



**“If sustainability is so good, why aren’t all businesses doing it?”**

**John Thwaites**  
**Chairman, ClimateWorks Australia**

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**Business and Higher Education Roundtable**

# Sustainability: Opportunities for business

- Clean energy, low carbon and sustainability
  - Renewable energy
  - Energy efficiency
  - Sustainable water systems
  - Green buildings
  - Waste and recycling
  - Vehicle efficiencies and technologies
  - Farm technologies and services
  - Carbon market services
- 500,000 new green jobs could be created in six sectors by 2030 in Australia- [ACTU/ACF Report 2008](#)

# Business Opportunities - World



## World

- Venture capital and private equity investment in clean energy increased by nearly 2000% between 2003 and 2008
- Renewable energy sector grew faster than conventional sources in 2009
- Market for low carbon and environmental goods and services now worth \$6 Trillion

# All businesses can benefit from sustainability

- Reduce waste and increase productivity
- Reduce energy and water bills
- Marketing advantage
- Reputation advantage - social 'license' "green door"
- Investors and financiers will prefer investment in sustainable, low emission development
- 'ready' for carbon constrained future and tougher regulation

# Green buildings make sense for business

- Lower annual operating costs -
- Better working conditions and staff productivity
- Marketing advantage and higher rents
- Reputation



# Financial Incentives for green buildings

- Green Buildings fund - grants \$50k to \$500k
  - Grants to owners of existing buildings for retrofitting projects e.g. HVAC, lighting and heating
- Australian Carbon Trust
- Tax breaks for Green Buildings

# Some companies are leading the way

*Interface*



**INVESTA** 



*The miracles of science*

**BUNNINGS**  
**warehouse**

# Some improvements are underway - water



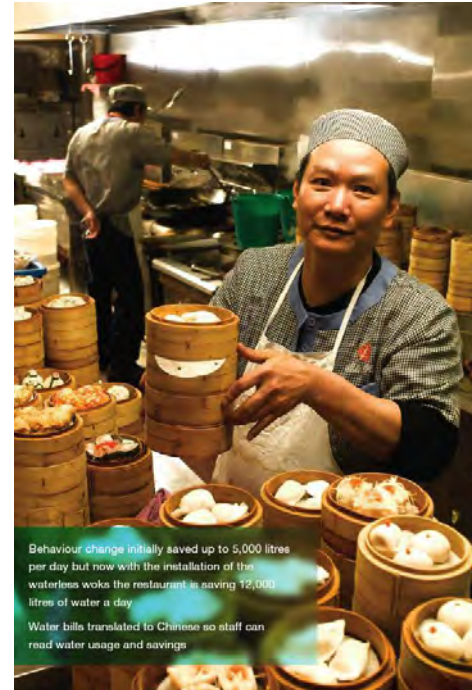
QenosAltona already achieved 30 % water savings – 1.3 billion litres

Further use of recycled water to take this to 90 % water savings

# Some improvements are underway - water

Waterless woks

Restaurant saves 12,000  
litres per day



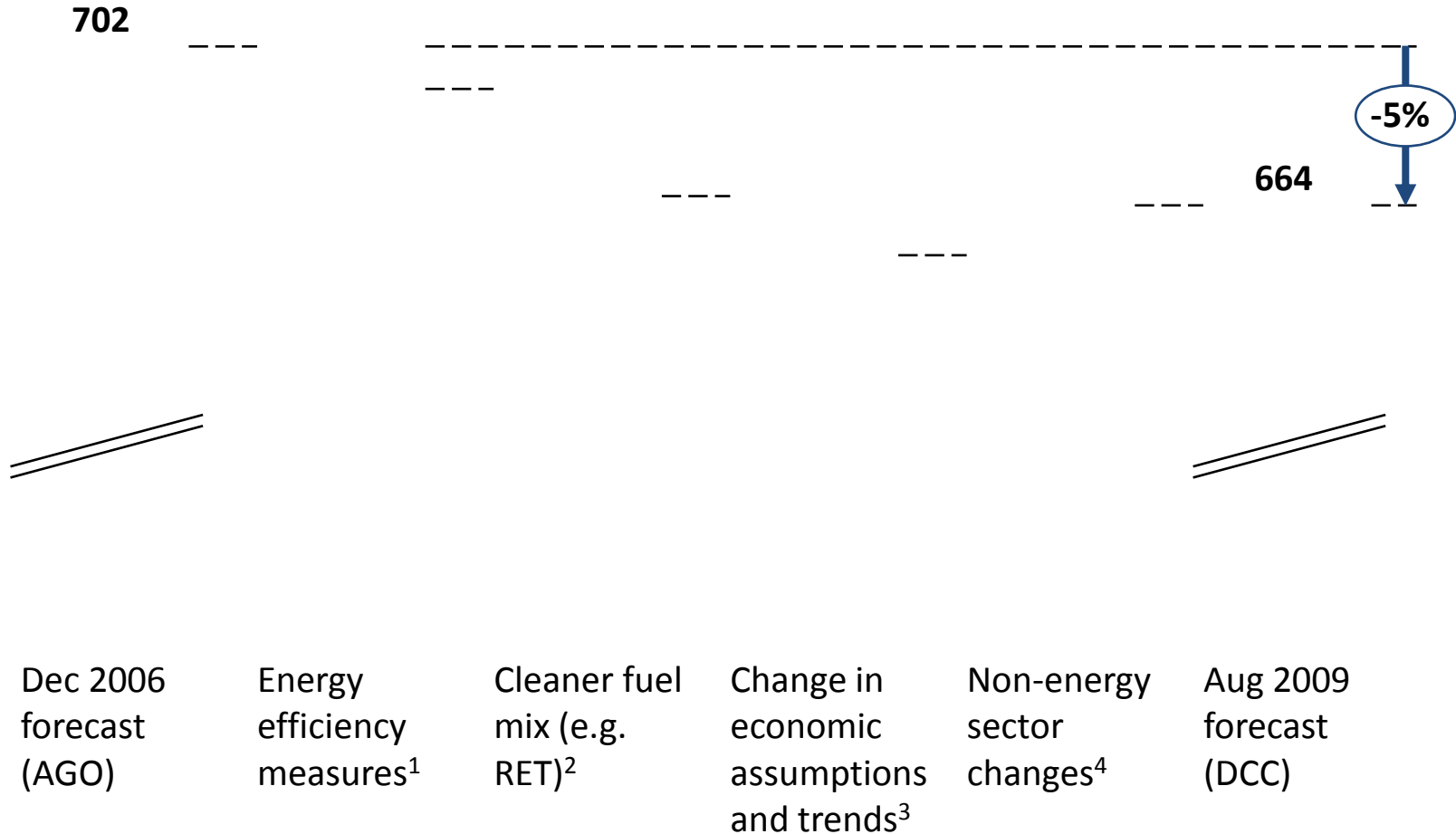
Behaviour change initially saved up to 5,000 litres per day but now with the installation of the waterless woks the restaurant is saving 12,000 litres of water a day

Water bills translated to Chinese so staff can read water usage and savings

Overall non-residential water consumption has reduced more than 40 % compared to the 1990's

# Some improvements are underway - carbon

MtCO<sub>2</sub>e per annum



1 Includes measures such as phase out of electric hot water heaters, sustainable housing and insulation rebate

2 Includes impact of the Renewable Energy Target (RET) which increases the use of renewable sources of energy, and an increased use of gas

3 Includes impact of a decrease in power generation growth and power station emissions intensity

4 Includes mainly changes in land use and forestry

# But most companies are not taking much action

netbalance<sup>★</sup>

**Big issue**  
*little action*

**What Australia's SMEs  
say and do about  
Sustainability and Climate Change**

Survey of 1,600 SME owners in two phases Sept 2009 and April 2010

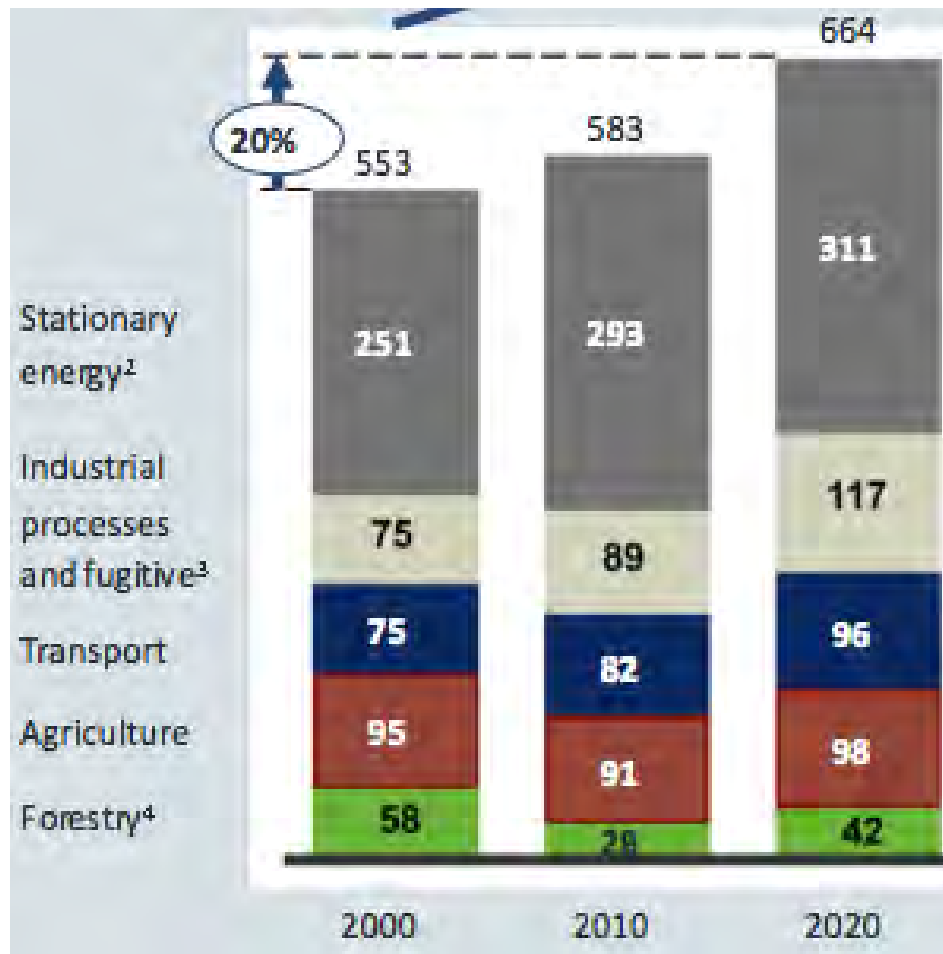
The majority (77% and 69%) of SME's say they are willing to take action  
BUT most are doing very little.

Sustainability Index 14.1% (2009) to 12.6% (2010)

Reasons for lack of action

- Don't trust the available information (up from 29% to 46%)
- Couldn't find enough information (50%)
- Choices too expensive (60%)

# Business as usual emissions are continuing to grow



## Low Carbon Growth Plan for Australia

- Lowest cost / best value opportunities to reduce emissions
  - From society and individual investor perspective
- Barriers to capturing the opportunities
- Policies and other measures to overcome the barriers and capture opportunities
- Prioritised roadmap of action

# Overall Key Findings

- ▶ **Australia has the potential to achieve GHG emissions reductions of 249 MtCO<sub>2</sub>e (25% below 2000 levels) at a low average cost in the next ten years**
  - The average cost in 2020 is the equivalent of \$185 per household
- ▶ **Reducing GHG emissions can be profitable for businesses**
  - 22% of the opportunities are profitable to investors today
- ▶ **A combination of a carbon price and targeted actions is required to achieve Australia's full potential of low cost emissions reductions**
- ▶ **A portfolio of prompt action is required**
  - There are 54 practical actions – no silver bullet!
  - Some can be implemented now; others need attention from government and business to ensure they are implemented by 2020

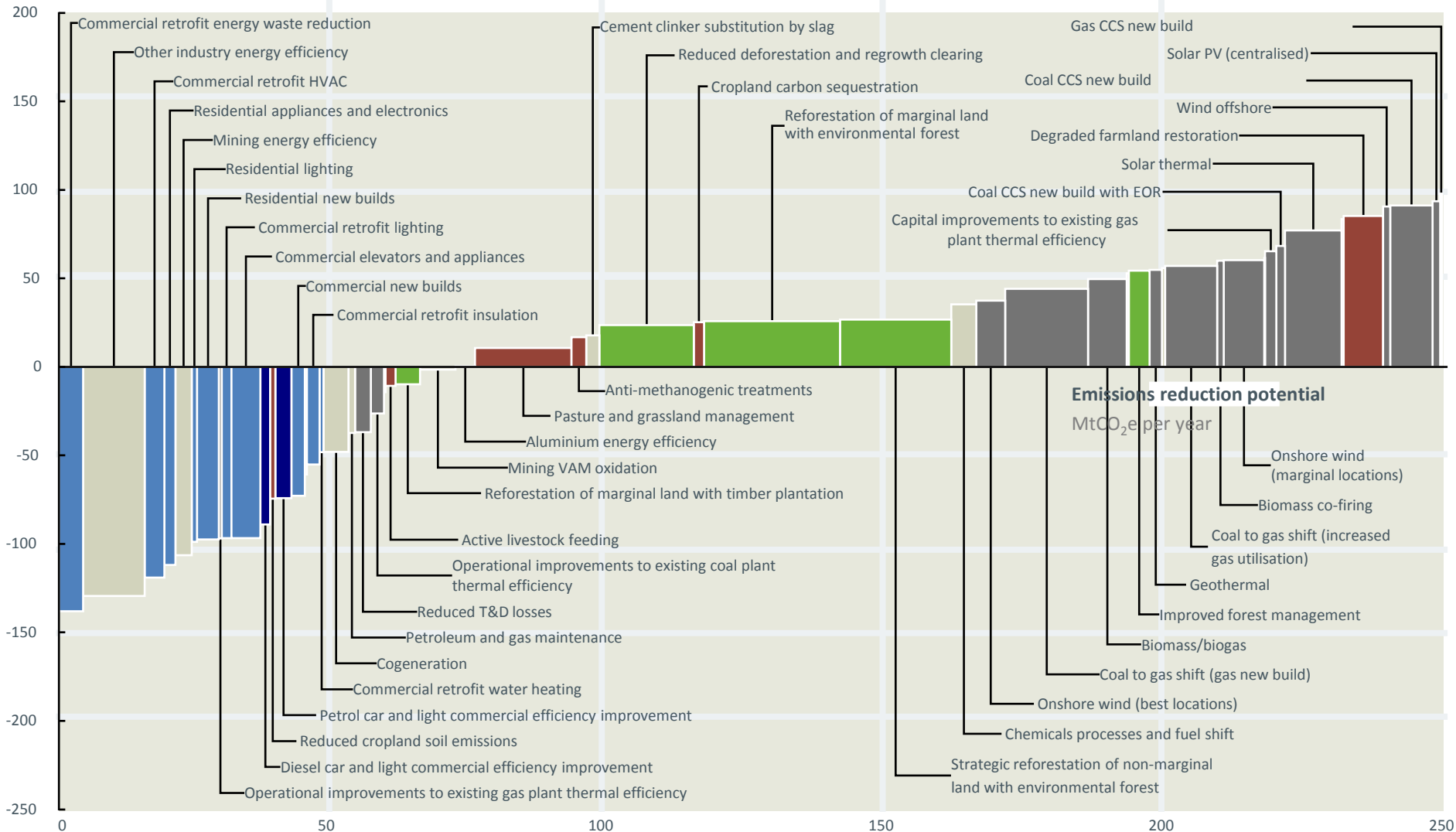
# 2020 GHG emissions reduction societal cost curve

Lowest cost opportunities to reduce emissions by 249 Mt CO<sub>2</sub>e<sup>1</sup>

- Power
- Industry
- Transport
- Buildings
- Forestry
- Agriculture

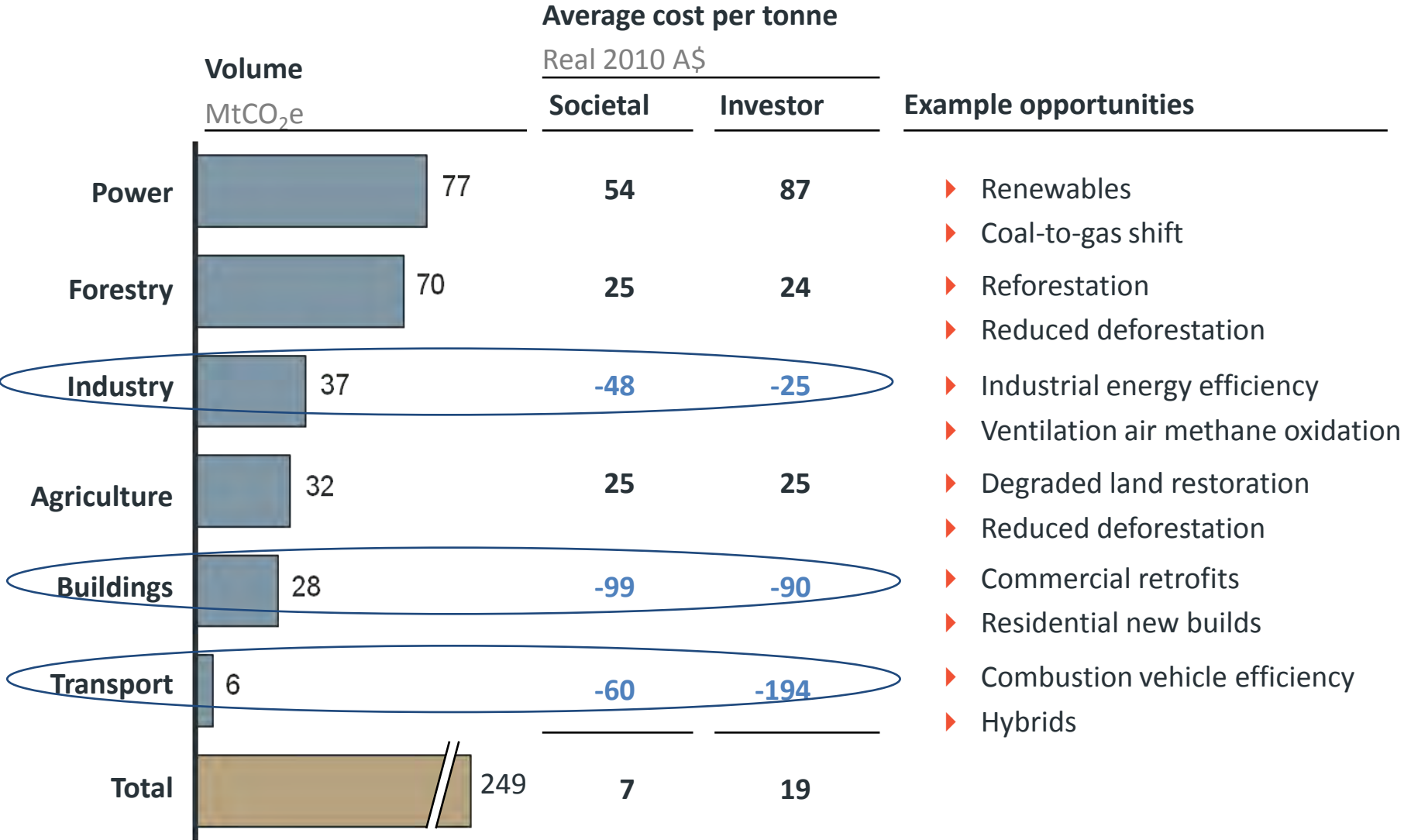
Cost to society

A\$/tCO<sub>2</sub>e



<sup>1</sup> Includes only opportunities required to reach emission reduction target of 249 Mtpa (25% reduction on 2000 emissions); excludes opportunities involving a significant lifestyle element or consumption decision, changes in business/activity mix, and opportunities with a high degree of speculation or technological uncertainty

# Australian 2020 emissions reduction potential by sector<sup>1</sup>



<sup>1</sup> Includes all emission reduction opportunities required to achieve 249Mtpa

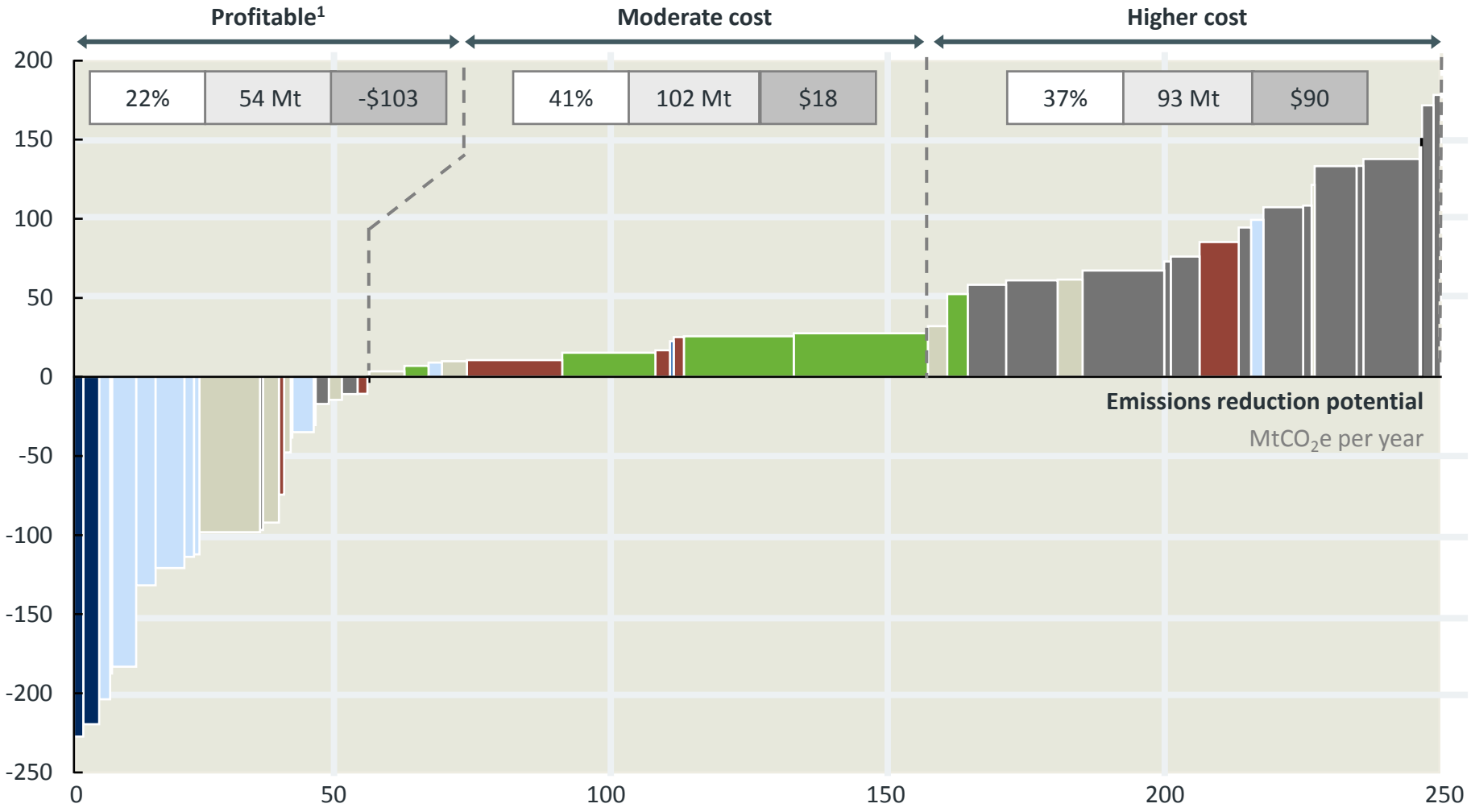
SOURCE: ClimateWorks team analysis, derived from 2020 GHG emissions reduction cost curve (exhibit 4)

# Key investor cost curve metrics

- Percent of total opportunity
- GHG reduction, MtCO<sub>2</sub>e
- Average cost, A\$/tCO<sub>2</sub>e
- Power
- Industry
- Transport
- Buildings
- Forestry
- Agriculture

## Cost to an investor

A\$/tCO<sub>2</sub>e



<sup>1</sup> In this report, profitable is defined as positive return on incremental invested capital and operating expense (excluding transaction or policy implementation costs)

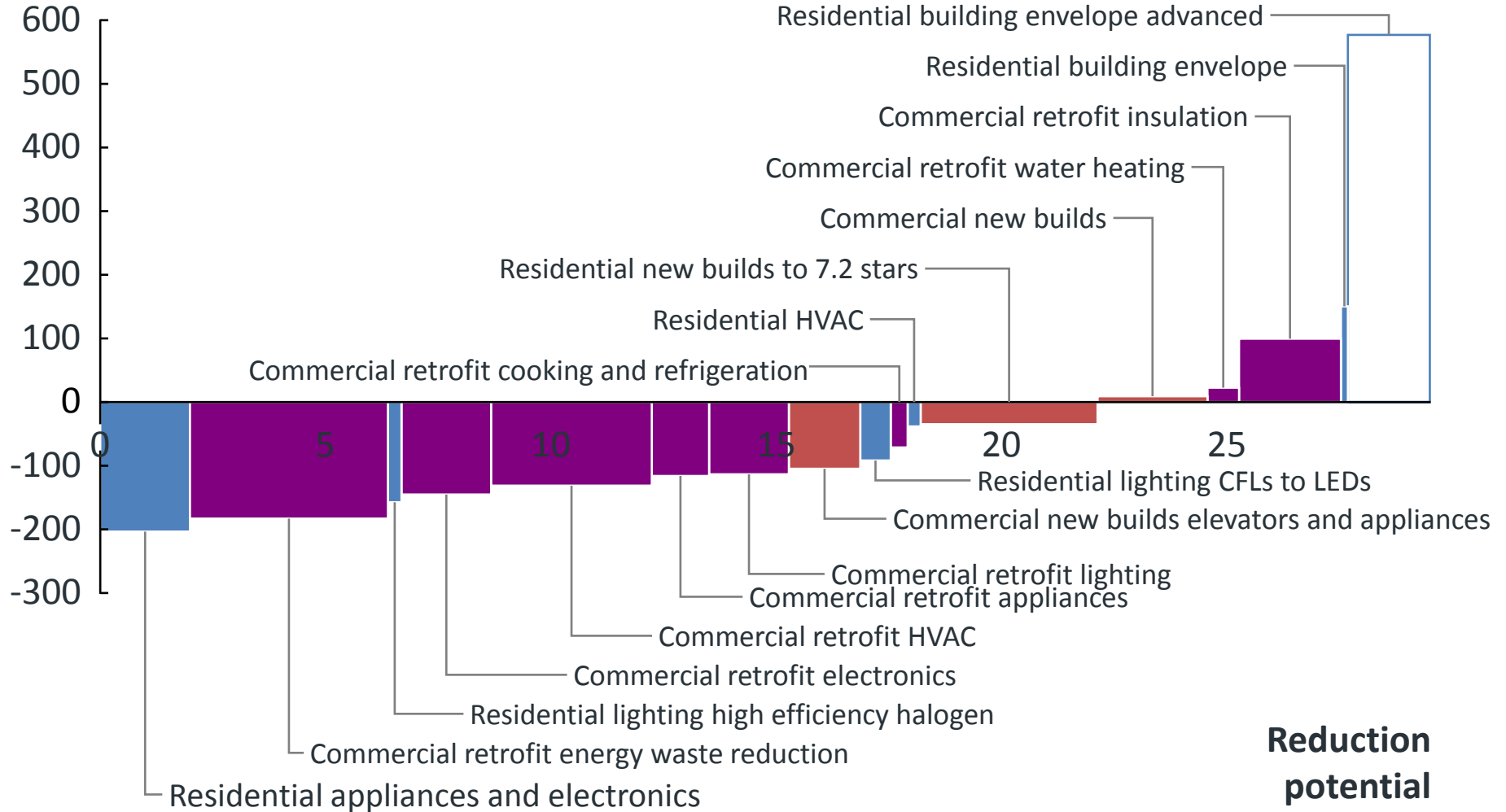
SOURCE: ClimateWorks team analysis, derived from 2020 GHG emissions reduction cost curve (exhibit 4)

# 2020 Buildings GHG emissions reduction *investor cost curve*

- Residential
- Commercial
- New builds
- Additional potential<sup>1</sup>

**Cost to an investor**

A\$/tCO<sub>2</sub>e



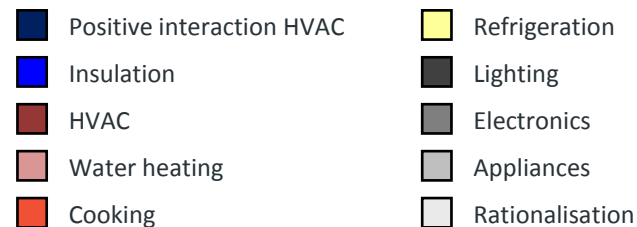
**Reduction potential**

MtCO<sub>2</sub>e per year

<sup>1</sup> Higher cost opportunities not required to meet target emissions of 25% below 2000 levels

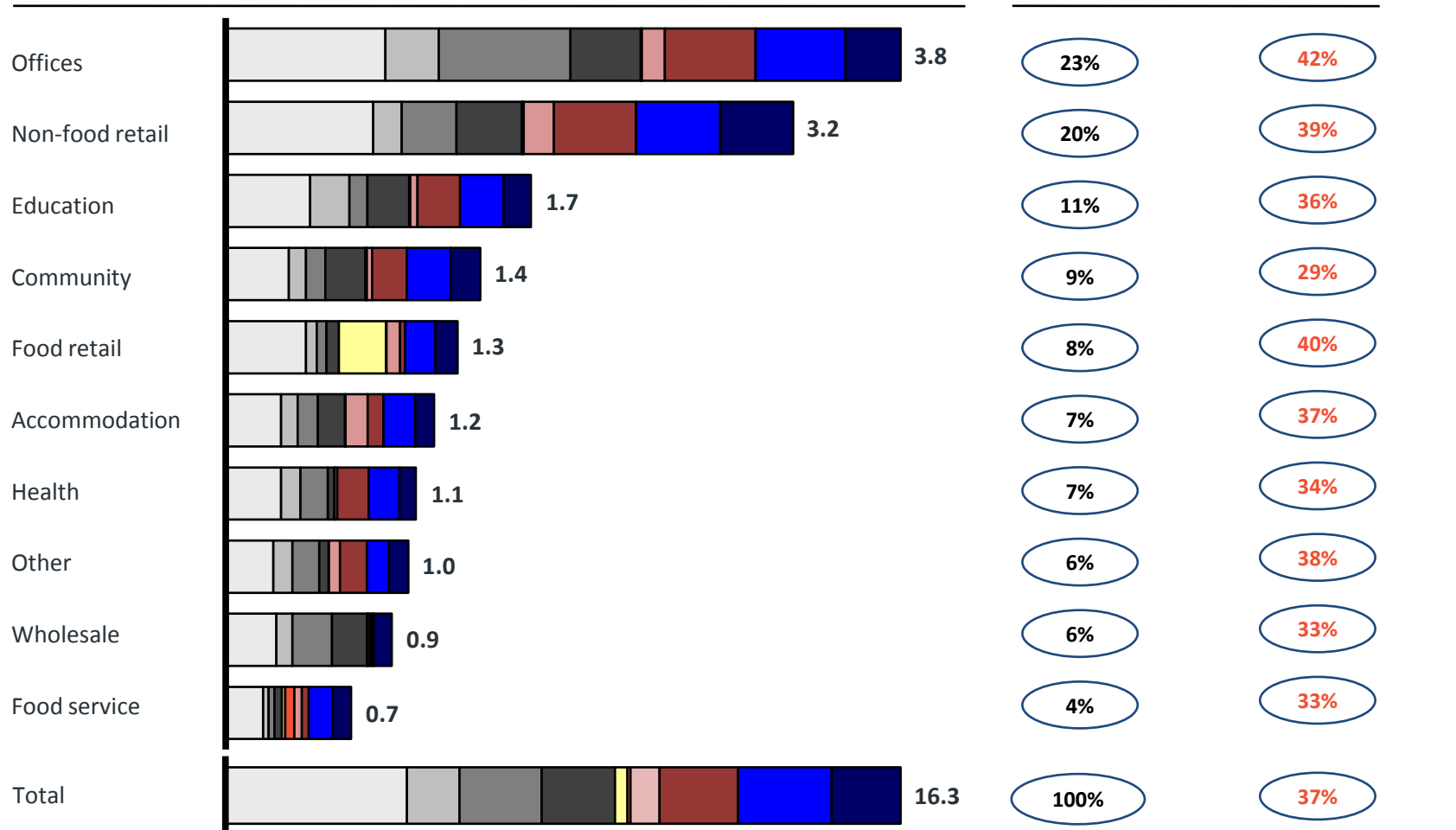
SOURCE: ClimateWorks team analysis, derived from 2020 GHG emissions reduction cost curve (exhibit 4)

# A total of 16.3 MtCO<sub>2</sub>e emissions reduction is possible in commercial buildings<sup>1</sup>, accessible across all sub-sectors and technologies by 2020



## Emissions reduction opportunity in commercial buildings retrofits

MtCO<sub>2</sub>e, 2020 estimates



<sup>1</sup> Commercial buildings represent 58% of the total 28 MtCO<sub>2</sub>e opportunity in the Buildings sector, with residential new builds comprising the remaining 11.8 MtCO<sub>2</sub>e of the total opportunity

SOURCE: ClimateWorks team analysis, derived from 2020 GHG emissions reduction cost curve (p.9)

For underlying numbers, see cells AA24:AJ33 in supporting spreadsheet.

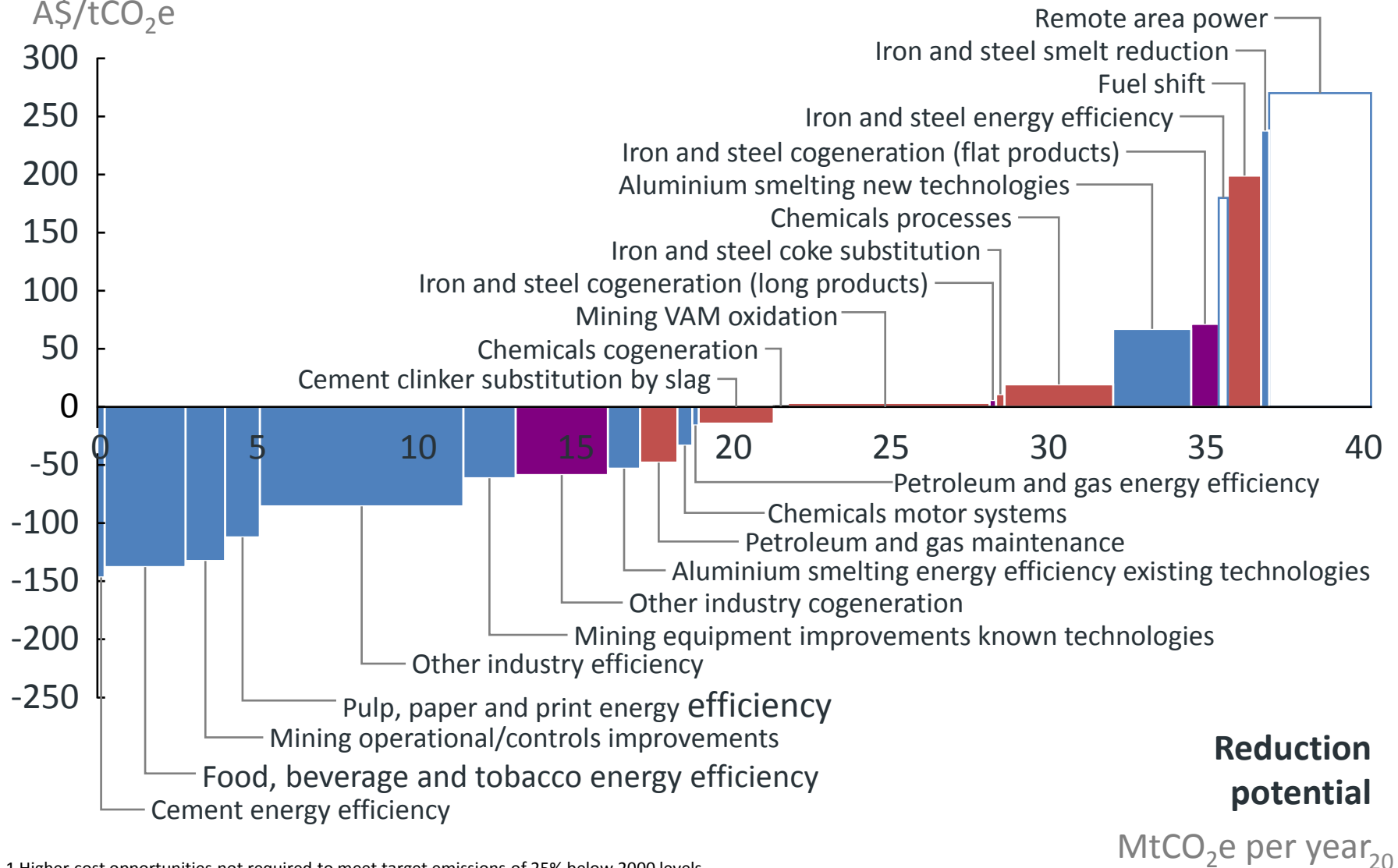
# 2020 Industry GHG emissions reduction

## *investor cost curve*

Cost to an investor

A\$/tCO<sub>2</sub>e

- Energy efficiency
- Cogeneration
- Other
- Additional potential<sup>1</sup>



<sup>1</sup> Higher cost opportunities not required to meet target emissions of 25% below 2000 levels

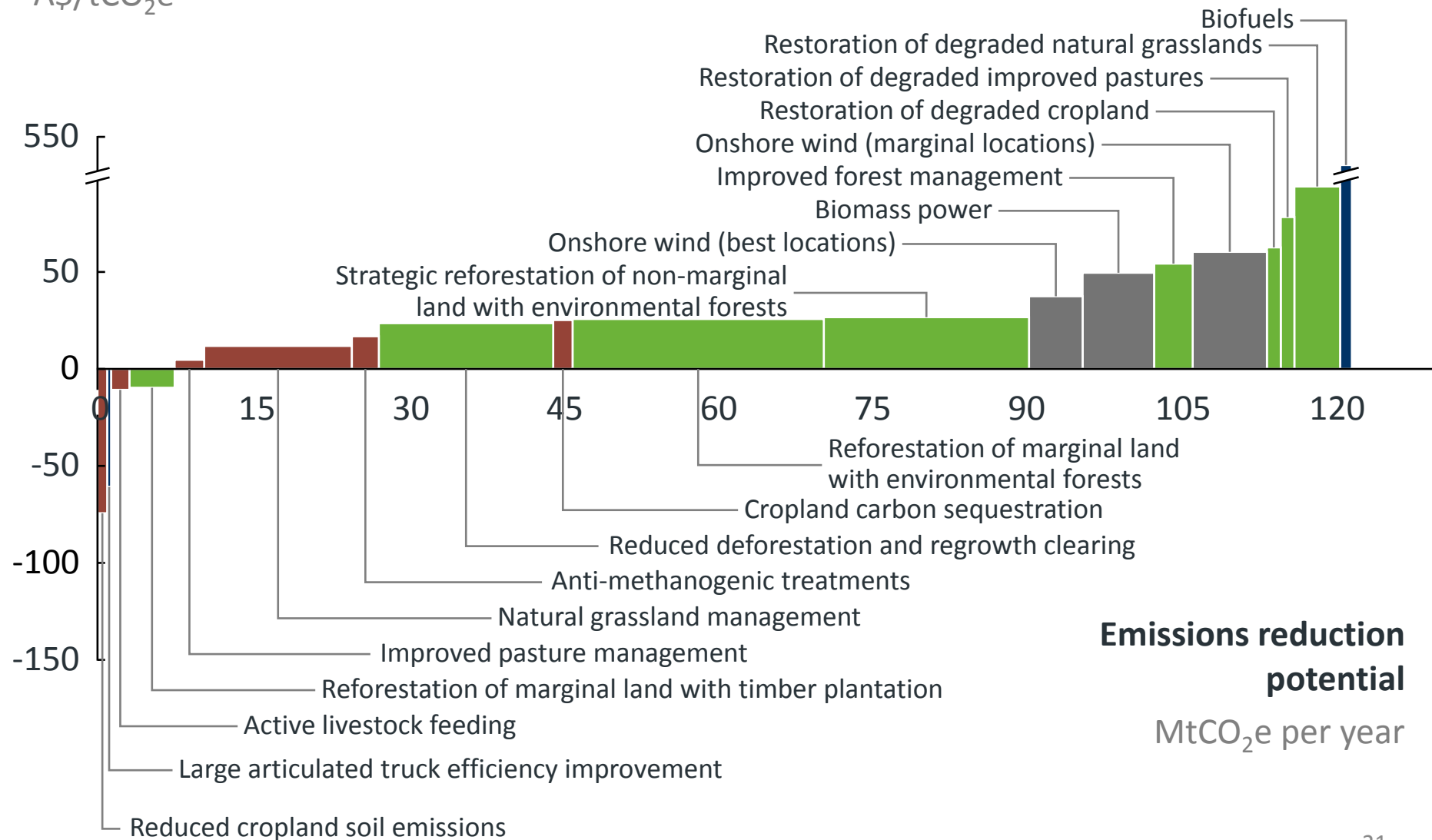
SOURCE: ClimateWorks team analysis, derived from 2020 GHG emissions reduction cost curve (exhibit 5)

# 2020 GHG emissions reduction opportunities for rural landowners

Cost to society

A\$/tCO<sub>2</sub>e

- Agriculture
- Forestry
- Power
- Transport



**Emissions reduction potential**  
MtCO<sub>2</sub>e per year

**If sustainability is so good –  
why aren't we doing it?**



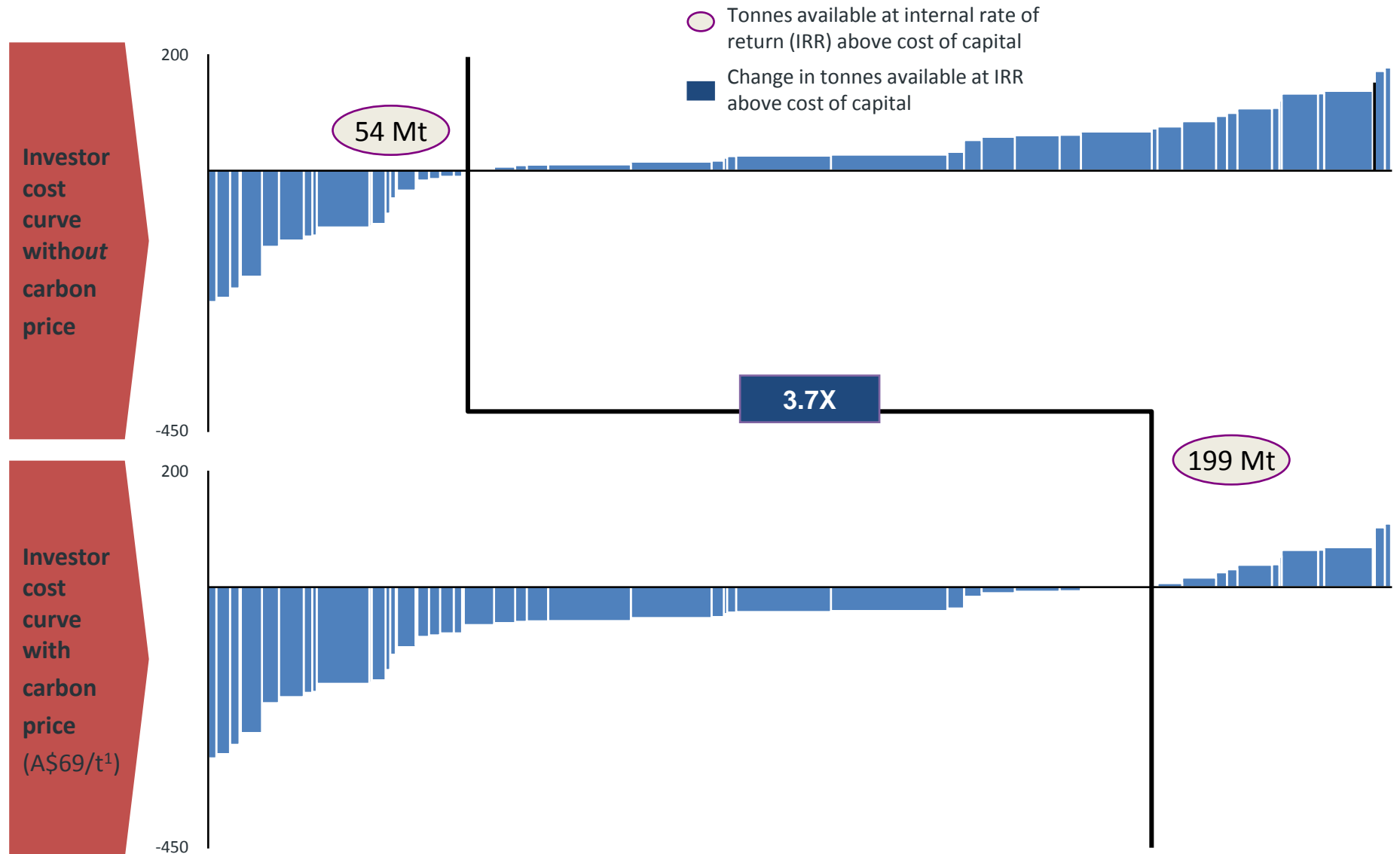


Source: Cathy Wilcox, Sydney Morning Herald.

# If sustainability is so good why don't we do it?

- We don't charge for externalities (pollution)
  - Need a price on carbon
- Access to capital
- Market structure
- Lack of information
- Lack of skills and education
- Non-economic reasons
- Human psychology

# Impact of carbon price on investor economics

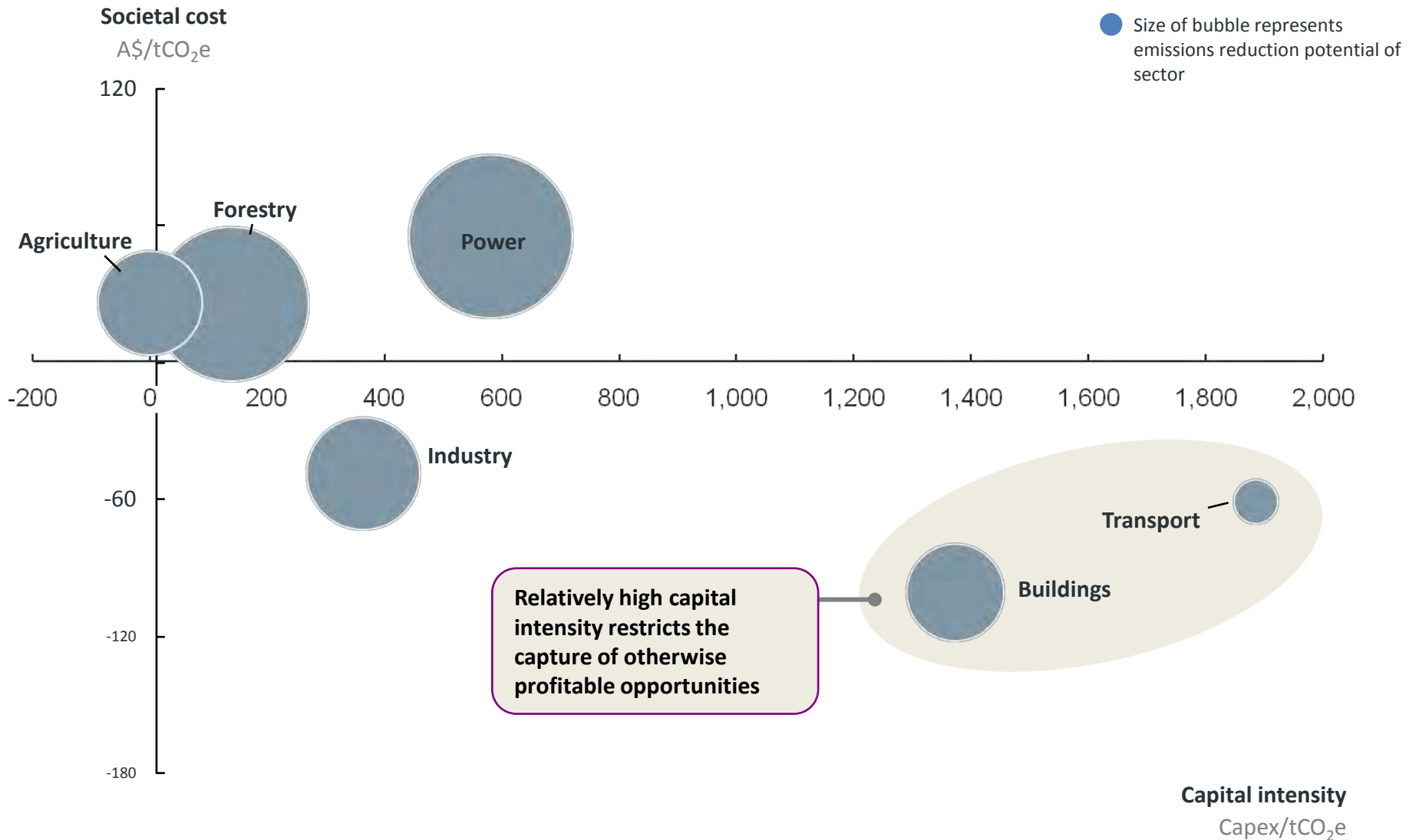


<sup>1</sup> Carbon price in 2020 of A\$69 per tonne based on Treasury Garnaut -25% estimate (*Australia's Low Pollution Future*) converted to 2010 dollars

SOURCE: ClimateWorks team analysis, derived from 2020 GHG emissions reduction cost curve (exhibit 4)

# Capital intensity of opportunities by sector

2020 capital intensity and emissions reduction cost



# Capital constraints and investment priorities

## Barriers

- Banks reluctant to offer loans
- Long payback periods
- Not raising funds for core business – finite access to capital
- Investment hurdle rate too high

## Tools to overcome

- Third party funding
- Loan repayments collected through utility savings
- Energy performance contracts
- Property levies (USA)

# Market structure

## Barriers

- Split incentives
- Lack of project scale - increases transaction costs
- Long decision cycles
- Availability of equipment
- Reliability of savings estimates
- Non-market electricity pricing

## Tools to overcome

- Energy service contracting and leasing contracts
- Aggregation (bundling) of small projects
- Facilitating competitive market
- Improved pricing regulation

# Lack of information, skills and education

## Barriers

- Information gaps
- Don't trust information
- Difficulty in measuring (eg soil carbon)
- Inadequate skills (eg how to use equipment efficiently)
- Lack of understanding of sustainability principles

## Tools to overcome

- Research and development funding
- Awareness campaigns
- Peer based campaigns and trusted sources
- Mandatory labeling and energy performance disclosure
- Skills development and education for sustainability

# Sustainable businesses need new skills

- “Achieving the transition to a low carbon sustainable economy will require a massive mobilisation of skills and training.” - [CSIRO Report 2008](#)
- ‘Green collar’ skills include: planning and design, entrepreneurship, building and project management, and specific expertise e.g architecture, engineering

## Skills: also need a new mindset

- Need flexibility and ability to adapt - not possible to predict exactly what the jobs will be or the impact of climate change
- Need to have skills and values sympathetic to the environment and generic skills such as sustainable approaches, innovation and problem solving

# Non-economic factors

## Barriers

- Management tradition and habit
- Long term procurement arrangements
- Other goals of decision makers (eg staff comfort)
- Administrative structures (eg building management decisions separate from operating costs management)

## Tools to overcome

- Leadership
- A coordinated sustainability strategy
- Sustainability auditing and reporting
- Public disclosure

# Sustainability: the problem of human psychology



# Why climate change doesn't prompt behaviour change

Human brain evolved to respond to threats that

- Involve other humans
- Violate our moral sensibilities
- Are immediate: clear and present danger
- Can be appreciated by our senses

Daniel Gilbert

Professor Psychology  
Harvard

# Why sustainability and Climate Change don't rate

- Long term climate hard to detect from personal experience
- Risks (and benefits of mitigating) are in the future - heavily discounted
- Many of the risks are remote - someone else's problem
- Cultural and political attitudes heavily influence climate attitude
- Challenge to the status quo:
  - » need to change many things about modern life
  - » Challenges growth paradigm
- Finite pool of worry

# Ways to encourage behaviour change

- A price on carbon and economic incentives
- Targeted policies to overcome structural barriers
- New technologies that make behaviour change easy
- Smart regulation
- Providing information
- Better communication and social marketing
- Better understanding of psychology
  - » Show collateral benefits of action
  - » Competition and comparison