

Energy Efficiency Appliance and Equipment Standards and Labelling Programmes



This 4E Evaluation Guidebook is intended to assist impact evaluations of equipment energy efficiency standards and labelling (EES&L) programmes. It explains the methodologies that are proven to deliver robust and credible evaluations within five key steps.

Since evaluations are often undertaken by an independent third party, the guide is designed to provide a request for proposals (RFP), however, it may also be used to plan in-house evaluations of EES&L programmes.

Why undertake programme evaluations?

As the “first fuel”, energy efficiency is crucial to improving energy security and reducing future greenhouse gas emissions at low cost. It can also advance social and economic development, enhancing quality of life and creating jobs. It is therefore critical that the impacts of energy efficiency are routinely and accurately quantified.

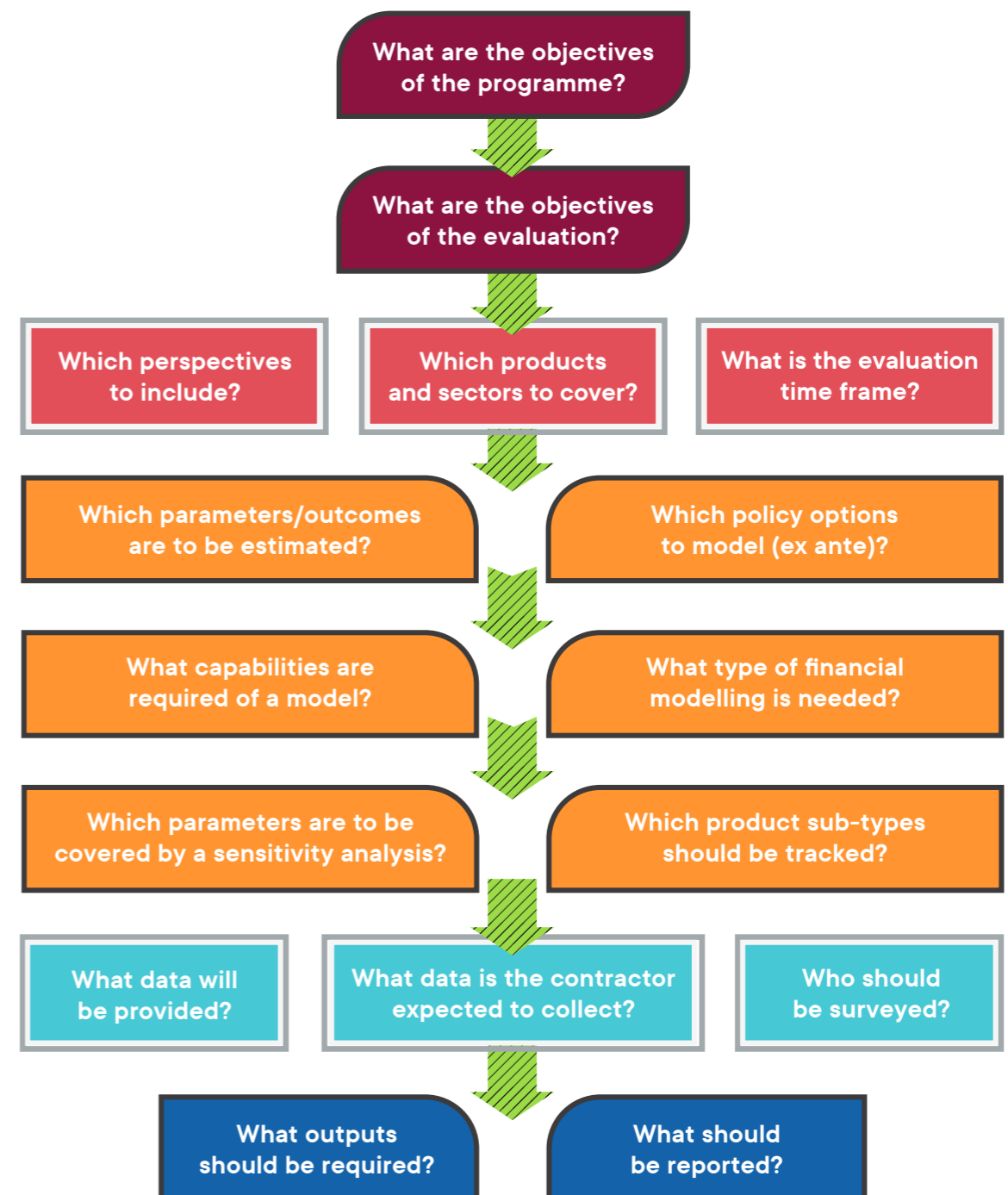
Evaluations of EES&L programmes:

- > provide evidence of the impacts, costs and benefits of equipment EES&L policies
- > allow the effects of different policies to be compared, both within an economy and internationally
- > demonstrate whether policies are working and identify ways to improve policies
- > identify advantages and any disadvantages to particular stakeholders
- > compared to energy supply-side options
- > facilitate evidence-based policy choices. Check list for commissioning a programme evaluation

More Information

The 4E Energy Efficiency Appliance and Equipment Standards and Labelling Programmes Evaluation Guide is available at:
<https://www.iea-4e.org/publications>

Check list for commissioning a programme evaluation



Recommended Approaches

Impact Perspective

- Consider the perspectives and actors to be covered by the evaluation
- For each perspective, define a set of parameters/outcomes to be estimated
- Define the timeframe to be covered
- Identify the policy options to model (ex-ante)

Methodology & Modelling

- Indicate the preferred evaluation methodology and invite detailed proposals
- Specify the required capabilities of a model
- Identify which parameters are to be covered
- Identify any sensitivities to be analysed and specify the range
- Specify which product sub-types need to be treated distinctly
- Specify the type of financial modelling to be used

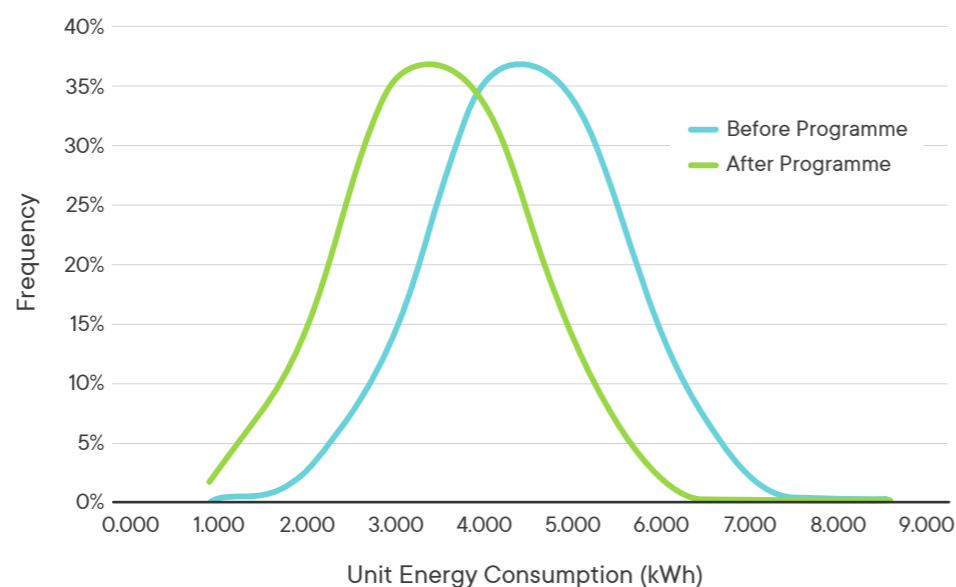


Figure 1: An example of product energy efficiency before and after the introduction of energy labelling

Data & Inputs

- The quality of data used in the evaluation will critically influence the accuracy of the evaluation
- Specify minimum data inputs and potential sources
- Consider purchasing relevant data before the evaluation
- Specify the policy options and sensitivities to be evaluated

This figure shows the difference between the forecasted savings from the original ex-ante evaluation (on the left) and the actual savings ex-post shown (on the right). In this case, the difference between the predicted and actual savings were caused by underestimates in the number of households, ownership and product size. However, the original evaluation slightly overestimated the size of freezers. The other changes shown were mostly associated with larger than predicted reductions in energy consumption as a result of the programme.

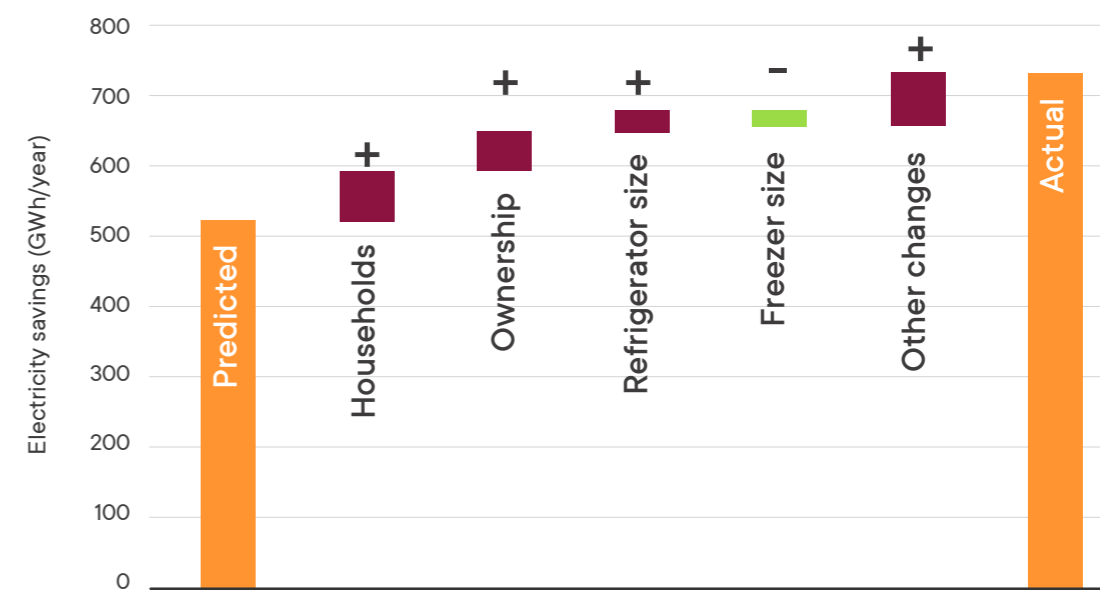


Figure 2: Changes in 2009 energy savings from MEPS-2005 for refrigeration appliances - Australia

Source: Figure 16 from Harrington and Lane (2010)

Reporting

- Specify what inputs and outputs should be provided and in what form
- Consider providing a template to be completed
- Specify the content of the (public) report to include as much of the underlying data and assumptions as possible

Resources

- Since the results of evaluations inform government policy it is vital that the results are accurate, robust and well presented
- Adequate resources should be allocated to manage the evaluation process, oversee stakeholder consultation and present the results to government and other stakeholders
- Resources may need to be made available for data collection or purchase
- Sufficient time should be allowed to plan, commission, undertake and present the evaluation results