

Capturing the “multiple benefits” of energy efficiency in practice: the UK example

eceee

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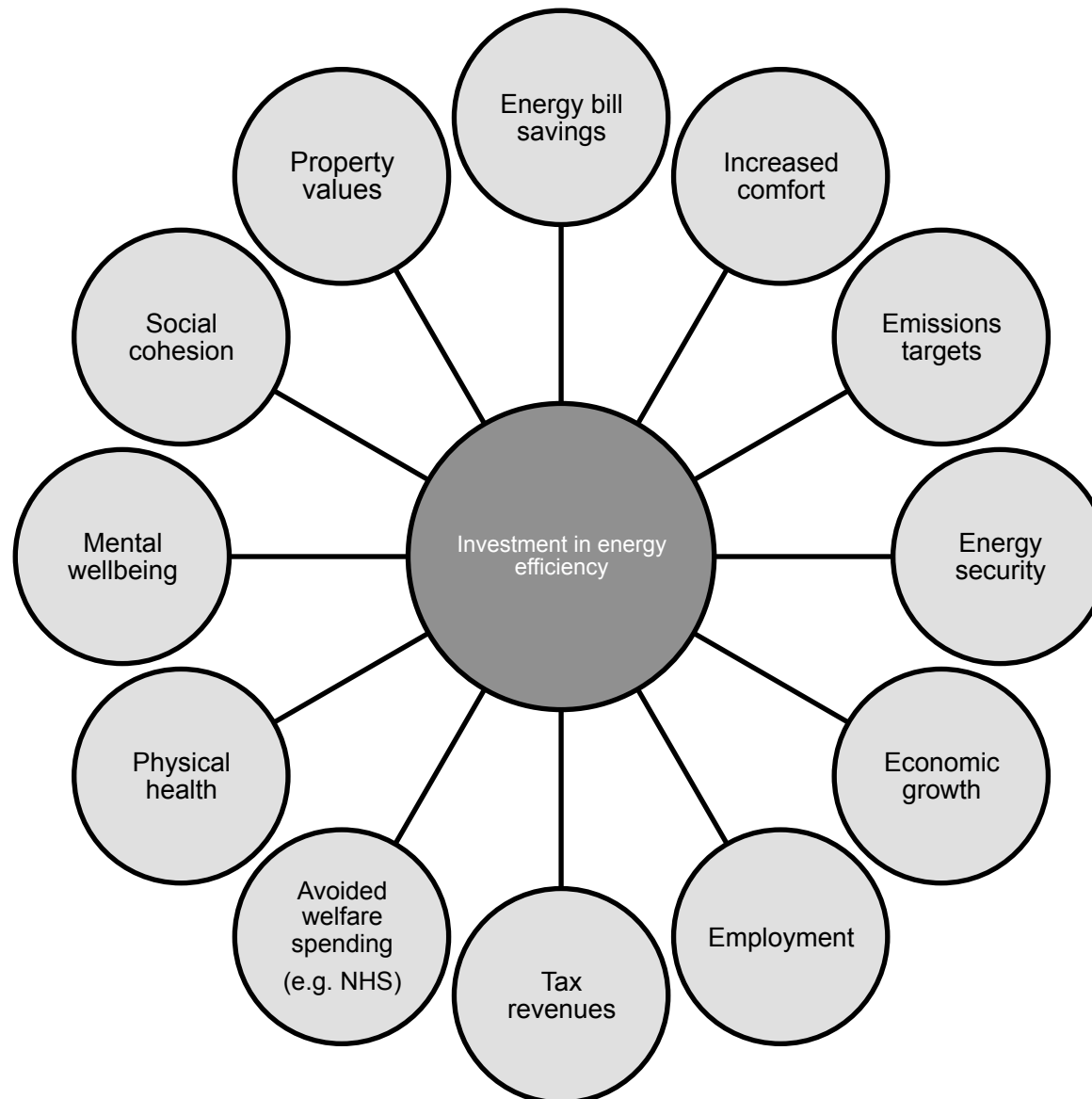
on behalf of Joe Payne



Why?

1. Want to increase investment in energy efficiency
2. Review if there are significant additional benefits
3. Understand how Government are taking into account

Multiple benefits



Multiple benefits

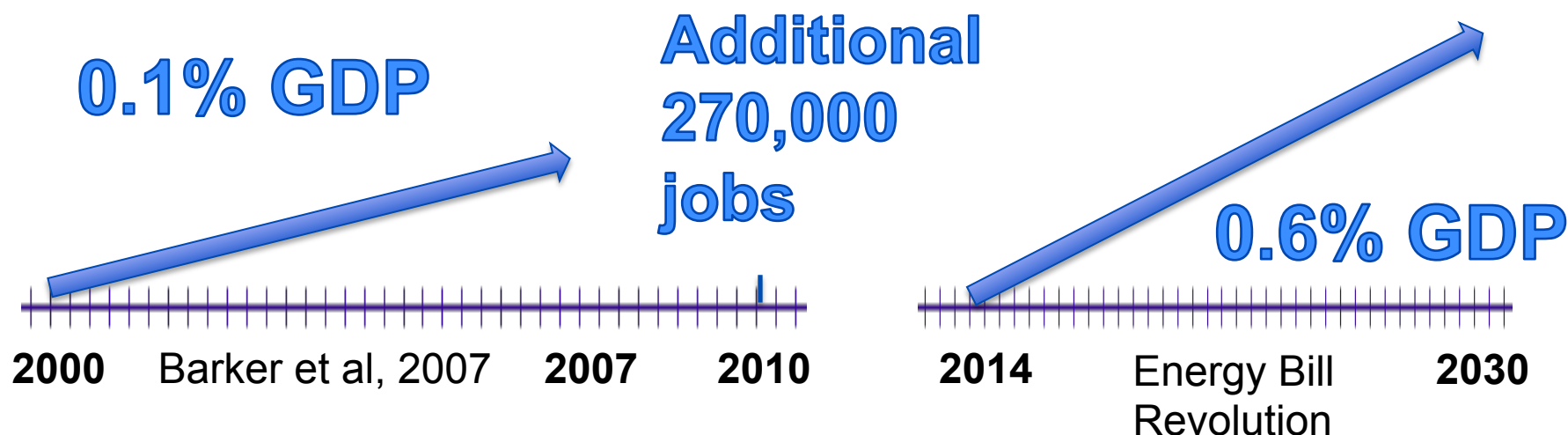
IEA summarise into 5 areas:

- Macroeconomic development
- Public budgets
- Health & wellbeing
- Industrial productivity
- Energy delivery

Macroeconomic development

1. Jobs and growth


Energy efficiency policy evaluation/analysis



Energy efficiency sector worth **€25.6 billion**

Increased household budget is main impact

Macroeconomic

€1.4 million →  → 32.6 jobs



The energy efficiency industry supports
136,000 jobs

Local jobs in housing repair & maintenance
sector

Increased property asset value

Energy security

Public spending

Takes into consideration:

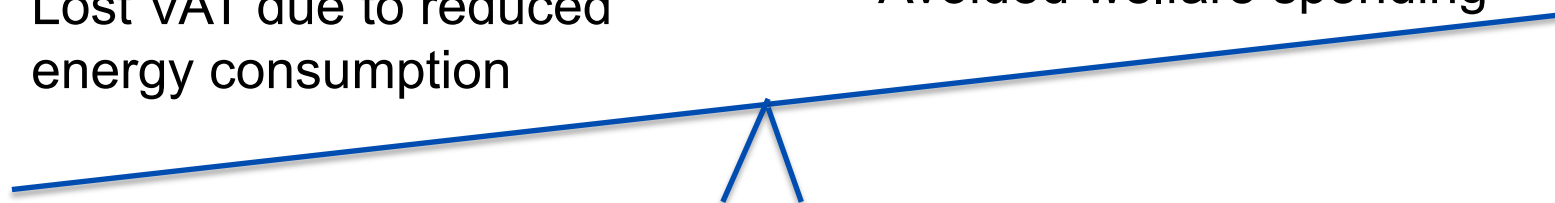
- Tax
- Cost of schemes
- Changes in unemployment & social welfare spending
- Impact on public investment in energy supply infrastructure

Public spending

Expensive remaining measures → large financial investment

High up-front cost
Delivery cost of a subsidy
Lost VAT due to reduced energy consumption

Increased tax receipts elsewhere
Avoided unemployment
Avoided welfare spending



Overall positive impacts on the economy

- Avoided welfare spending in NI: for every €1 spent on reducing exposure to cold homes 42 cents were recouped by avoided health costs

Health and wellbeing

- Poor energy efficiency → lower indoor temperature → higher health risk, particularly for elderly, young, long term sick and disabled
- Energy efficiency measures can improve physical health impacts:
 - Respiratory and circulatory conditions
 - Cardiovascular problems
 - Arthritic and rheumatic illnesses

Health and wellbeing

Mental health benefits

- Physical health is a key factor for mental health & wellbeing
- Reduced stress related to high bills, debt and lack of control

Community wellbeing

- Avoidance of physical and mental stresses linked to reduced absenteeism from school and work
- Heating more than one room may reduce family tensions, private space for working and school work

Health and wellbeing

- Avoiding “heat or eat” enables better nutrition
- Avoid social isolation
- Community wide social outcomes – lower crime, improved social cohesion

Negative health impacts

- Reduction in air permeability
- Summer over-heating

Health and wellbeing

BUT - difficult to observe and quantify these benefits

- Meta-analysis found energy efficiency leads to a modest but significant improvement in health
- Mental health benefits easier to assess than physical

Why?

- Variation in methodological approach and context
- Difficult to observe and subjective (particularly if self-reported)

Recognising the value in policy

Policy framework needs to recognise these values.

Identification and comparison of value between different policies is central in their assessment

Recognising the value in policy

Benefits	Green Deal/ Energy Company Obligation - 2012	Part L of Building Regulations - 2013	Minimum standards private rented homes - 2014
Energy savings	€21,331 million	€1,661 million	€582 million
Increased comfort	€4,910 million	Mention	€155 million
Carbon reductions	€8,173 million	€455 million	€125 million
Air quality	€2, 041 million		€10 million
Energy security	Mention	Mention	Mention
Employment	38-60,000 jobs	No mention	8,400 jobs
Physical health	Mention	Mention	€36 million*
Mental wellbeing	Mention	No mention	
Economic growth	Mention	No mention	Mention
Asset values	No mention	Mention	mention
Tax revenues	No mention	Mention	No mention
Welfare spending	No mention	No mention	Mention

Recognising the value in policy

Costs	Green Deal/ Energy Company Obligation	Part L of Building Regulations	Minimum standards private rented homes
Installation	€14,404 million	€1,571 million	€329 million
Additional/hassle	€4,936 million	No mention	€33 million
Assessment	€1,728 million	No mention	€16 million
Finance	€2,166 million	No mention	€205 million
Business cost	€1,345 million	No mention	No mention
Administration	€57 million	Mention	No mention
Transition	No mention	€7 million	No mention
Understanding regs	No mention	No mention	€23 million
Unintended health	Mention	Mention	Mention

Recognising the value in policy

- No other benefits are included in the net benefit-cost calculations
- Primarily provide cost effectiveness of delivery emission reductions
- Reflect the priorities of the relevant department

Could policy go further?

- Uncertainties within the evidence base, for example with health & wellbeing.
 - Fewer health outcomes than expected?
- Focus on wellbeing rather than GDP
- Long term focus for government
- Infrastructure priority for energy efficiency

How can we make best use of the ‘multiple benefits’ approach?

- Use the narrative in communications
- Local cooperation on multiple benefits