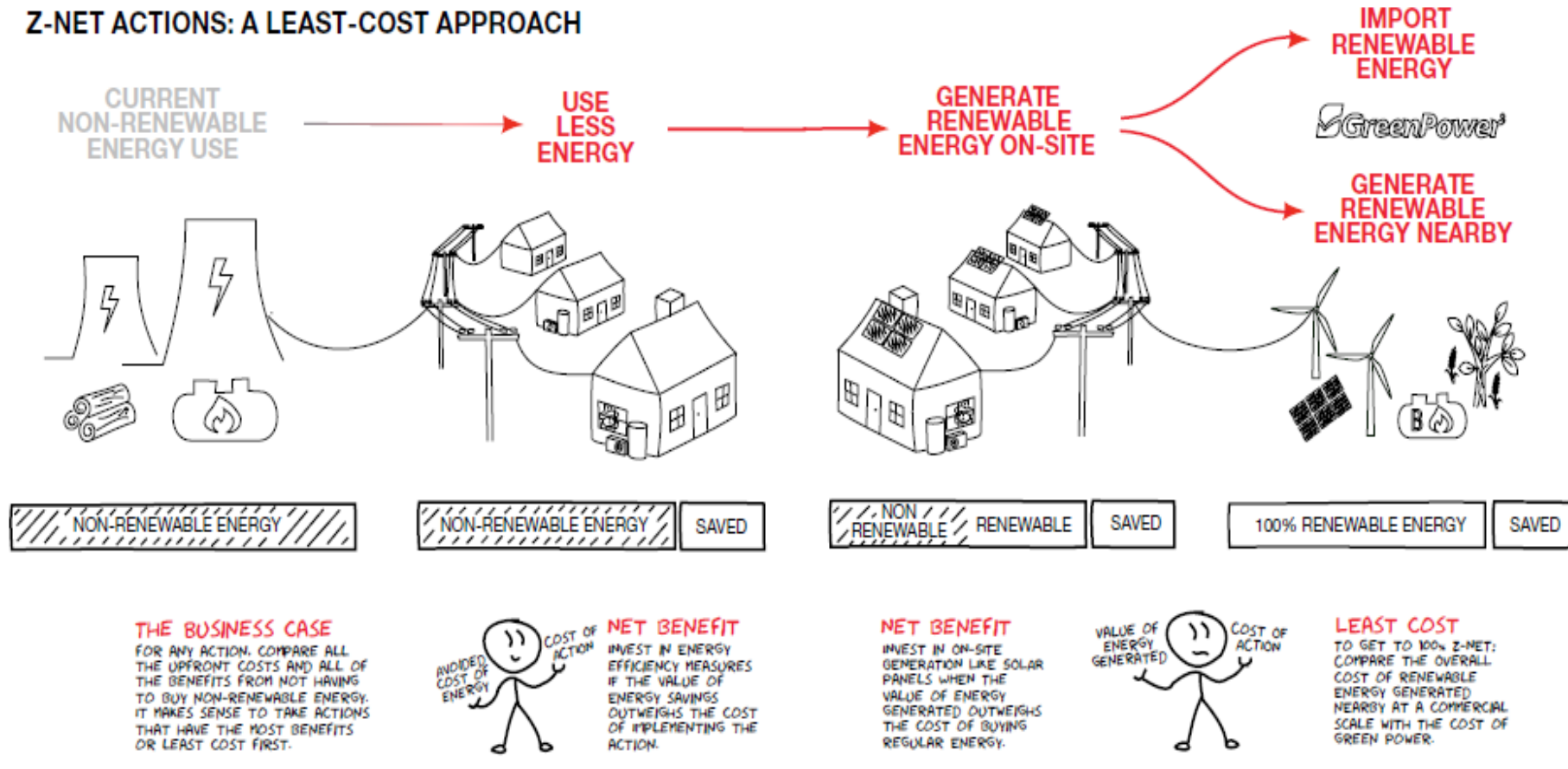


Understanding the energy operating environment



A least cost approach

Z-NET ACTIONS: A LEAST-COST APPROACH



Assessing the options

The following is an overview of the assessment approach applied to each of the possible options to achieve zero net energy, such as energy efficient appliances, solar PV and improved firewood resource management.

What's possible?

Each option has characteristics that determine whether it will suit a local context and contribute to the Z-NET goal.

The technology or resource

- » What is the technology or resource and what are its characteristics?

The local context

- » What is the local context that the option responds to?

The impact

- » What impact on the goal of zero net energy can this option have?

Will it work?

A number of factors need to be considered in order to evaluate technology and resource options.

Regulatory

- » What are the regulatory opportunities and constraints?

Technical

- » What are the technical considerations for this option?

Economic benefit

- » What are the additional economic benefits of the option?

Business case

- » What is the financial business case for the option?

Risk

- » What are the risks associated with the option?

Social benefit

- » What are the social benefits of the option?

These factors all combine to determine the feasibility, viability and desirability of any one option.

Feasibility - What is technically and practically feasible?

Viability - what works financially?

Desirability - What do people want?

Environmental benefit

- » What are the environmental benefits of the option?

Using less energy



Residential opportunities

Options	Business case	Technical	Regulatory	Managing risk	Customer market	Enviro benefit	Social benefit	Economic benefit
Hot water	✓✓	✓✓	✓✓	✓✓	✓✓✓	✓✓	✓✓	✓
Lighting	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓	✓
Appliances	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓	✓
Thermal comfort	✓✓	✓✓	✓✓✓	✓✓	✓✓	✓	✓✓✓	✓

Business opportunities

- Tailored to business type
- Replacing heating and cooling and improving insulation
- Lighting
- Equipment improvement (business specific)



Generation on-site

Residential opportunities

- Rooftop capacity for solar

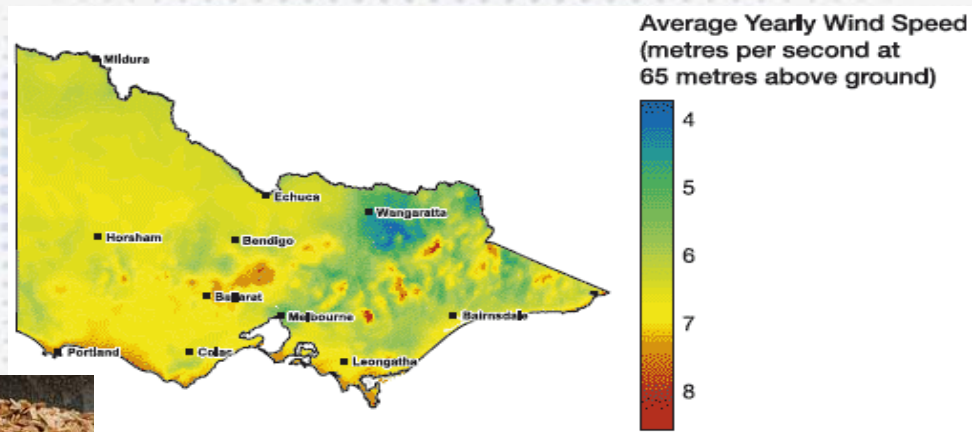
Business opportunities

- Significant opportunity for the right businesses



Options	Business case	Technical	Regulatory	Managing risk	Customer market	Enviro benefit	Social benefit	Economic benefit
Solar PV	✓✓✓	✓✓✓	✓✓	✓✓	✓✓✓	✓✓✓	✓✓	✓

Generation nearby & importing energy



How might it work - enablers

The implementation phase of becoming a Z-NET can extend for a number of years. It is therefore crucial that the community has an organised approach. The key ingredients of this approach are:

- » an action plan which outlines local programs and projects
- » a range of enablers that accelerate or assist program and project delivery through leadership, capacity building or leveraging investment or expertise. The graphic opposite demonstrates these enablers of success for a Z-NET.

