



No silver bullet.
No silver bullet, I say.
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Emissions Trading: important, but no silver bullet

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Emissions Trading: how it works

- Large emitters (up to 1,000 entities over 25,000 tonnes CO₂/year - \$1-2 million+ annual energy bills):
 - Must participate in emissions trading: must buy and surrender an emission permit for each tonne of emissions they release
 - Government sets a cap on number of permits, reducing over time
 - Likely permit price \$10-\$50/tonne CO₂, increasing over time as the number of permits available decreases
 - Can cut emissions (and permit costs) through energy efficiency, renewable energy, etc
- Extra permit providers – outside the scheme but offering certified abatement – eg trees
- The rest – households, small-medium business, most councils:
 - Large emitters who supply us with energy, goods and services increase their prices to cover cost of buying permits – we pay
 - Smart ones will make changes to cut the cost!
- Government will use revenue from sale of permits to help those affected to adjust

But ETS is no 'silver bullet'

- Directly involves only big emitters – and many of them are claiming special treatment
- In theory covers 75% of Aust ghgs, but special deals, 'end user' factors mean much less at start
- Small emitters not very sensitive to energy price signals or small increases in costs of goods & services
- If price goes high, big political risks – and even slower transition likely
- Garnaut says C tax better than badly designed ETS
- Garnaut says ETS could 'cannibalise voluntary measures like Green Power'!! It disenfranchises voluntary action (apart from buying permits)

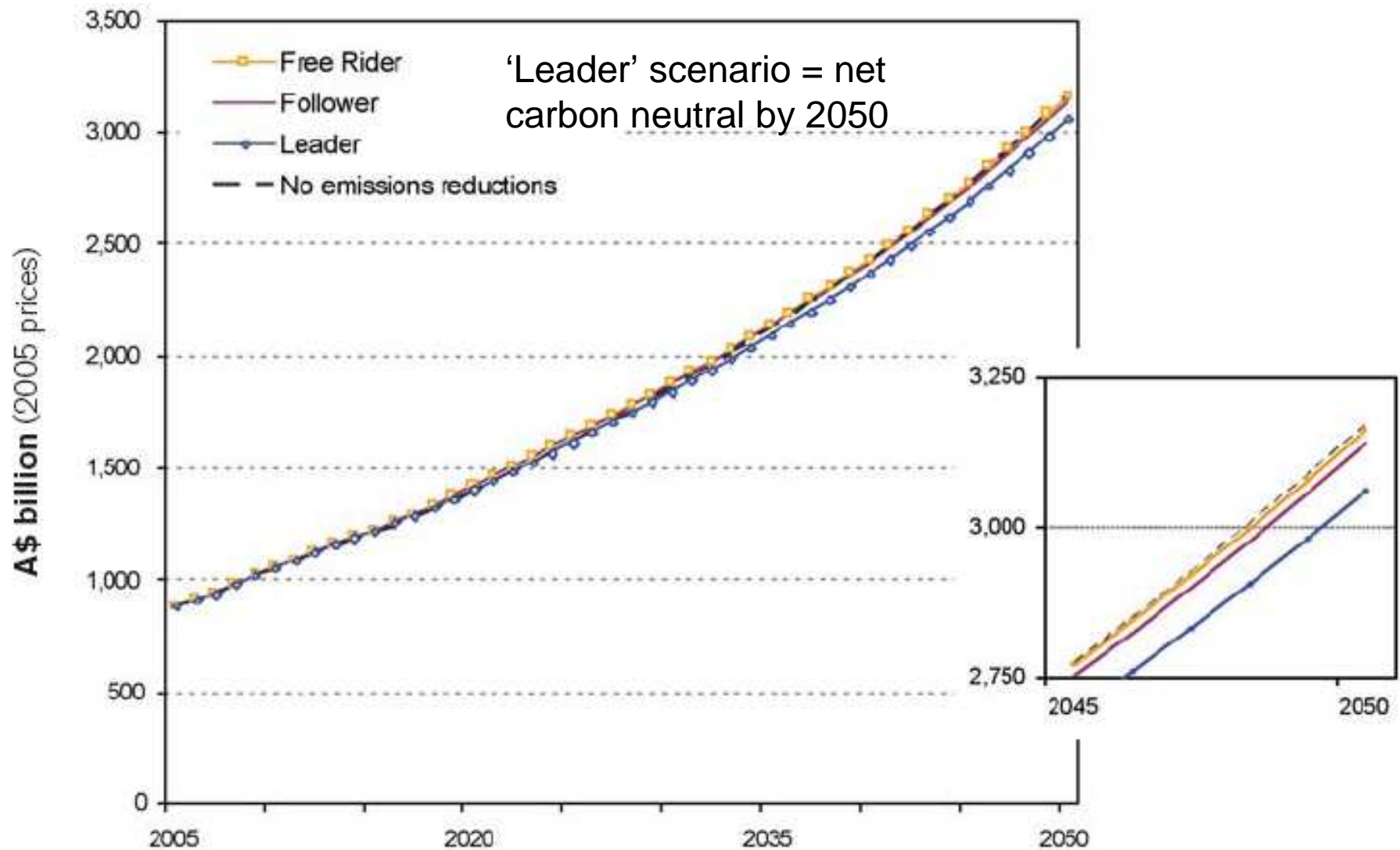
Options to increase response without high C price – so-called ‘complementary measures’:

- Drive end-use energy efficiency
- Drive low emission energy supply
- Drive abatement/sequestration in agriculture etc
- Cut waste emissions and recover resources
- Encourage early action by convincing us that:
 - Emission reduction is ‘important for you and the world’
 - We need to be credible in global negotiations
 - Delaying action will hurt more
 - Smart action can bring benefits
 - Early action will position our economy to be a winner

Complementary Action in a Simple ETS:

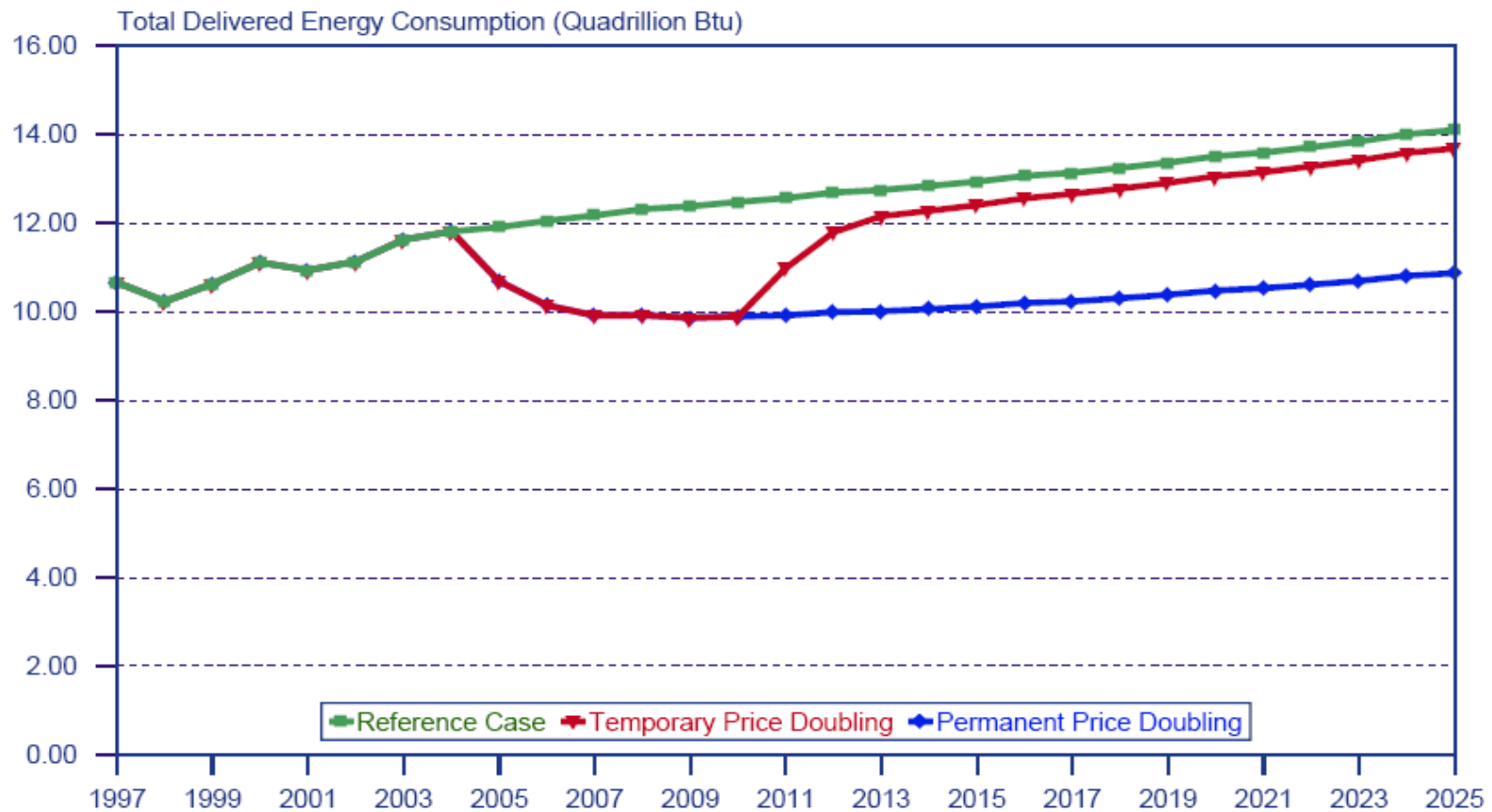
- Cuts emissions from specific activities
- Reduces C price (less competition for permits)
- Cuts adverse financial impacts on high emitters
- Grows emission-reducing industries
- Where cost-effective, saves money
- May deliver other social or economic benefits:
 - equity
 - reduced oil dependence
 - limit peak electricity demand
 - improve health, comfort, productivity
- Makes tougher future targets more politically feasible
- **Doesn't** cut overall emissions below cap
- **Does** give large emitters a 'free ride' – so we need mechanism to tighten emission target in response to voluntary action

Net cost of response across economy will be small
(Hatfield-Dodds et al, 2007 – report for Climate Institute)
– note: value of avoided climate change impacts ignored



Price responsiveness of US residential sector energy use to doubling of energy prices (Wade, 2003). Impact of emissions trading on prices likely to be much less than this: present price 17c/kWh, \$25/t CO2 adds 3.5 cents, so doubling in price equivalent to >\$125/t

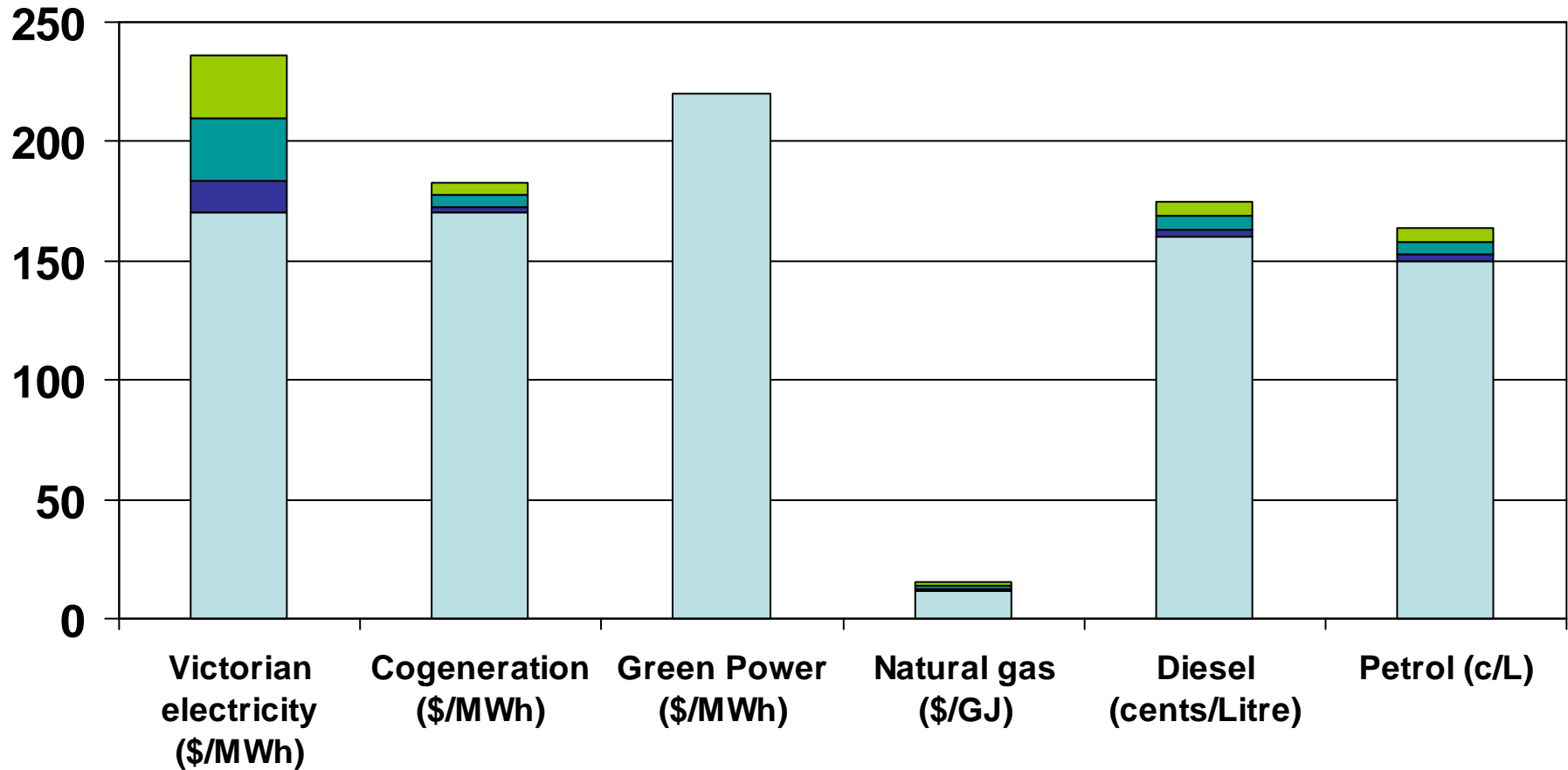
Figure 1. Response of Residential Delivered Energy Demand to a Doubling of Residential Sector Energy Prices



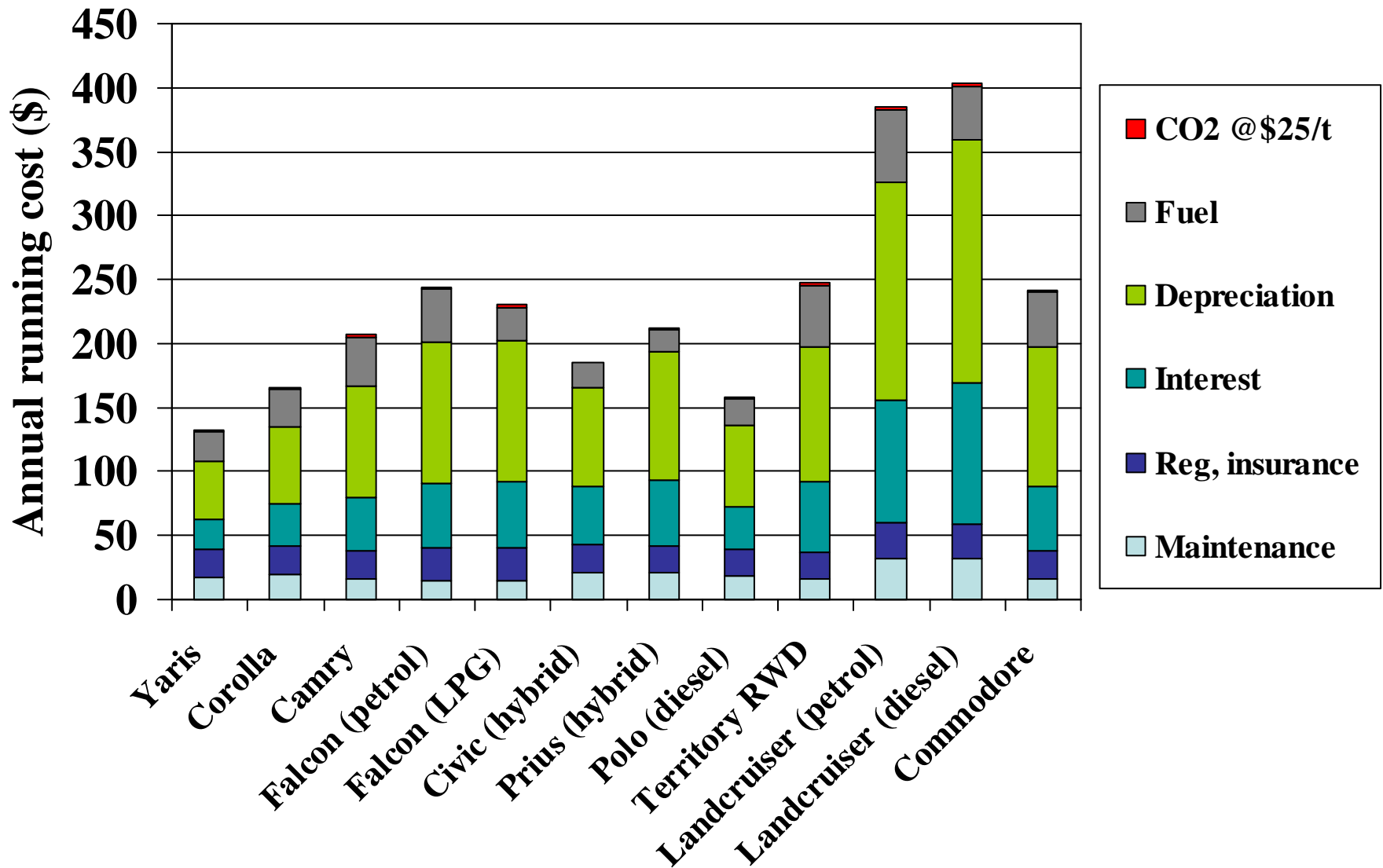
Source: Energy Information Administration, calculated from the following price path scenarios using NEMS AEO2003: regeneration of the reference case price path, ELAST03.D121203B; permanent price doubling case, ELAST03.D121202J; temporary price doubling case, ELAST03.D121203K.

Impact of CO2 prices on household price of various energy types – indicative only, excluding taxes and profit margins.
 Note: prices assumed 17c/kWh for electricity & cogen; Green Power 22c/kWh, gas 1.2 c/MJ, Diesel \$1.60/L, Petrol \$1.50/L

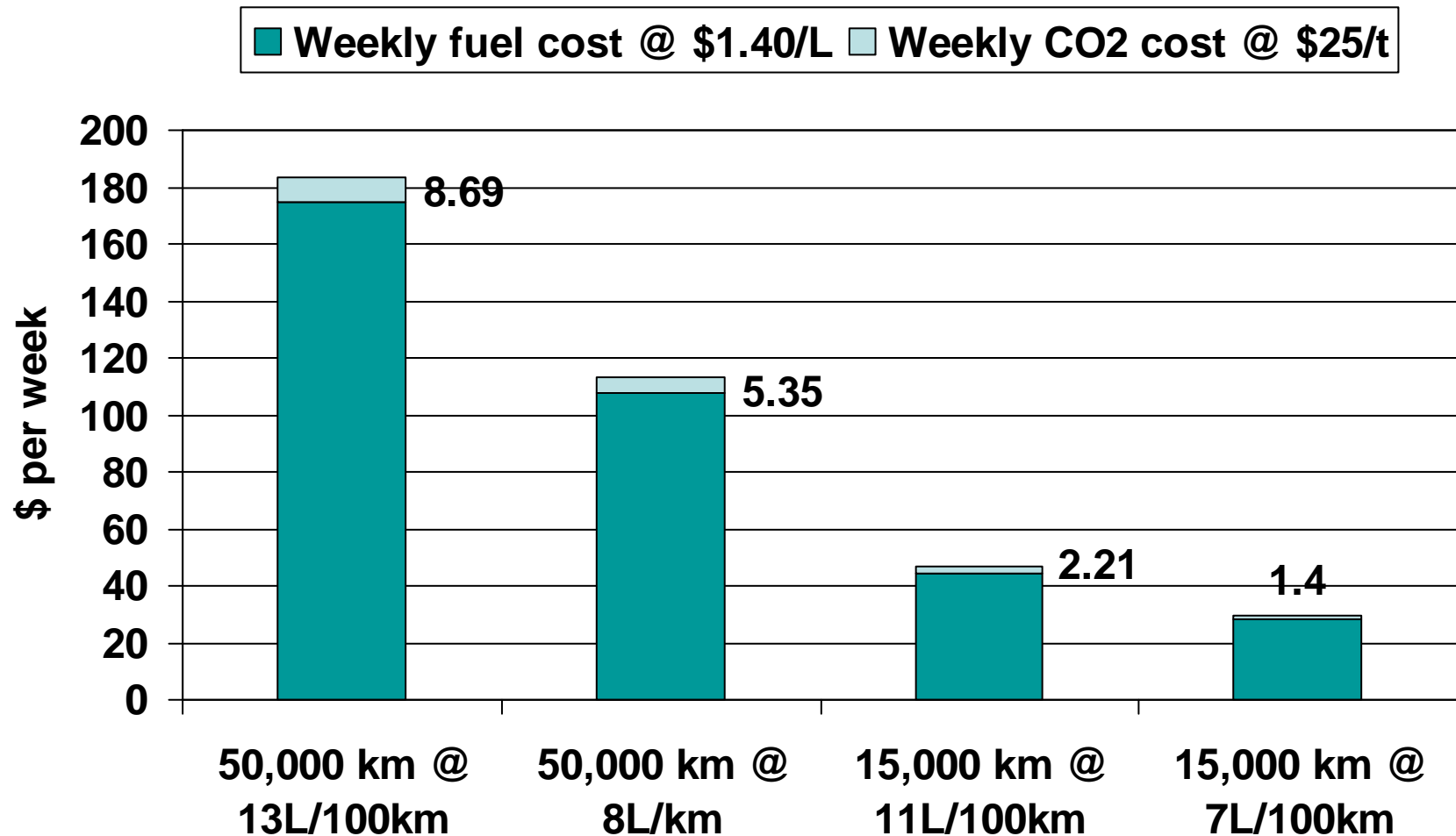
0 \$10/tonne CO2 \$30/t \$50/t



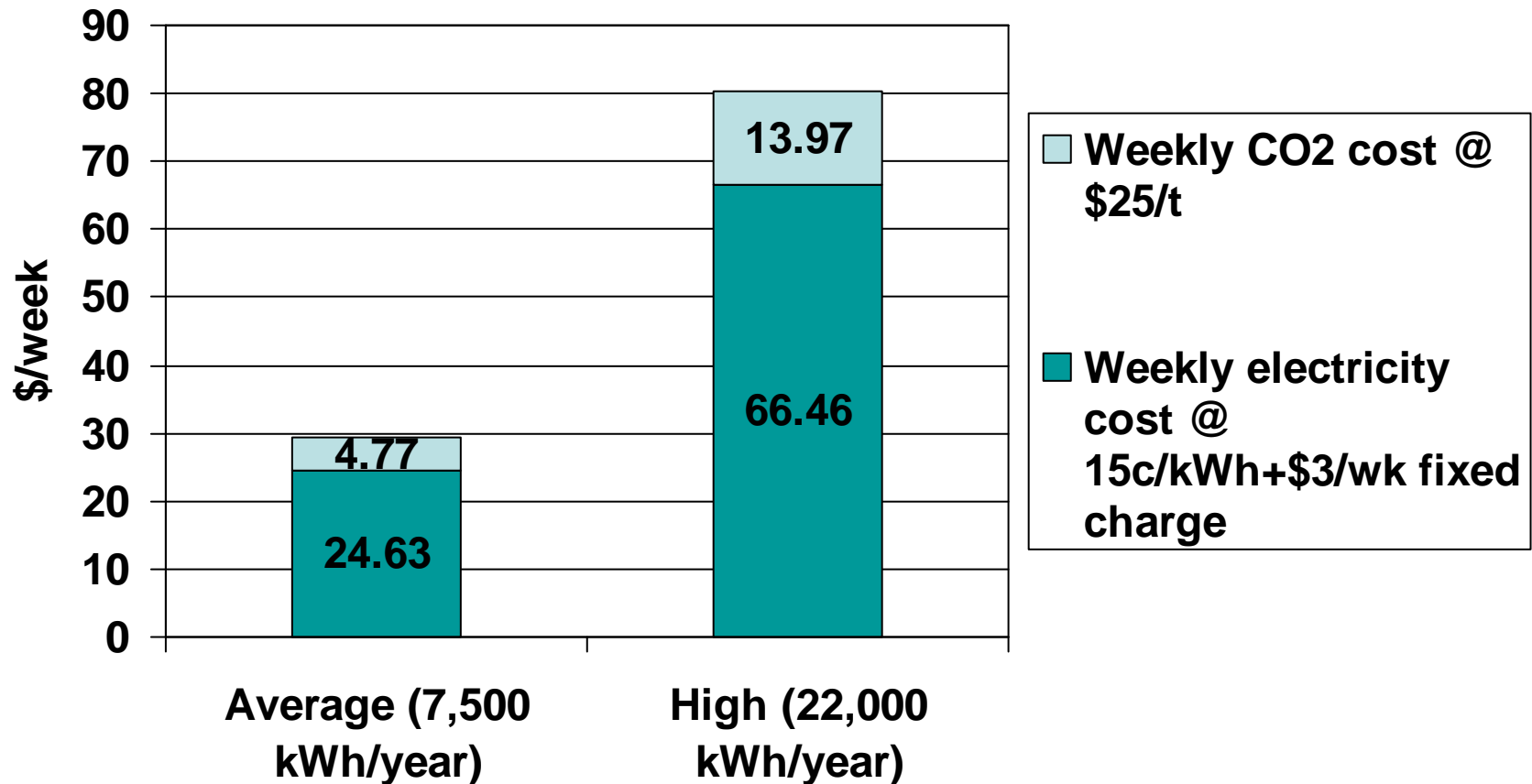
Annual running costs of passenger vehicles, 2008 (Royalauto June 2007) – 15,000 km pa owned for 5 years, paid off over 5 years, unleaded \$1.36 c/L, diesel \$1.43c/L, LPG \$0.61c/L



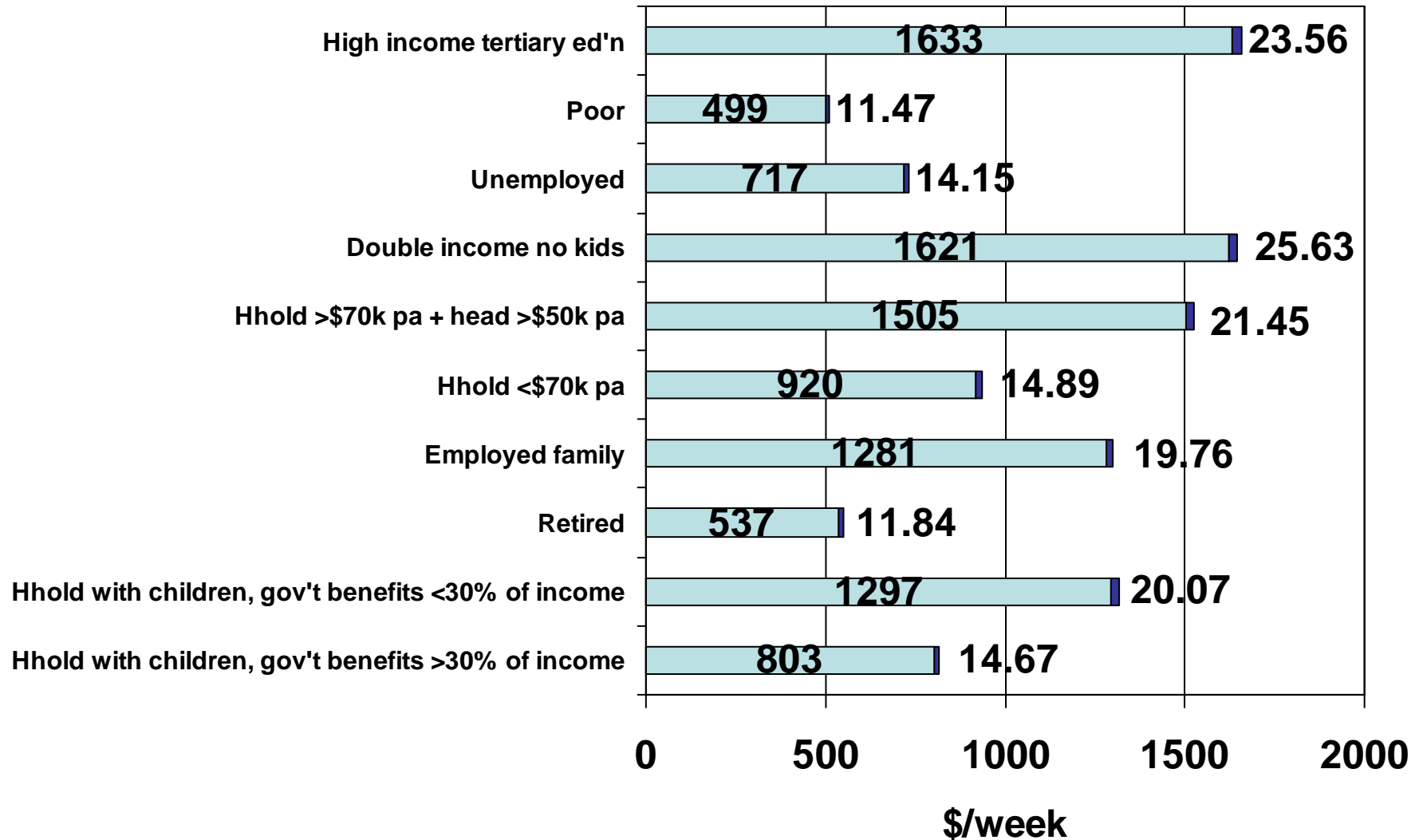
Impact on car fuel cost/week for \$25/tonne CO2.
Note fuel cost is only 30% of average household
expenditure on transport (\$43 of \$144/week)



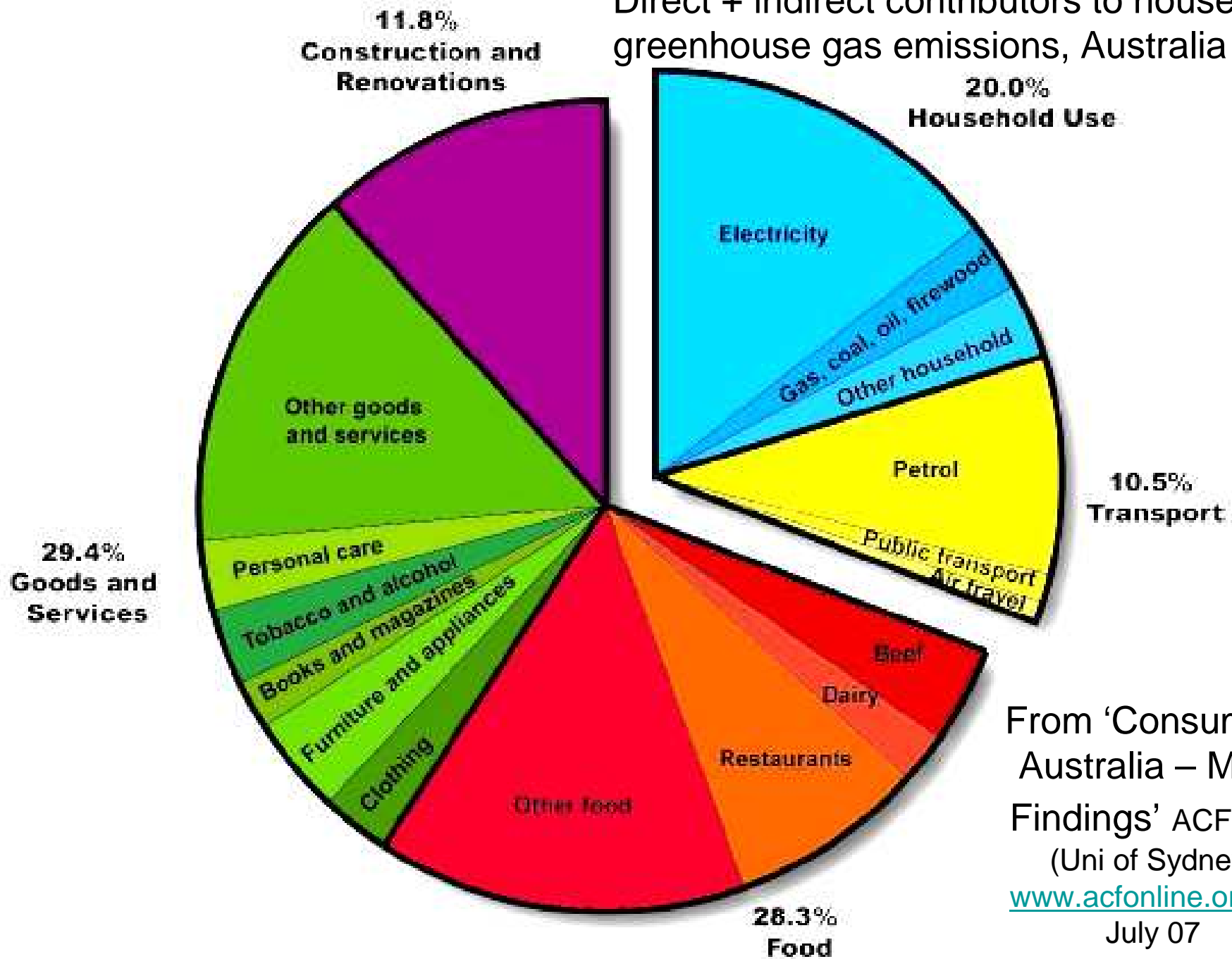
Impact on 2007 Victorian household weekly electricity cost of \$25/tonne of CO2 – high consumers will suffer higher cost impact, but already experience high costs



Impact on weekly household expenditure of \$25/t CO2 emission price (direct and indirect effects) (Brain, 2007) – includes CO2 only (~70% total ghgs). Note Government ET revenue \$9-13 billion at this price ~\$20-35/wk/hhold, half of which is allocated to help households



Direct + indirect contributors to household greenhouse gas emissions, Australia



From 'Consuming Australia – Main Findings' ACF, ISA (Uni of Sydney)

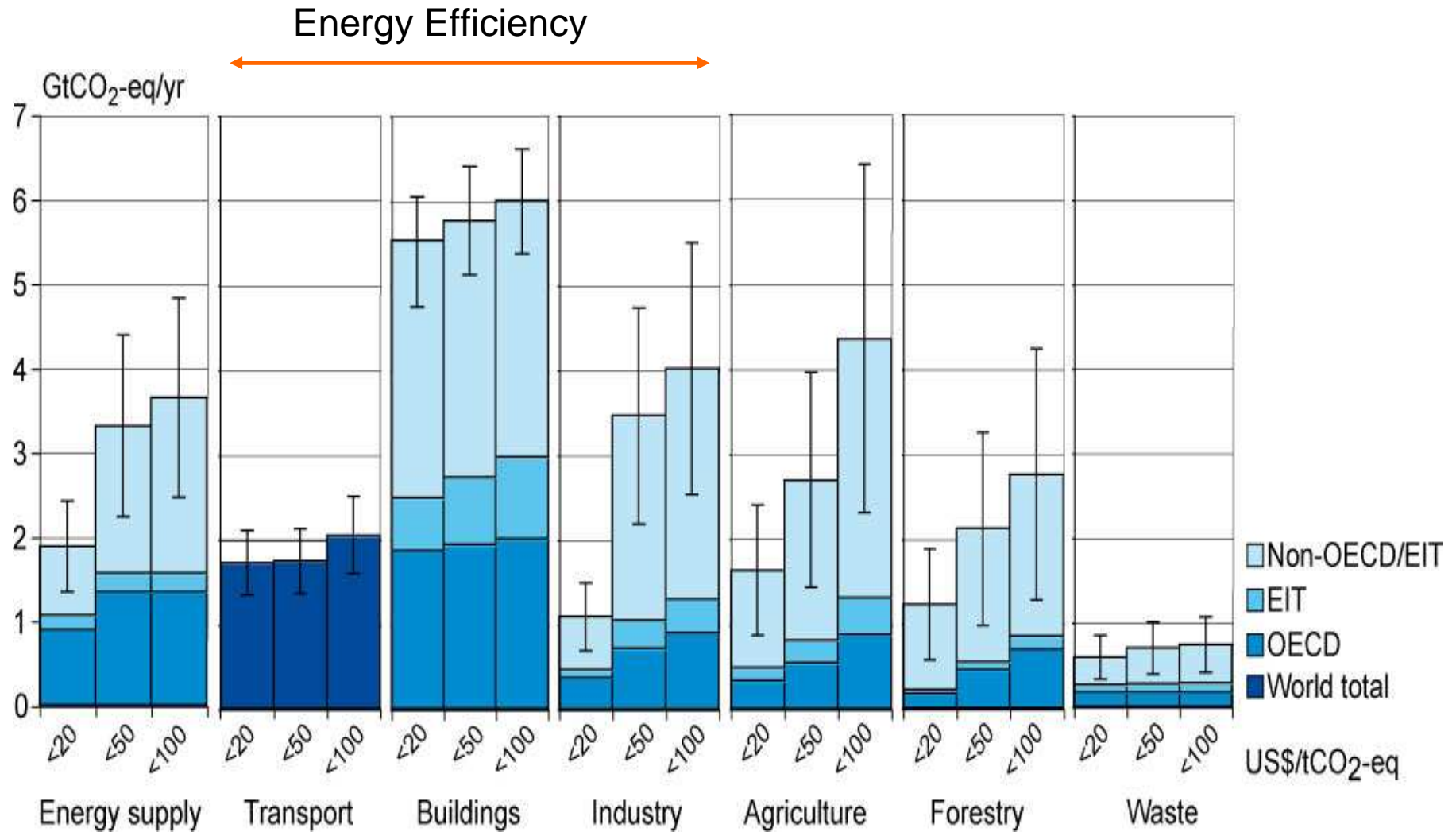
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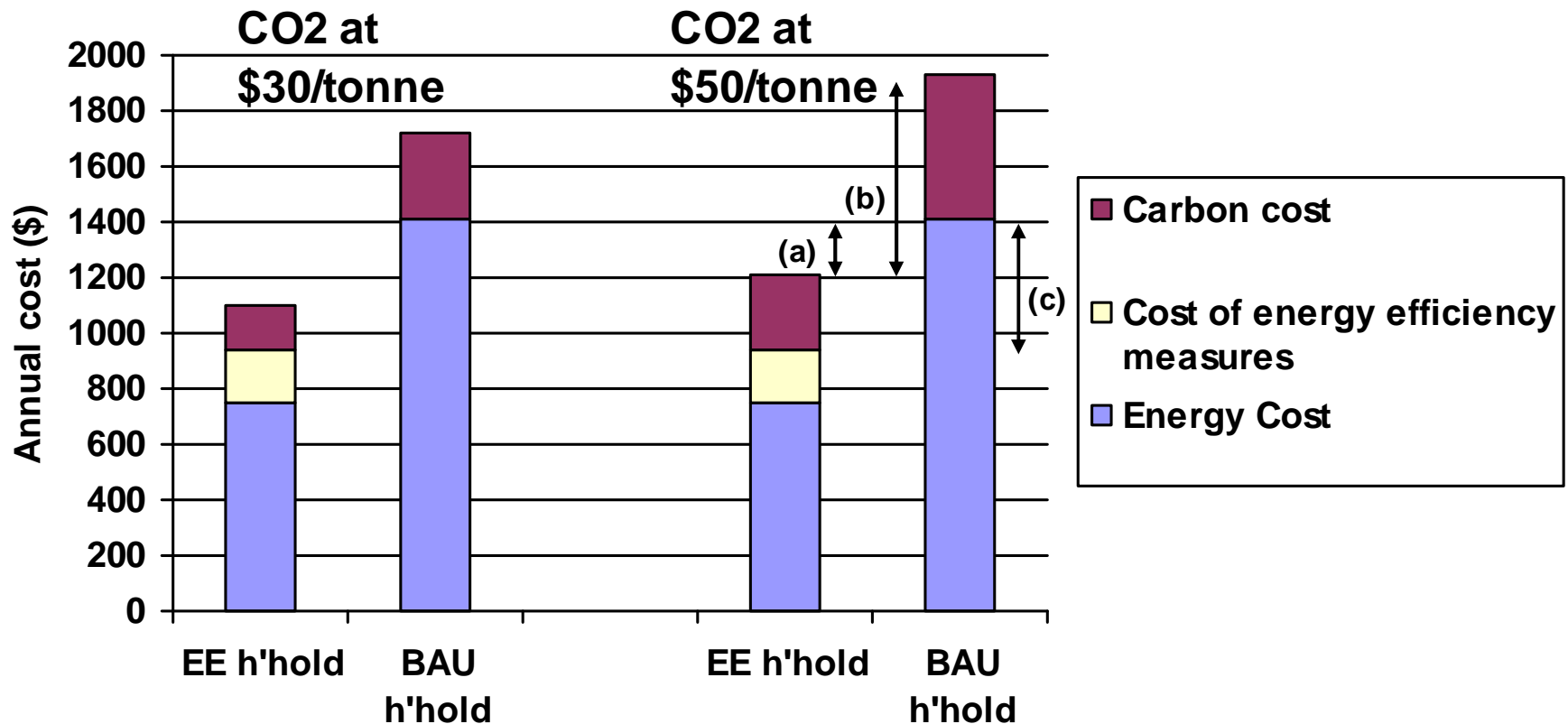
Indirect impacts of emission price

- Examples of impacts on prices of material and service inputs (NIEIR, 2007) for \$25/t CO₂ *if suppliers do not cut emissions*:
 - Sheet metal products 3.7 cents/\$ spent
 - Plastic products 2.4 cents/\$ spent
 - Household appliances 2.1 cents/\$ spent
 - Bakery products 1 cent/\$ spent
 - Fruit and vegetables 1.3 cents/\$ spent
 - Clothing 1.8 cents/\$ spent
 - Health services 0.3 cents/\$ spent
 - Average 1.6 cents/\$ spent
- But impact varies with greenhouse intensity – eg best bricks cost increase is 1/5 of worst, recycled steel 1/3 of new steel, etc
- Households will be compensated by government

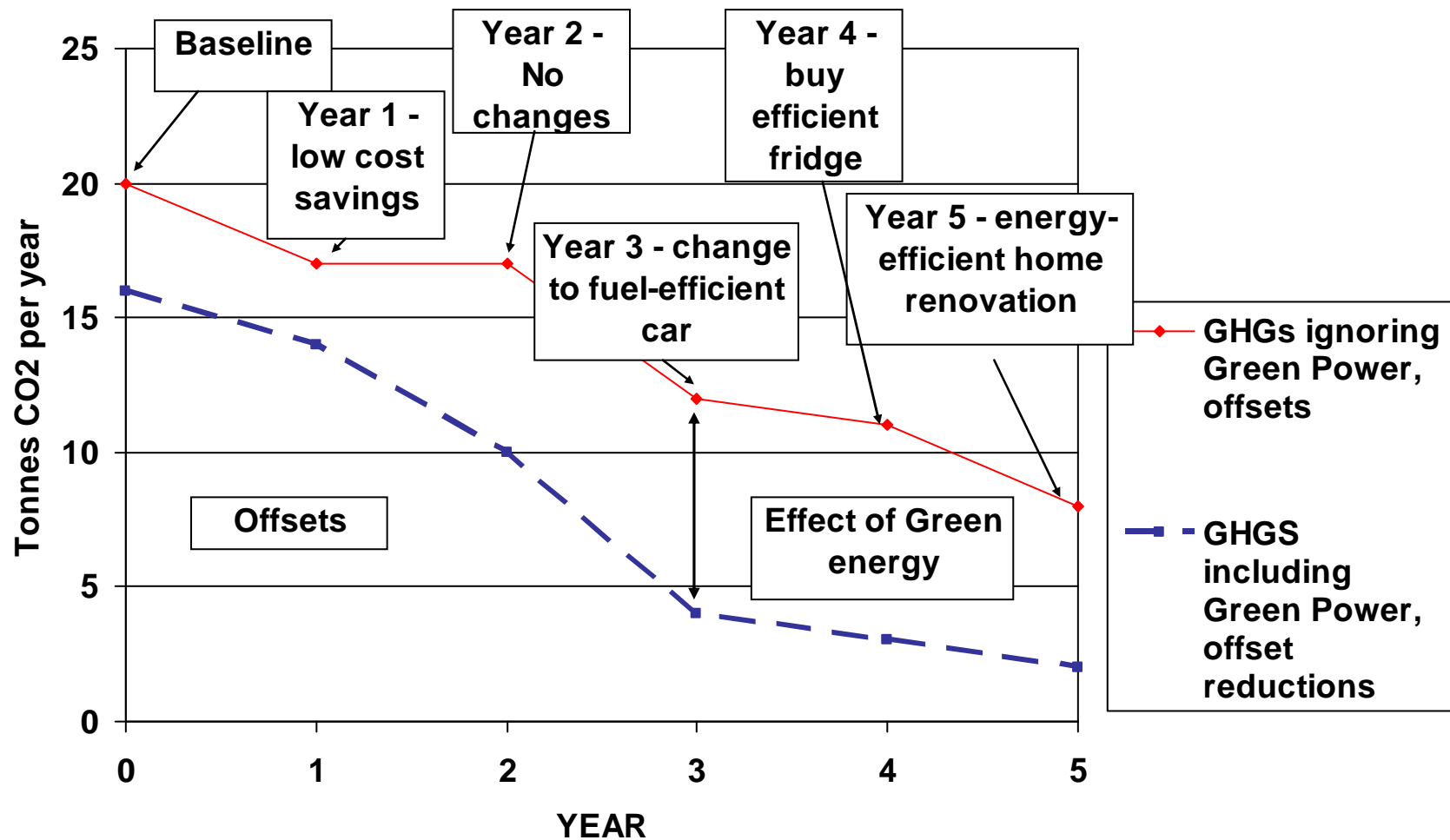
IPCC WG3 mitigation potential by 2030 – sectors



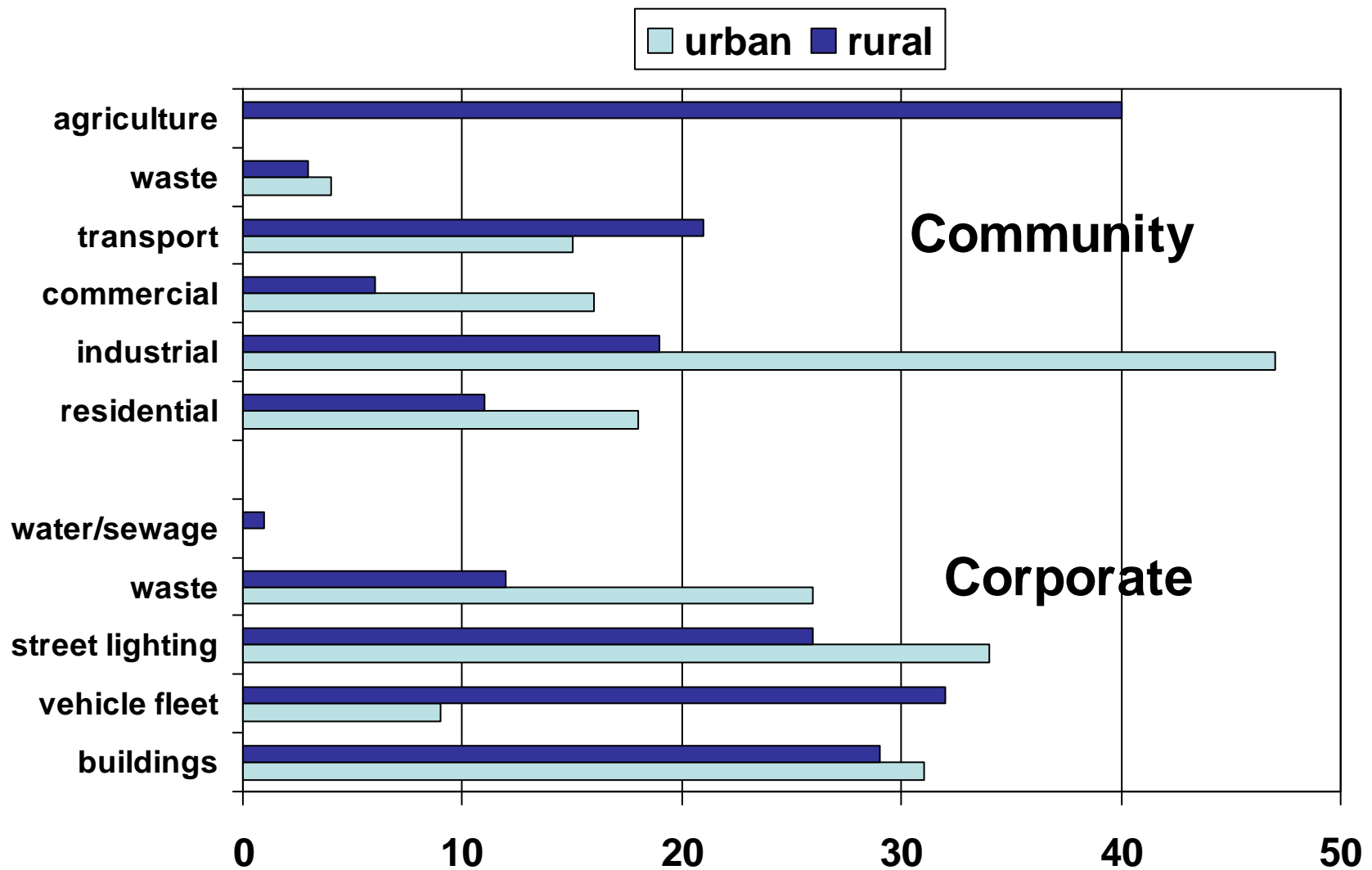
Household energy savings for an efficient 'average' household per annum: using less energy offsets higher price/unit



Example of a personal zero emission strategy for household energy-related emissions – some or all of remaining emissions can be offset each year



Victorian CCP council greenhouse gas emissions (2005) by percentage



Roles of Councils

- Cut own emissions: reduce costs, learn from experience and demonstrate leadership
- Provide infrastructure and support for local community and business to cut emissions
- Help ‘futureproof’ local community and business – educate and support adaptation to response policies, climate change impacts
- Help local business capture opportunities – new businesses, sequestration, etc
- Lobby state and Commonwealth governments to act – and support action

Other Emerging Issues

- Government incentive programs – VEET, Green Loans, Industry funds, etc
- Focus on existing buildings and low income households
- Strong growth in renewable energy, energy efficiency, businesses that help monitor and cut emissions, suppliers of low emission products and services
- Stronger regulation: buildings, HWS units, urban development, appliance MEPS, etc
- Tensions:
 - Housing affordability vs sustainability
 - Transport infrastructure and planning