Building evaluation capacity in Vietnam

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Abstract

The Australian Government supported the introduction of minimum energy performance standards (MEPS) and energy labels in Vietnam between 2012 and 2015. One of the aims of the project was to develop evaluation capacity within the responsible department in the Government of Vietnam; the Ministry of Industry and Trade (MOIT).

The Australian Government support was designed to demonstrate best practice evaluation practices; particularly:

- Integrating monitoring and evaluation within the program activities;
- Assessing energy savings and establishing the degree to which savings could be attributed to the MEPS and energy label programs;
- Process evaluation to improve the effectiveness of the program; and
- Communicating evaluation results within government and more widely.

In order to ensure lasting capacity within MOIT for evaluation; the project aimed to result in:

- A clear commitment within MOIT to evaluation;
- Evaluation incorporated in the responsibilities of named government officials;
- Sustainable systems and methods for monitoring and evaluation;
- Skills development within MOIT; and
- Building interest in evaluation and developing skills among local academics to provide MOIT with a consultancy base.

This paper will report on the results of the capacity building activity and reflect on the challenges, successes, and lessons learned about building evaluation capacity in developing countries.

Introduction

The Government of Vietnam has introduced legislation to implement minimum energy performance standards (MEPS) and energy labelling for lighting and electrical appliances[1]. The program is managed by the Ministry of Industry and Trade (MOIT).

Regulations for the energy labelling of products offered for sale in Vietnam became effective in July 2013. The scheme initially required a mandatory star rating label for air conditioners, electric fans, rice cookers and washing machines as well as a voluntary endorsement label for lighting products that meet high efficiency performance thresholds. Mandatory star rating labels were extended to refrigerators and televisions in January 2014 along with mandatory MEPS for lighting products.

The standards and labelling program is one element of the Vietnam National Targeted Program in Energy Efficiency (VNEEP); this is a comprehensive plan that was introduced in

1. http://nhannangluong.com/home

2006 to meet Vietnam's target of saving 3–5 % of energy consumption in 2006–10 and 5–8 % in 2011–15. MOIT is responsible for co-ordinating the program's implementation.

The standards and labelling activities are managed by the General Directorate of Energy in MOIT's Department of Science Technology and Energy Efficiency; they are the day-to-day responsibility of a deputy director within the Directorate. Resources in the Department are limited; they have a staff of six people who are responsible for all energy efficiency activities. In addition to standards and labelling they work with local government on household energy efficiency and manage a large energy efficiency program for industry supported by the Danish government. For comparison, the Australian government has 42 staff working on their standards and labelling program alone.

The Australian Government Department of Industry and Science (DoIS) has extensive experience in standards and labelling and is providing assistance to the Government of Vietnam through the Vietnam Energy Efficiency Standards and Labelling (VEESL) program, funded by Australian Aid, part of the Department of Foreign Affairs and Trade (DFAT)[2]. Work commenced on the VEESL program in 2012 and will complete in mid-2015. In addition to building evaluation capacity, the main activities of the VEESL program have been:

- Development of a system to enable online registration[3] of products with the standards and labelling program.
- Support to the Vietnam Standards and Quality Institute to develop and revise energy performance and test standards.
- Work with the principal test laboratories in Vietnam to improve the reliability and accuracy of testing.
- Building capacity for Monitoring, Verification and Enforcement, particularly through supporting a label display survey.
- A research program to build understanding of householder, manufacturer and retailer behaviour.
- Modelling to project future lighting and appliance sales and energy consumption.

Prior to this capacity building activity an overall, top-down, estimate of actual energy savings in Vietnam since the implementation of VNEEP in 2006 had been conducted. However, no work had been undertaken to evaluate the impact of the standards and labelling element of the program.

Desired evaluation capability

MOIT expressed an interest in developing their evaluation capacity during the initial discussions on the program of work for VEESL support; they were particularly keen to understand the energy savings arising from MEPS and labelling. Several elements of the VEESL program were designed with this in mind:

- The registration system was designed to provide data that will be necessary to estimate energy savings as a result of standards and labelling.
- A model was developed that will utilise registration system data to assess the impact of standards and labelling.
- Two market studies[4] generated data to understand the influence of the labels on consumers and the supply chain. This is important for evaluating the impact of the standards and labels and for identifying opportunities for policy development.
- The label display survey provided data that will inform future compliance activities.
- A paper describing the approach to evaluation was presented at the 2014 International Energy Policy and Programme Evaluation Conference in Berlin (Michaelis *et al* 2014).

During the delivery of the VEESL Program the VEESL team saw an increasing appetite for, and use of, evidence in MOIT. However, the Ministry did not have the skills and resources to generate evidence and utilise it to evaluate and develop policy. During 2014, MOIT requested additional evaluation capacity building support for their staff, local contractors and local government staff.

The agreed aims of the capacity building were that:

- MOIT and their contractors will be able to forecast energy savings arising from VNEEP using data from the registration system.
- MOIT staff and/or local contractors will have the capacity to evaluate the impact of MEPS and energy labels and to communicate the results of that evaluation to internal and external stakeholders.
- MOIT staff will have the capacity to utilise data to refine and develop policy.

A capacity building program was designed to build MOIT's knowledge and skills in five areas:

1. An understanding of the model for estimating energy savings that has been integrated in the registration system. This includes:
   a. Knowing what data are used by the model and where it comes from;
   b. Assessing the quality of input data;
   c. Understanding the underlying assumptions and the sensitivity of results to individual assumptions; and
   d. Understanding the outputs and how to use them.
2. Capability to utilise the model in the future, including capability to:
   a. Update data sources;
   b. Add new products; and
   c. Update assumptions.
3. Ability to collect and use market data, including:

2. http://www.energyrating.gov.au/about/other-programs/international-projects/vietnam-energy-efficiency-standards-and-labeling-program/

3. https://registration.nhannangluong.com/Account/Login

4. Summary report on the first study is at http://www.energyrating.gov.au/wp-content/uploads/Energy_Rating_Documents/Library/General/International/Vietnam-Energy-Efficiency-Market-Survey.pdf.

   a. Conducting quantitative and qualitative market research as appropriate;
   b. Utilising other data collection opportunities (e.g. the Vietnam Government Statistics Office or supplier engagement activities); and
   c. Using data to inform impact estimates and to refine and develop policy.
4. Ability to collect and use compliance data including:
   a. Working with local government to repeat the market monitoring; and
   b. Utilise data from market monitoring to inform enforcement policy and activities.
5. Capacity to:
   a. Integrate market data and impact estimates to maximise understanding and increase the effectiveness of standards and labelling in Vietnam; and
   b. Communicate evaluation results to secure positive outcomes for the program and its operation. Ability to identify audiences and mechanisms for communication.

Ideally MOIT would build the capacity to assess whether MEPS and energy labels influenced changes in energy consumption in order to evaluate the impact (known as attribution) of the program. This is a complex process that involves drawing on a range of monitoring and survey data. VEESL has shared the methodology that they have used in establishing attribution estimates and offered additional training to MOIT or their contractors in mechanisms to update these estimates as new evidence is obtained. However, due to constraints on MOIT's resources, it is unlikely that this offer will be taken up.

Capacity building activities

A program of capacity building activities was developed by the VEESL team. This had three key components:

1. Training MOIT in the principles of evaluating the impact of the standards and labelling program through:
   - Forecasting actual and business-as-usual energy consumption by regulated products. This involved:
     a. Modelling business as usual energy consumption for each of the products based on historic trends for energy consumption and energy efficiency.
     b. Modelling actual energy consumption utilising data from three sources: Registrations submitted to MOIT by manufacturers which set out the energy consumption of their products; sales forecasts for regulated products based on actual sales and historic trends, and implied sales from ownership levels and typical appliance average lifetimes; and typical usage patterns based on a survey of households.
   - Estimating the extent to which any energy savings could be attributed to the energy label. This drew on:
     a. Interviews with manufacturers and importers of regulated products to explore whether the introduction of energy labelling had influenced their decisions about the energy efficiency of their products.
     b. Interviews with purchasers of regulated products to explore whether the energy label had influenced their decisions about what products to purchase.
2. Introducing MOIT to the principles of process evaluation and using data to understand and improve the effectiveness of policy implementation.
3. Building skills in collecting and utilising data; particularly:
   - Drawing on monitoring data;
   - Collecting data from households and manufacturers; sharing the methods utilised through the VEESL project and providing survey tools and documentation; and
   - Conducting market monitoring activities to evaluate compliance and utilising the results to inform enforcement activities.

A two day training workshop was held in Hanoi during January 2015. The workshop was attended by representatives of:

- MOIT including the deputy director responsible for standards and labelling and others responsible for IT and registrations;
- Local government in Hanoi and Ho Chi Minh City (the two largest cities in Vietnam); local government has responsibility for enforcing the regulations;
- Vietnam Standards and Quality Institute;
- The contractor managing the registration system; and
- Local academic institutions.

During the workshop the VEESL team worked with attendees to design pilot surveys to assess compliance with the label regulations in Hanoi and Ho Chi Minh City, this involved considering:

- The survey method;
- Sampling techniques;
- Data to be collected and data capture mechanisms;
- Data analysis and reporting;
- Resources required and costs; and
- Mechanisms to support roll out to other provinces.

Results

Following the capacity building activities we are confident that MOIT and their contractors will be able to estimate energy savings arising from VNEEP using data from the registration system. The accuracy of these forecasts will depend upon:

- The accuracy of registration data provided by manufacturers and importers; this will improve over time as the test laboratory processes improve as a result of other VEESL activity.

- The accuracy of sales data, which at present has been estimated based on market surveys, and that implied by ownership levels and average lifetimes. In future MOIT expect to collect sales data for registered products directly from manufacturers which will significantly improve the quality of the projections
- Assumptions regarding product use and lifetimes, which have been drawn from the bi-annual Living Standards Survey conducted by the Vietnamese General Statistical Office. The accuracy of these assumptions will improve as more data are collected over the next few years.

The VEESL team will be available to provide continuing support until June 2015 and be available to work with MOIT to update the estimated energy savings. This will allow any issues to be addressed and help to embed capacity in the Ministry.

The training also highlighted the value of using the impact model to test the impact of possible changes to regulations; for example estimating the energy that would be saved by re-grading labels to a higher level of energy efficiency which could provide useful evidence to support proposals for re-grading.

MOIT is enthusiastic about the label display survey and intends to support its national roll out. The methodology and results of pilot label display surveys being conducted in Hanoi and Ho Chi Minh City will be disseminated to local government in other provinces at a conference in October 2015 and MOIT will provide financial support to assist those provinces to undertake their own surveys.

MOIT felt they already had the capacity to utilise evaluation to refine and develop policy. In our view this does not yet meet the standards of evidence based policy making that we would expect to see in Australia. However, in the course of the VEESL project we have noticed increasing interest in the use of data to inform policy and believe that this is, in part, because, in the course of the project, VEESL made good quality data and insight available to the Department.

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These aims to secure lasting evaluation capacity have been only partly achieved; there is some commitment to evaluation within MOIT, however, it is limited to reporting impact rather than a wider use of evaluation in policy making. With this limitation, MOIT now has the skills to conduct impact evaluation and named staff are responsible for this activity.

As yet there has been limited involvement of local academics in supporting MOIT in evaluation; however, there is an opportunity to encourage this during the remainder of the VEESL project as MOIT gain a better understanding of the skills and resources they need for evaluation. The local governments conducting pilot label display surveys may contract out work; this could help to demonstrate the value of building a local supplier base to assist with evaluation.

Conclusions

It is impressive that MOIT is keen to build their evaluation capacity at this stage of the program implementation. Many developed country governments have taken much longer to recognise the value evaluation for their energy efficiency programs. This forward thinking approach should help MOIT to sustain and enhance the standards and labelling program in the future.

This project was successful in developing MOIT's capacity to estimate the impact of MEPS and energy labels on electricity consumption, fuel bills and carbon emissions. This need had been identified by MOIT at an early stage of the VEESL project and the program of work had been designed to meet those needs.

The two label display pilot surveys will build the survey skills of MOIT and the local governments for Hanoi and Ho Chi Minh City. This will then be disseminated more widely resulting in widespread capacity to conduct label display surveys. MOIT's willingness to support and fund the roll out demonstrates their commitment in this area.

The impact estimates will be publicised at an event for senior government officials and industry representatives to be held in Hanoi in May 2015. If these are well received it will reinforce MOIT's interest in impact estimates and their willingness to devote resources to preparing them.

MOIT have been involved in the wider VEESL market research activities to capture information about appliance use and to understand consumer purchase behaviour and manufacturers' response to MEPS and energy labelling. This has introduced MOIT to best practice processes and provided MOIT with guidance on how to conduct similar research in future, although MOIT currently have no plans to do so.

It should be recognised that the adoption of process evaluation presents challenges for policy-makers. The activity can seem like a waste of resources and the results can be unwelcome. It is to the credit of MOIT that they are considering process evaluation at this stage. However, the project did not convince MOIT that there was value in utilising evaluation within their policy-making processes and in developing process evaluation capacity. There are three main reasons for this:

- MOIT are confident in the effectiveness of their current policy-making processes and developing process evaluation skills is not a priority for MOIT.
- There has been little time in the course of this project to demonstrate the potential benefits of process evaluation to MOIT.
- The formal use of evaluation within policy making is not common in MOIT and there are no requirements on the MEPS and energy labelling team to do so.

The introduction of process evaluation and the use of evaluation in policy making within the capacity building project has helped to raise MOIT's awareness of how these areas are

approached in Australia which may be useful in the future. There will be further opportunities between now and the end of the VEESL project to demonstrate the value of process evaluation.

There has been little experience within MOIT of using external evaluation experts and we are not sure that there are individuals or organisations with the appropriate skills in Vietnam. It may be possible to identify potential external contractors during the remainder of the VEESL project. If suitable contractors can be identified we will be able to provide guidance on specifying and procuring external evaluations.

The key lessons that have been learned from the capacity building activity are:

- Support is most likely to be successful where the recipient of support recognises the value of building capacity.
- Developing an understanding of the benefits of evaluation takes time and it would have been more effective to introduce the topic at the start of the VEESL project and to have held regular discussions with MOIT regarding evaluation.
- It would have been helpful to identify local evaluation experts and work with them on the capacity building. Although this was suggested to MOIT they did not pursue the matter, which may have been because they did not know how to identify suitable experts. With hindsight we could have provided more support in this area.

This project has provided MOIT with an understanding of what can be achieved through evaluation and how they can conduct evaluation themselves. We are confident that they will continue to estimate the impact of energy efficiency standards and labels after the completion of the VEESL and that, where appropriate, they will use research and other evidence to understand the effectiveness of their programs. The department is in a good position to communicate the value of the program and secure support from external stakeholders. We expect to see increasing use of evidence over time as the priority shifts from launching standards and regulations to managing and developing the program.

References

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