

Commercial sector greenhouse emissions profile

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NSW Department of Environment and Climate Change

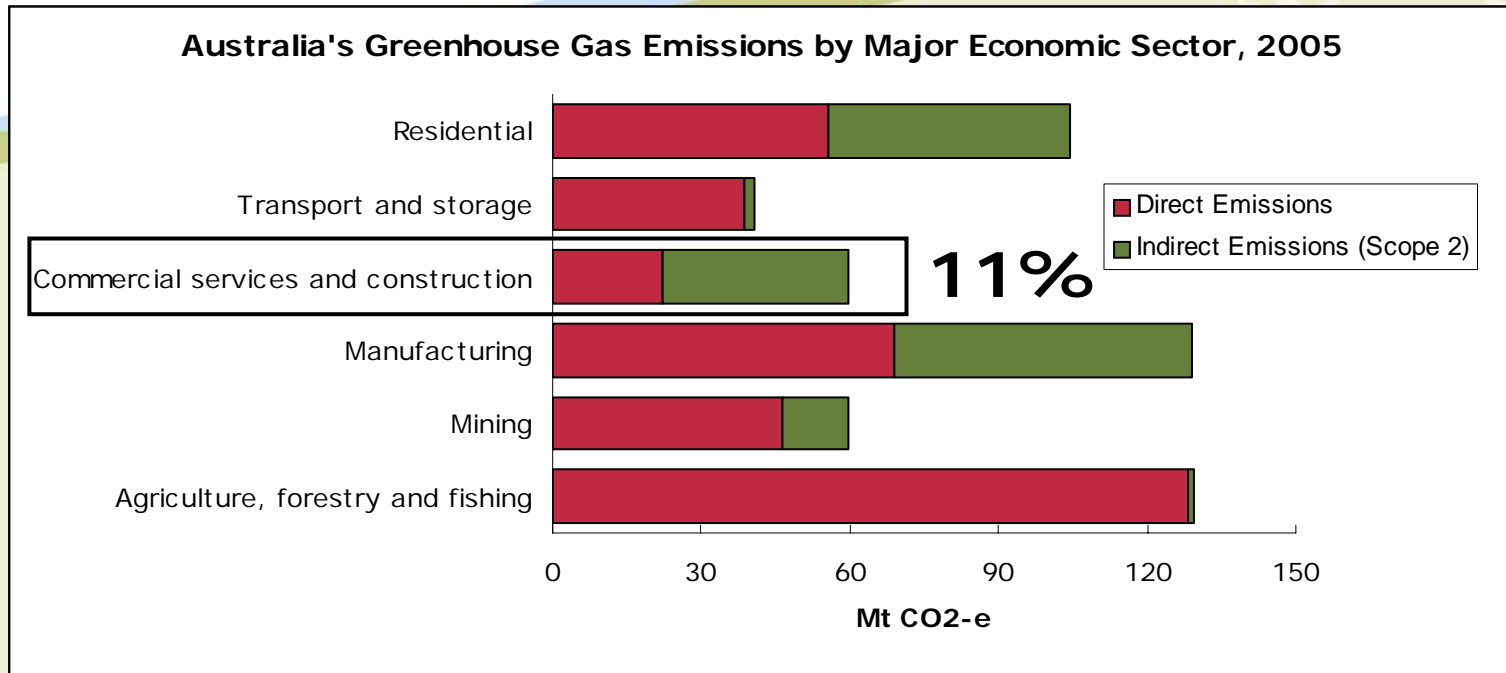
Introduction

- Discussion of source documents
- Current contribution of the built environment to national GHG emissions
- Historic growth in emissions
- Projected future Business-As-Usual trends
- Comparison to long term emissions targets

Main sources of information

- Economy wide emissions – Department of Climate Change
- Building sector contributions – Department of Environment, Water, Heritage and the Arts, ABARE
- Building sector potential – ASBEC, McKinsey

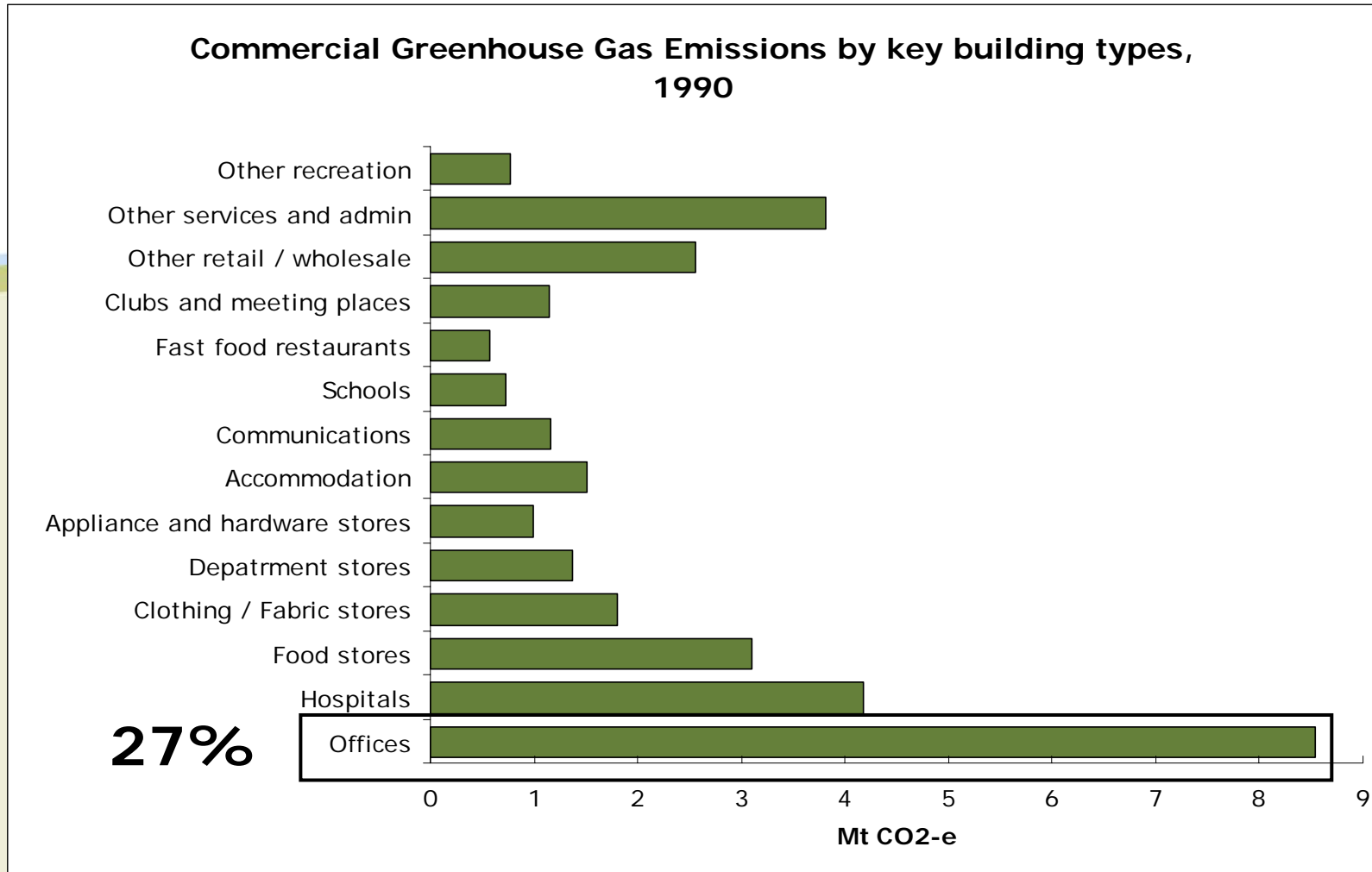
National Greenhouse emissions - 2005



Source – *Australia's National Greenhouse Accounts 2005*

Department of Climate Change (Aust Govt) 2007 www.climatechange.gov.au

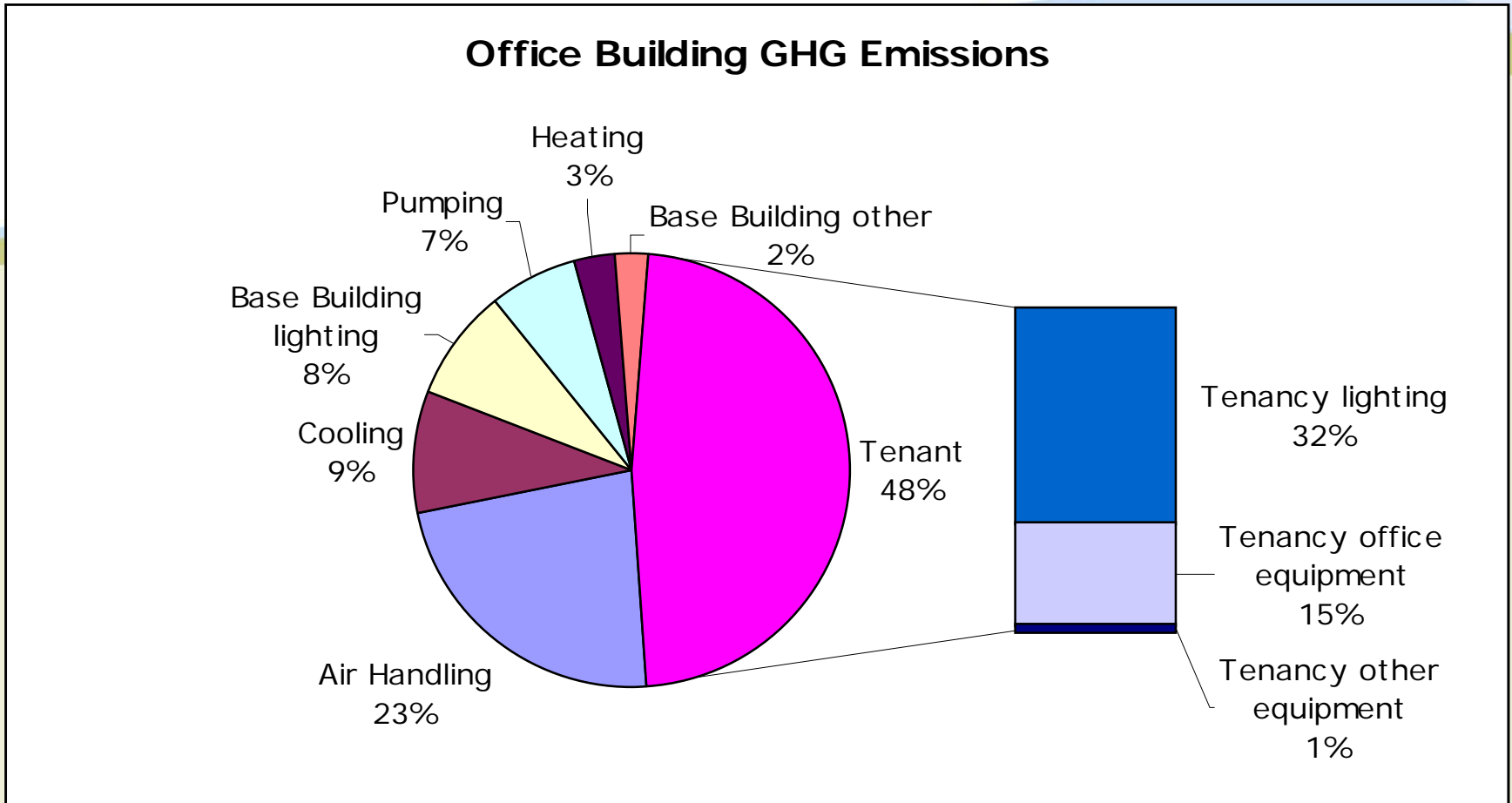
Commercial sector emissions - 1990



Source – *Australian Commercial Building Sector Greenhouse Gas Emissions 1990–2010*
Department of Environment, Water, Heritage and the Arts (Aust Govt) 1999

www.environment.gov.au

Office building emissions

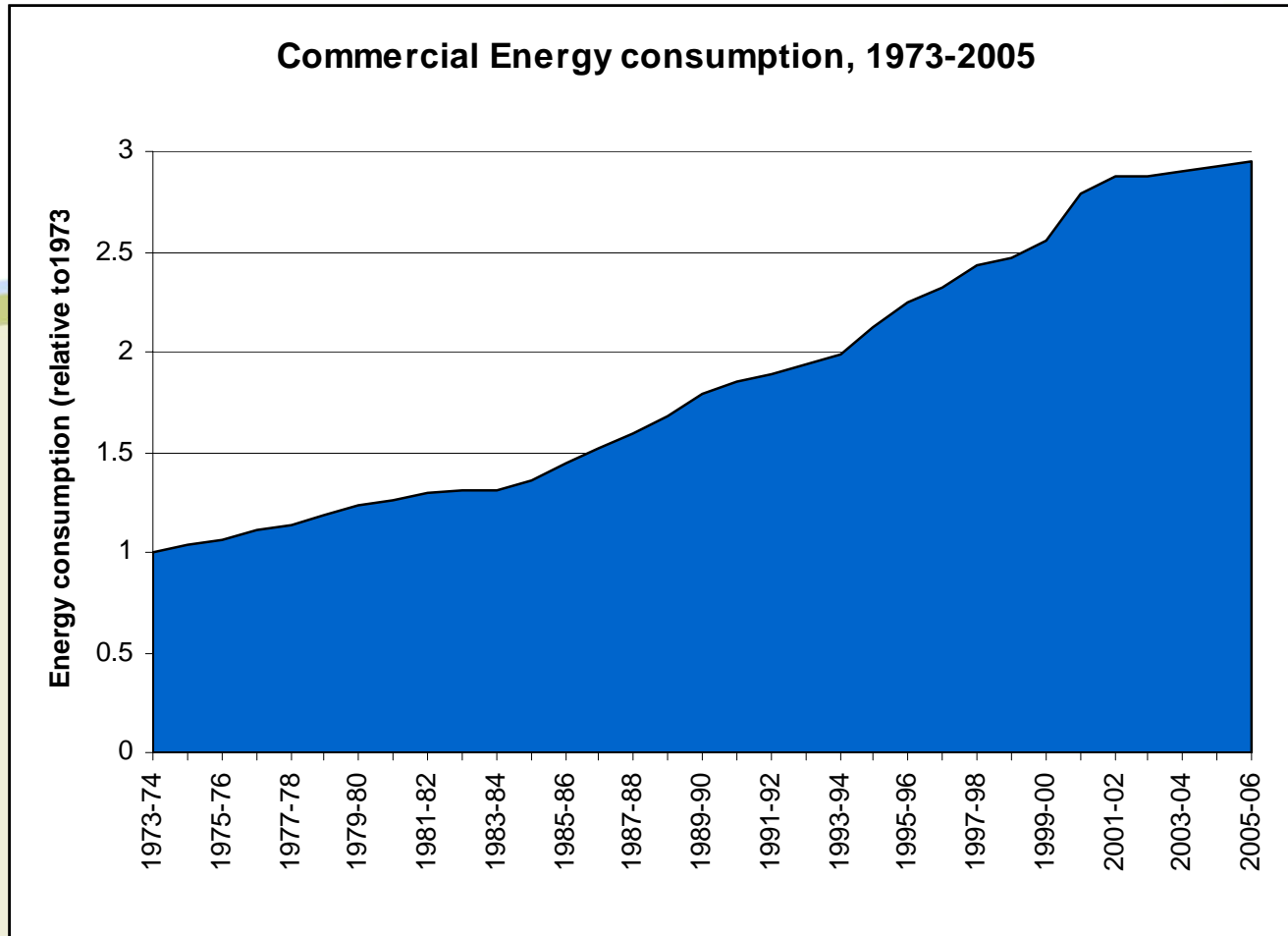


Source – *Baseline study of Greenhouse Gas emissions from the Commercial Buildings Sector with projections to year 2010*

Department of Environment, Water, Heritage and the Arts (Aust Govt) 1999

www.environment.gov.au

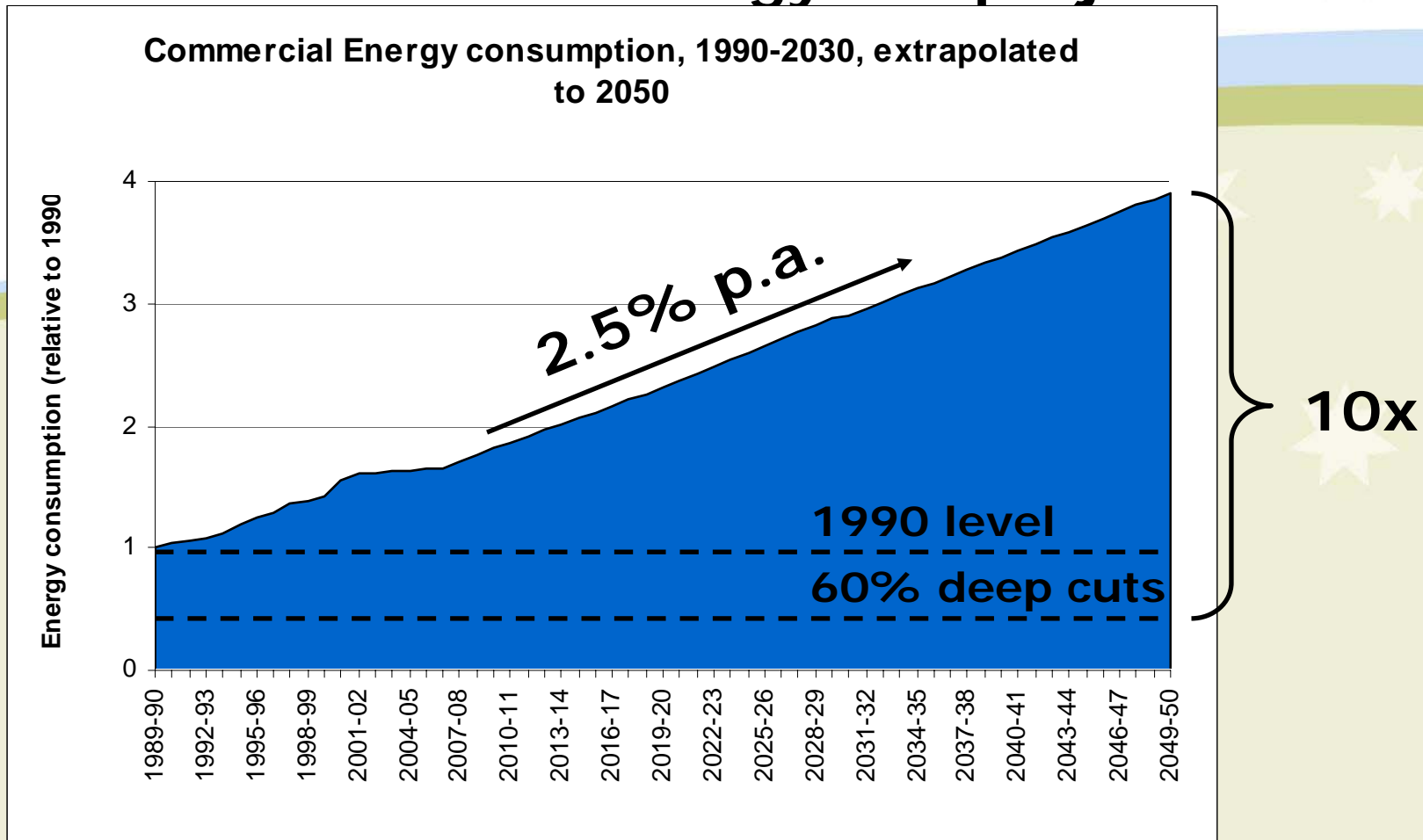
Commercial sector energy use history



Source – *Energy Update 2007, table B*

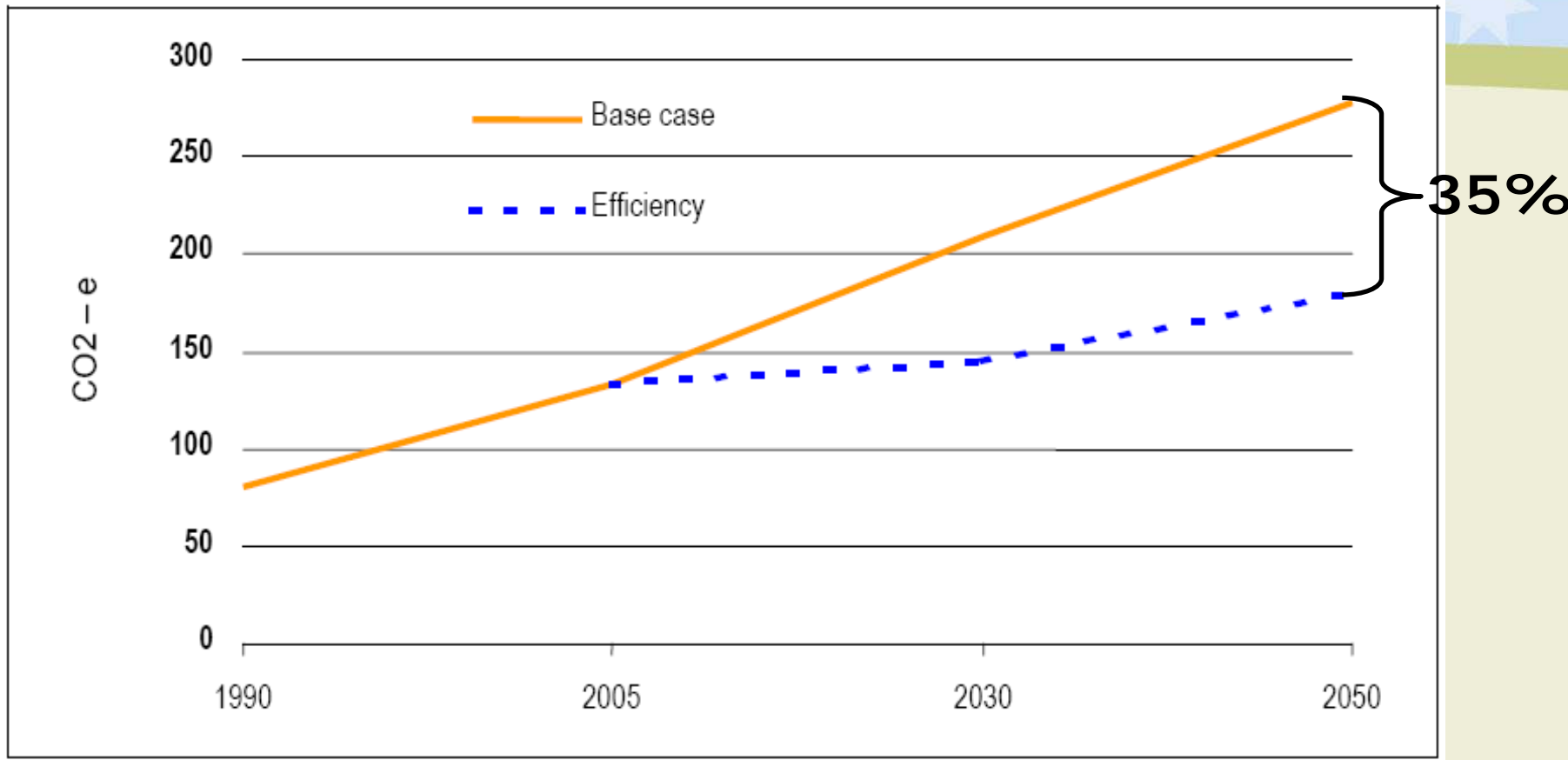
ABARE (Aust Govt) 2007 www.abareconomics.com

Commercial sector energy use projections



Source – *Australian Energy Projections 2007*, table B (extrapolated from 2030 by MC)
ABARE (Aust Govt) 2007 www.abareconomics.com

Meeting the challenge – ASBEC model



Source – *Capitalising on the building sector's potential to lessen the costs of a broad based GHG emissions cut*

CIE for ASBEC 2007 www.asbec.asn.au

Notes on ASBEC model

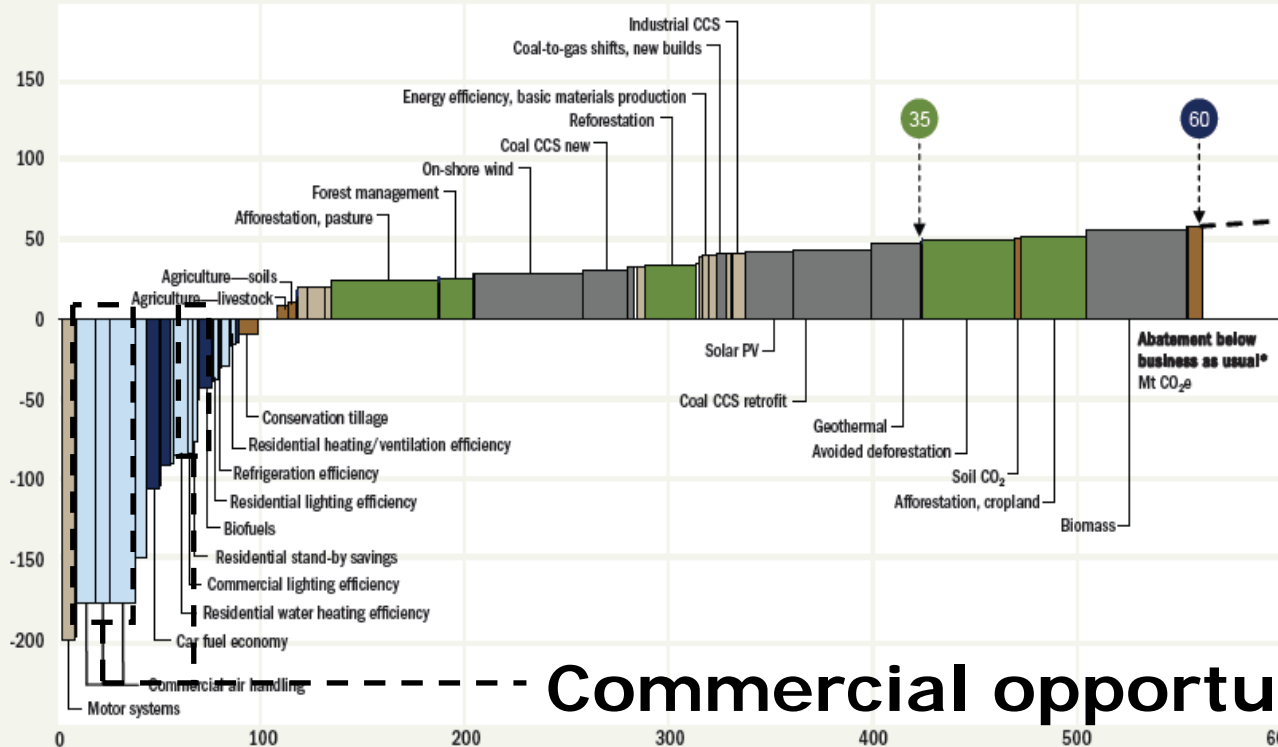
- 35% savings against BAU using today's technology – eg efficient equipment, upgrading building shell
- Net cost savings in medium to long term – positive financial payback rather than cost per tonne abated
- Did not seem to consider “waste” in current buildings – actual savings potential higher??

Meeting the challenge – McKinsey model

Australian 2030 carbon abatement cost curve

Cost of abatement
A\$/t CO₂e

- ⊗ Reduction below 1990 levels, percent
- Break-even point
- Industry
- Buildings
- Forestry
- Power
- Transport
- Agriculture



Note: Abatement opportunities are not additive to those of previous years

Source: McKinsey Australia Climate Change Initiative

Source – *An Australian Cost Curve for Greenhouse Gas Reduction*
McKinsey&Company www.mckinsey.com.au

Notes on McKinsey model

- In 2030, the building sector has the lowest average cost opportunities at a net benefit of A\$130 per tonne CO₂e.
- Building sector (includes residential) has 60 Mt CO₂-e abatement potential
- Many opportunities can be implemented today

Implications

- Both ASBEC and McKinsey agree that action in building sector can reduce economy wide costs of emissions reduction
- Government, industry, community expectations and focus?
- What are you doing??

Thanks

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