

Evaluating the impact of energy
labelling and MEPS – a retrospective
look at the case of refrigerators in the
UK and Australia

ECEEE 2007 4,292

Kevin Lane
Lloyd Harrington
Paul Ryan

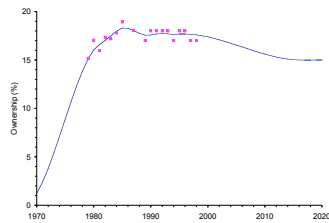
Overview

- Background
- Australia evaluated savings
- UK policy (drivers)
- Changes in UK – a decade later
- Outstanding issues
- Summary, conclusions

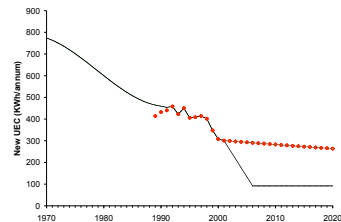
Background

- Requirements for appraisal prior to policy implementation (RIS, IA)
- Also, subsequent evaluation
- Australia did a first long-term evaluation (Ryan, 2006)
- UK repeating, see if methodology can be improved

Appraisal & evaluation model

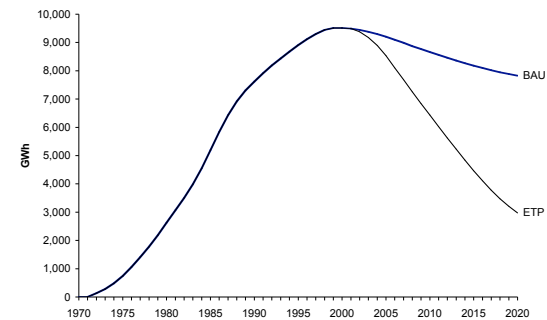
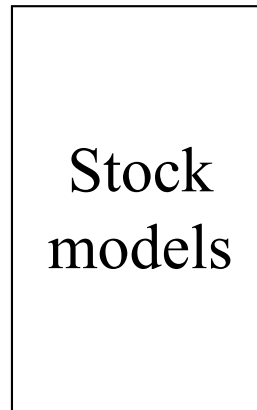
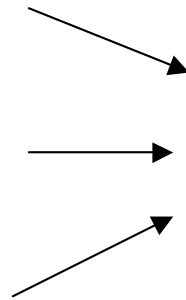


Ownership
Sales
Lifespan



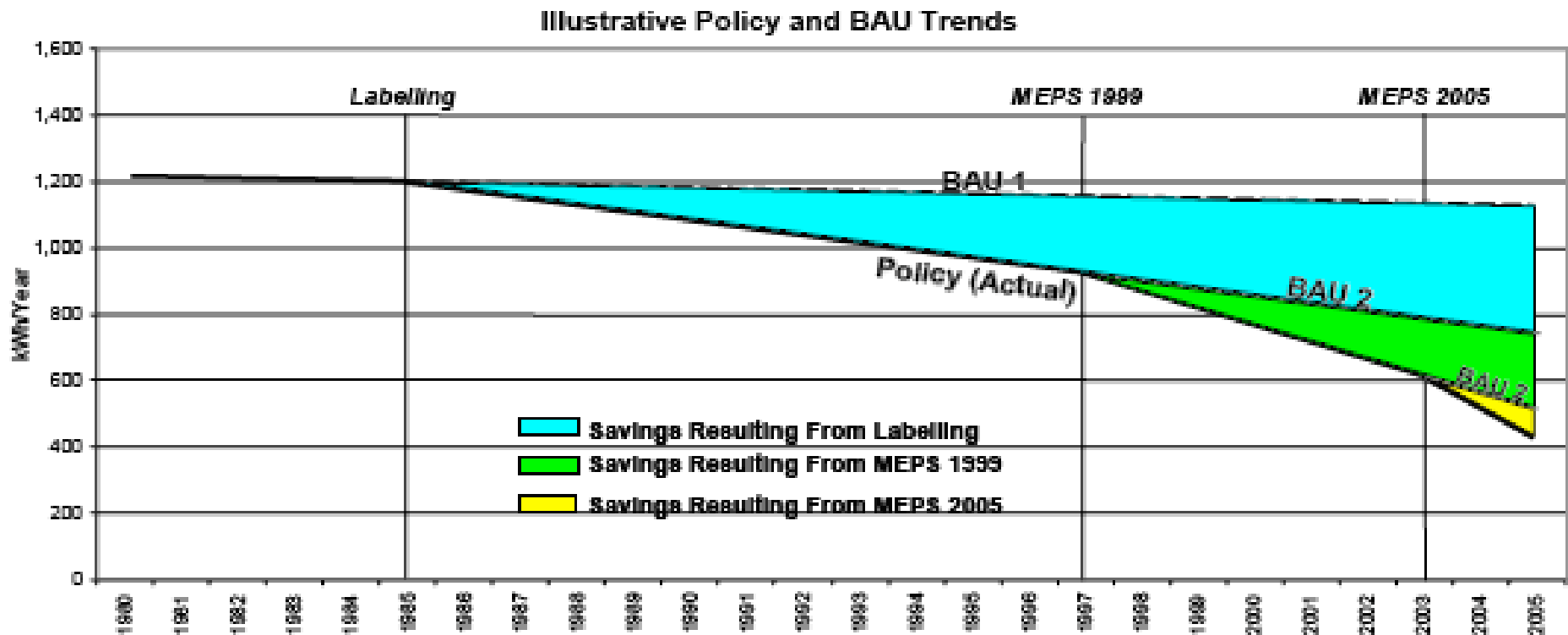
Technology

Efficiency, kWh



Electricity

Australian initial approach (kWh/year)



Australia – Labels (1986), MEPS (1999, 2005)

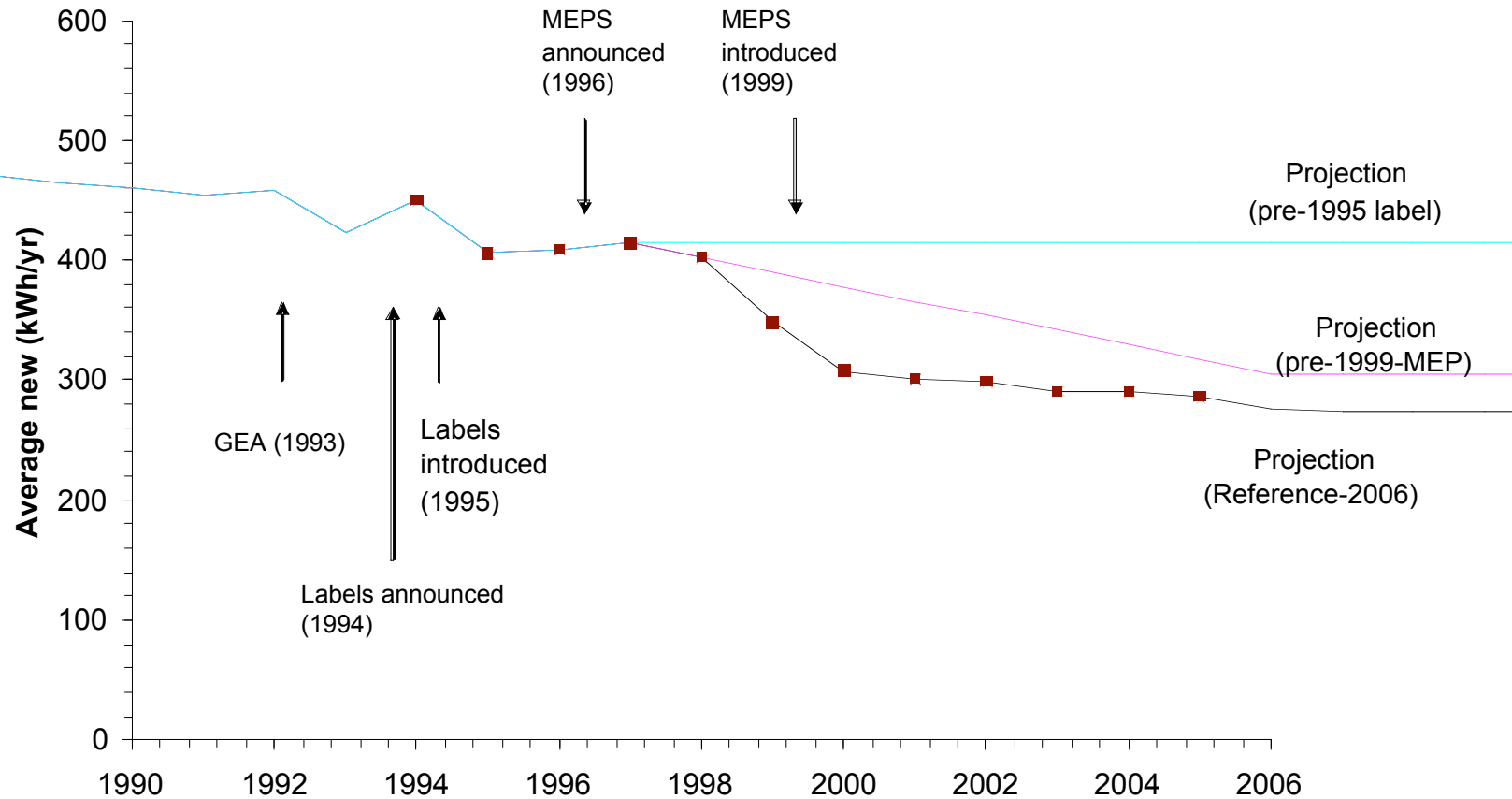
Australia findings

- Energy savings significant (from 1986 labels 750 GWh/year by 2005, from 1999 MEPS 700 GWh/year in almost nine years)
- MEPS similar/higher than RIS estimated (appraised)
- Cost-effective (purchase prices falling, Harrington, 2007)
- However, methodologically, need to account/correct for 'counterfactuals', eg changes in features (size, frost-free), stock

UK-EU polices

Policy	Comment
EESoP (1994-2001)	Subsidy, e.g. fridgesavers (relatively small number)
A-G label 1995	Mandatory, EU since 1995 (significant impact)
MEPs 1999	Remove <i>DEFG</i>
Eco-label	Endorsement label (not widely used)
EEC 2002-2005	Commitment on energy suppliers.
CECED VA	EU manufacturers' association voluntary agreement
Label A+, A++	2004 (some effect, build on effective EnergyPlus programme)
EEC 2005-2008	Follow on from EEC 2002-2005, subsidy for efficient appliances
EST ESR	Endorsement by the UK Energy Saving Trust
Energy Plus (and E+2)	Bulk purchase, competition (small effect in UK)
Quick wins '07	Government procurement (on A) (low impact)

UK historic projections (chest freezers)

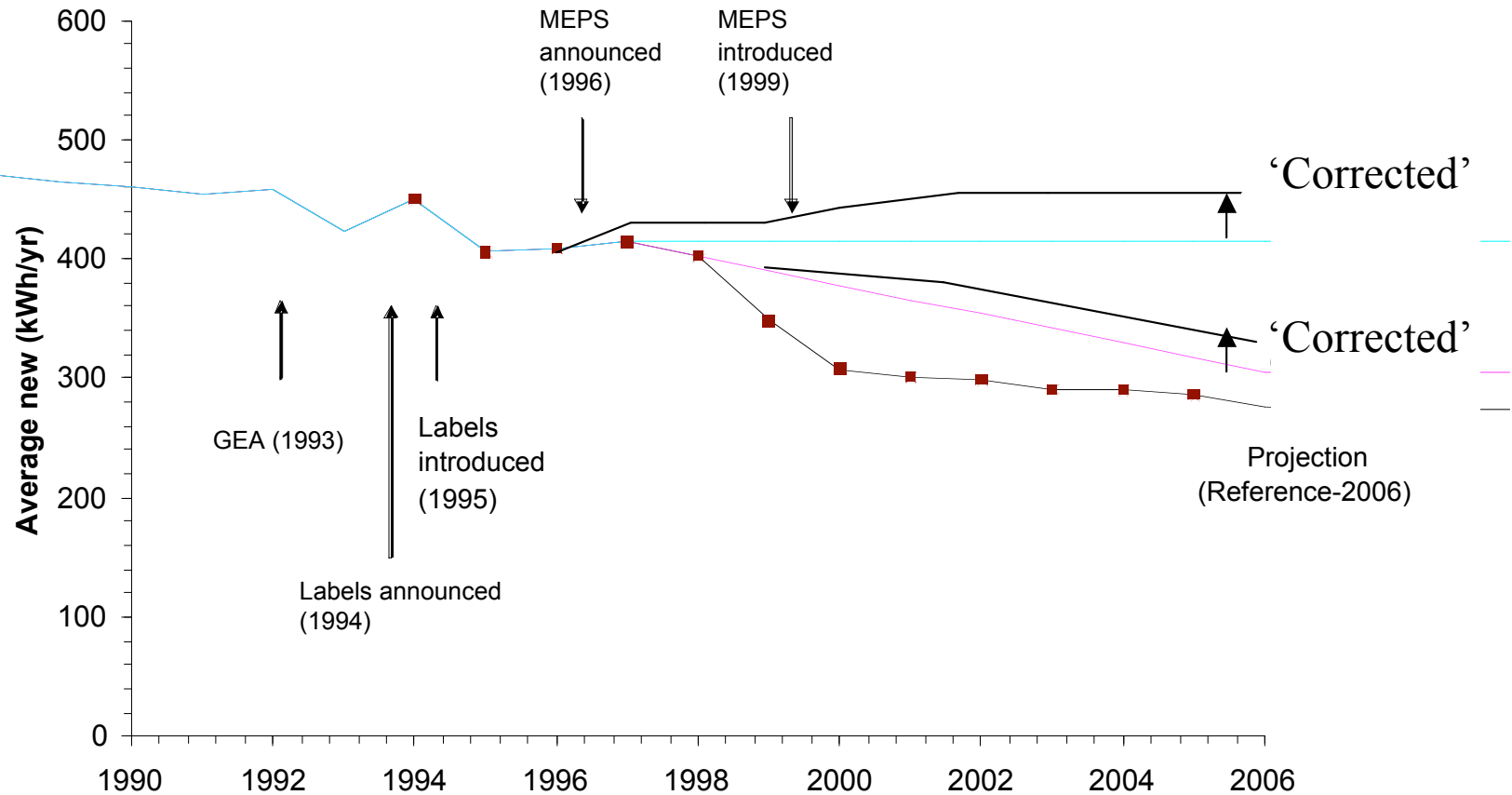


UK changes– A decade later

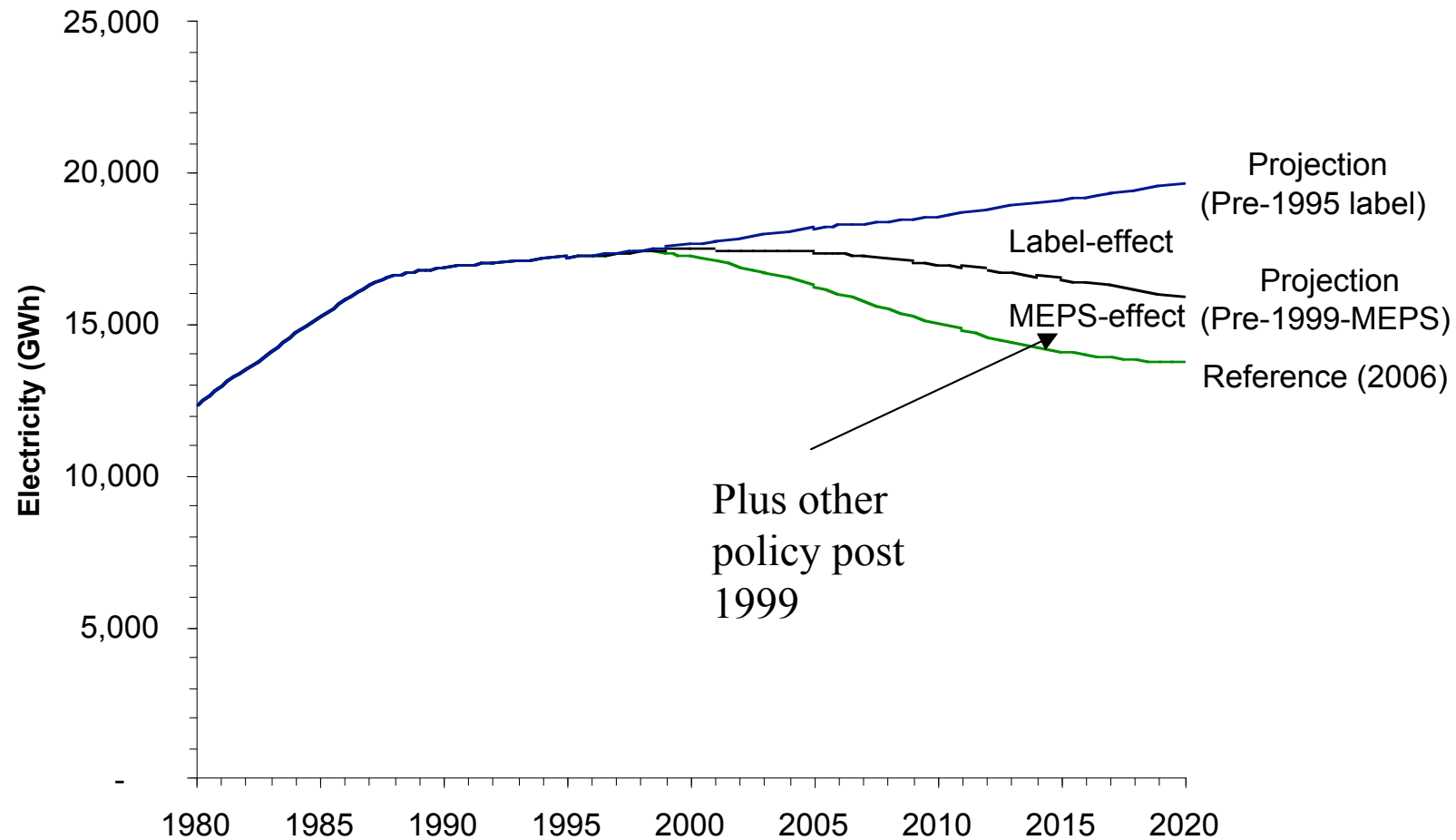
- Changes in volume/size (most slightly larger)
- Frost-free (fridge freezers: 24% to 60% in fridge-freezers)
- ‘structural’ shifts: changes from standard to larder fridges, upright to side-by-side fridge-freezers
- Number of stock (similar to projected)

Feature	1999	1999	2006
Larder/standard (%)	59	67	85
Chest volume	147	168	170

UK historic projections (corrected chest freezers)



UK estimated savings



Outstanding issues

- Based on label information [may not be representative, Mowris, 2007].
- Tolerances on label declarations.
- No deterioration in products overtime
- Insufficient 'autonomous' rate of improvement
- Modelling deficiencies (decay functions, changing lifespans, etc)
- Heat replacement (lost incidental gains), internal temperatures (Shorrocks, 2007)
- Attribution - combined longer term effects
- Additional information: consumer, manufacturer and retailer surveys [for motivation and attribution]

UK findings

- Previous RIAs did not provide estimates of savings for labels nor standards
- Savings significant (2TWh/year by 2006)
- Very low cost, lower purchase prices (not presented in this paper)
- Further work on attribution to be done (for later policies)

Evaluation requirements

- Annual sales data (eg GfK)
- Models information (central deposit makes life easier! Also compliance)
- Annual projections for each product (including features, eg size, frost-free) [or at least for each policy measure appraisal]
- Need to be collecting now for future evaluations

Next steps – UK/Australia

- Write a generic approach document
- Re-analyse Australian evaluation?
- UK – review historic projections (since no RIA done at the time)
- Include price analysis
- Apply approach to other products?

Summary

Standards and labels

- Savings significant (2TWh by 2006 in UK, all policy)
- Very cost-effective (falling purchase price)

Methodology

- Evaluation requires re-running models with corrected 'counterfactuals'
- Implies annual data collection, and projections (including features, eg size) for future evaluations

Thank you!

Kevin.lane@aeat.co.uk

www.mtprog.com