

Household and Small Business Upgrade Program Outcome Evaluation

FINAL REPORT - EXECUTIVE SUMMARY

Prepared by KPMG for the Science, Economics and Insights Division of the NSW Department of Planning and Environment. Title: Household and Small Business Upgrade Program Outcome Evaluation

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Cover image: Light switch

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List of Acronyms

Term	Definition
AC	Air Conditioning
ACP	Accredited Certificate Provider
СВА	Cost benefit analysis
CCF	Climate Change Fund
COAG	Council of Australian Governments
CRR	Commercial Refrigerator Rebate
ESC	Energy Saving Certificate
ESS	Energy Savings Scheme
GHG	Greenhouse gas
GWh	Gigawatt hours
HASBUP	Household and Small Business Upgrade Program
IPART	Independent Pricing and Regulatory Tribunal
KEQ	Key evaluation question
NSW	New South Wales
P&SP	Product and service providers
SEU	Small energy user(s)

Executive summary

Background

The Household and Small Business Upgrade Program (HASBUP) is a five-year program funded by the New South Wales (NSW) Climate Change Fund (CCF) and constitutes one part of the NSW Government's Energy Affordability Package. Introduced in 2017, the Program was delivered by the Department of Planning Industry and Environment (the Department) to help build the market for energy efficient upgrades for households and small businesses under the NSW Energy Savings Scheme (ESS).

The program incentivised the delivery of energy efficiency upgrades to households and small businesses through customer rebates and premium delivery contracts with installers and Accredited Certificate Providers (ACPs). The program implemented three funding rounds focussed on different technologies, namely: lighting, air conditioning and commercial refrigeration.

In addition to the objectives around improving energy efficiency for small energy users (SEUs), the Program also aimed to have 40 per cent of activities delivered under the Program in regional areas.

Prior to the commencement of the Program there was limited uptake of energy efficiency upgrades in households and small businesses under the ESS, and considerably limited upgrades in regional areas.

Purpose and scope

This report has been developed for the Department to evaluate the overall outcome of the HASBUP. This report sits alongside a separate process review that was completed for the Program and a cost-benefit assessment currently being completed for the Program.

The scope of the report is informed by five key evaluation questions (KEQs) outlined below.

Table 0-1 HASBUP Outcome Evaluation KEQs

KEQs

- To what extent has the Program led to energy savings, greenhouse gas reductions and bill savings?
- To what extent did the Program improve access to energy saving upgrades and the Energy Saving Scheme for households and small businesses in regional areas? If not, why not?
- What market barriers did the Program address?
 - a) What assumptions were made about the market, and how did this affect the success of the Program?
 - b) Did the Program encourage Accredited Certificate Providers to participate in the Energy Saving Scheme? If not, why not?
- 4 Is there evidence that service providers will continue their activities beyond the life of the Program?
- What unintended outcomes and impacts (positive or negative) have resulted from the Program?

Note: KEQ 5 related to the relative cost and benefits of delivering the Program. This KEQ is considered in the separate cost benefit analysis (CBA) currently being completed and is not considered further in this report.

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Approach and limitations

To inform the analysis and evaluation presented in the report, KPMG adopted a mixed-method approach which included:

- Synthesising a broad range of domestic and international research on similar programs run in other jurisdictions
- Conducting detailed analysis on data collected throughout the Program
- Conducting one-on-one interviews and workshops with a range of relevant stakeholders including the HASBUP delivery team and supporting teams within the Department, the Independent Pricing and Regulatory Tribunal (IPART), product manufacturers, ACPs and consumer groups.
- Conducting an online survey for installers and retailers operating under the Program.

This approach delivered valuable insights on the Program, however there are some limitations to the analysis and findings. These limitations include:

- Data collected through stakeholder consultation is inherently subjective. However, where possible
 the collected evidence has been validated through a range of qualitative sources and quantitative
 data analysis.
- The evaluation was unable to isolate the additionality impacts of the HASBUP. A range of external
 factors have likely also contributed to the behavioural changes of market participants in addition to
 HASBUP changes. These include:
 - o policy and ESS rule changes (such as reductions to end-user to co-payment obligations)
 - o industry developments and changing market conditions (such as increasing Energy Saving Certificate (ESC) prices)
 - increased penetration and awareness of energy efficient substitutes, as well as other spill over effects.

As such, benefits and outcomes achieved under the program cannot be solely attributed to the Program as some of the outcomes may have occurred in the programs absence.

 Quantitative analysis of program additionality was not conducted, as it would have required certain data collection and baseline development at program inception.

Where possible and appropriate, consideration of these factors has been integrated within both the quantitative and qualitative analysis, however all reported figures and outcomes should be considered with these limitations in mind.

The body of the report provides further details of the approach and limitations.

Key Findings

Based on current evidence and the analysis in this report, the following section summarises the key findings of this outcome evaluation.

KEQ 1 - To what extent has the Program led to energy savings, greenhouse gas reductions and bill savings?

Activities delivered by the HASBUP resulted in a range of energy savings, greenhouse gas (GHG) reductions and bill savings. Over 11,000 activities were completed under the Program, supporting 112.3 GWh of energy savings¹. An estimated 41,062 t CO2e reduction in emissions and \$15.1m in energy bill savings had been realised as a result of the Program by June 2021. However, these savings are less than the targeted outcomes identified at project outset, as illustrated in the table below.

¹ Energy savings figures presented have been discounted to account for the Council of Australian Governments (COAG) Energy Councils decision to phase-out incandescent and halogen lamps from 2022-23. See section 3.4.2 for approach details.

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Table 0-2: HASBUP targets and outcomes (KEQ 1)

Outcome	Targeted outcome	Realised outcome	
Projects delivered to NSW small businesses	10,000	3,196	
Average household energy bill savings in 2020	\$500	\$239	
Average small business energy bill savings in 2020	\$1,900	\$1,534	
Energy savings in 2020	130GWh	20.4GWh	

Source: KPMG analysis of HASBUP activity data 2017-2021, Department of Planning and Environment.

The lower than anticipated savings can be attributed to a range of factors including:

- The launch of three funding rounds as opposed to four as originally intended;
- The early suspension of the air conditioning (AC) round due to installers not complying with a newly introduced national wiring rule change;
- The less than anticipated uptake of the Commercial Refrigerator Rebate (CRR) offer;
- The evaluation team was advised by Departmental officials that the HASBUP's funding was reduced in early 2020, creating uncertainty for the Program and preventing the extension of delivery rounds; and
- The impact of the 2019/20 Black Summer Bushfires and the COVID-19 pandemic throughout 2020 and 2021.

KEQ 2- To what extent did the Program improve access to energy saving upgrades and the Energy Saving Scheme for households and small businesses in regional areas?

For the purposes of this outcome evaluation, Regional NSW has been stratified into two classifications, Regional and Regional Satellites. Regional Satellite areas include the Hunter, Illawarra, and Blue Mountains regions.

The HASBUP delivered over 47 per cent of projects in regional satellites and areas, achieving its 40 per cent target of total activities delivered. Prior to the Program there was limited uptake of ESS projects in regional areas, likely due to:

- Increased costs of delivery, including the procurement and training of subcontractors and loss of economies of scale due to lower density of customers;
- Increased delivery risks, for example lighting providers needing to partner with new electricians and/or installers and unfamiliarity with the size and viability of regional markets; and
- Financial risk for lighting ACPs participating in the lighting round due to uncertainty around future ESC prices.

Through a concerted effort around the HASBUP including higher contract prices, a limit on contracts with delivery in Sydney, and engagement with service providers the Program was able to reach its target. However, spill over effects of the program, that is indirect upgrade activities stimulated by the HASBUP, were varied. Whilst some evidence of spill over from delivery to Metro Sydney to Regional Satellite areas then to Regional areas in the small business sector, this has not appeared to have been the case for Regional household delivery where there has still been almost no delivery outside of HASBUP contracts.

A second spill over effect was seen from Regional household delivery to Regional small business delivery. The mechanism for this spill over appears to have been HASBUP contracted product and service providers (P&SPs) delivering to households under their HASBUP contract and whilst in the area also providing services to small businesses outside of those contracts. Unfortunately, through the data analysis presented within this report, this spill over effect seems to be one directional, from household delivery to small business delivery. Despite an uptick in Regional small business delivery outside of HASBUP, there has not been an observed uptick in Regional delivery to households.

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Table 0-3: Regional delivery proportions by HASBUP round

	HASBUP Target	Lighting	AC	CRR	Total
Region		Realised percentage share of upgrades			
Sydney		52.8%	51.8%	28.1%	52%
All regional	40%	47.2%	48.2%	71.9%	48%
Regional		32.2%	23.5%	41.8%	32%
Regional satellites		15.0%	24.7%	30.1%	16%

Source: KPMG analysis of HASBUP activity data 2017-2021, Department of Planning and Environment

KEQ 3- What market barriers did the Program address?

Whilst operating, stakeholders suggested the HASBUP was successful at reducing some barriers facing service providers under the ESS. Providers noted:

- Improved business certainty enabled by fixed contract prices for lighting providers.
- Reductions in operating costs as a result of incentive settings.
- A reduction in cost barriers for consumers considering more energy efficient products.
- Enhanced customer awareness and trust in the credibility of installers.

However, providers noted that some barriers to the ESS and the market more broadly remain, including:

- Onerous audit and administrative requirements for installers and ACPs imposed by IPART or the program administrators.
- ESS Rule changes announced or introduced by the Department typically not allowing enough leadin time for providers.
- A perceived disconnect between the Department as the rule maker and IPART as the regulator by providers, resulting in delays to considerations of industry-led improvements to the program.
- Non-harmonised delivery rules, standards and administrative requirements and methods across jurisdictional energy efficiency programs causing additional hurdles for service providers to expand their operations across borders.

In addition to the above, a jurisdictional review of energy efficiency programs similar in nature to the HASBUP identified a number of broader limitations that are consistent with the feedback received from HASBUP service providers outlined above. These limitations are outlined in the table below.

Table 0-4 Summary of key thematic outcomes of energy efficiency programs

Theme	Relevance to the HASBUP and future program design
National alignment of activity rules	Non-aligned national activity rules creating barriers to cross-jurisdictional cooperation between service providers and increasing administrative burdens on service providers who must fulfil different compliance requirements.
Streamlining processes	Complex or burdensome processes, such as audit and administrative requirements, are often seen by service providers as excessive and increase the opportunity costs of delivering under energy efficiency programs.
Consumer awareness	Inaccurate or inconsistent measures of consumer awareness, participation, and satisfaction limiting understanding of the effectiveness of a program in meeting consumer needs.

Theme Relevance to the HASBUP and future program design

Targeting of	Inherent barriers in program design and rules that prevent high demand
priority groups	consumers or consumers likely to take up an offer from accessing benefits.

KEQ 4- Is there any evidence that service providers will continue their activities beyond the life of the Program?

Service providers were generally positive about the Program across both the lighting and AC streams. Many had developed business models tailored to meet the requirements of the Program and identified some viable markets. However, service providers indicated there are several factors that introduce some uncertainty on whether they will continue activities beyond the life of the Program. The most significant of these are:

- A possible reduction in the number of years over which energy savings could be attributed to a single lighting upgrade under the ESS, which is currently being considered and could significantly reduce the incentive and margins for lighting upgrades.
- The potential that the set of eligible AC products defined under the new ESS method may again not meet the requirements of the market (e.g. limited approved AC unit output sizes that do not span the product range available on the market).
- The administrative burden of participating under the scheme, particularly for businesses that have not operated under the ESS previously.

KEQ 6 - What unintended outcomes and impacts have resulted from the Program?

The program had some positive and negative unintended consequences. These stem predominantly from the lighting round which operated the longest and contributed 90% of total activities.

Some of the positive unintended consequences include:

- Service providers developed strong commercial relationships with local electricians in regions.
- Through consultation under HASBUP several broader improvements to the ESS were identified and implemented.
- The program acted as a positive pilot for future rule developments around different technologies.

Some of the negative unintended consequences include:

- There were incidents of service providers only doing the highest value upgrades in regional areas, which made the value proposition for providers that wanted to service all upgrades untenable.
- Delays in regional contracts being finalised resulted in initial activity under the HASBUP lighting round being primarily concentrated in metropolitan areas, leaving regional areas relatively underserved by the Program in its initial stages.
- Unit eligibility criteria for AC and CRR rounds were seen by industry as not fit for purpose and likely reduced the uptake of those streams by limiting options for consumers, creating additional administration requirements for P&SPs.
- Non-compliance with national wiring rule changes introduced prior to the HASBUP impacted relationships between AC installers, service providers and the Program, potentially hindering future uptake of AC retrofit programs by P&SPs.

Recommendations

Based on the key findings and insights identified through the evaluation, seven recommendations were identified to support changes in the ESS and future programs. These recommendations are outlined below.

Table 0-5: Summary of HASBUP outcome evaluation recommendations

Recommendation

Rationale and supporting evidence

Recommendation benefits

To incentivise faster uptake of possible new ESS methods by service providers, the Department should consider mechanisms to introduce temporary price certainty.

Providers under HASBUP noted the benefits of price certainty in contracts was particularly beneficial when establishing new business models. Measures to provide temporary price certainty for service providers may improve participation under the new methods. Possible measure include:

- The introduction of a temporary price floor for contracts.
- Temporarily underwriting of contracts for new ESS methods.
- Facilitating a market for ESC forward contracts with liable ESC parties.

method.

Price certainty supports sustained delivery of energy efficiency upgrades and longer-term market transitions.

Certainty allows ACPs to make informed

business decisions to participate under a new

2 If the Department wants to increase access to energy efficiency upgrades in regional areas, it should consider measures that differentiate activities delivered in metropolitan and regional NSW. Delivering energy efficiency upgrades in some regional areas is more costly then delivering the same upgrade in metropolitan areas. Introducing measures that differentiate activities based on geography may help to address accessibility of incentives and benefits for regional consumers. These measures would achieve this by accounting for the higher delivery costs of implementing projects in regional areas, particularly in remote areas.

- Service providers are better incentivised to participate in the delivery of activities in regional areas under future programs.
- Greater access to incentives and the benefits of energy efficiency upgrades for consumers in regional and remote communities.

3 The Department should consider the best ways to incorporate lessons from the AC

The HASBUP AC round was ended early due to installers not complying with newly introduced changes to national wiring rules. This issue may be characteristic of a broader risk to Government funded programs and compliance with external regulations. The Department may benefit from reviewing this

- Lessons learnt will inform future decision making, particularly in regard to ESS Rule.
- Disruption to future programs is able to be minimised.

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Recommendation		Rationale and supporting evidence	Recommendation benefits	
	funding stream into future programs.	incident and using the insights to develop guidance and risk mitigation strategies for future programs.	 The Department will be better positioned to ensure to the best of its ability that relationships with providers and consumer perceptions of NSW Government affiliated programs are not negatively impacted. 	
4	To improve early uptake and usability of new ESS methods by providers, the Department should continue to prioritise stakeholder engagement at the early stages of designing new ESS methods and through policy development process.	Providers had some positive experience working with the Department on detail design of HASBUP funding rounds which improved utilisation and uptake of rounds. However, for the AC round stakeholders felt they were engaged after some fundamental design decisions had already been made. Additionally, they noted limited consultation in the design of the new Energy Security Safeguard which may translate to a delay in uptake as providers can only commence business model design after the details of the policy are known.	 Improved uptake and useability of new ESS methods for providers. Fit-for-purpose Rules and methods increase the ability of programs to effect greater market transformation. Improved outcomes for consumers as fit-for-purpose Rules and methods are better able to meet their needs and requirements. Enhanced input to broader cross-jurisdictional alignment of energy efficiency schemes. 	
5	The Department should give greater consideration to measures and indicators of additionality and market transformation prior to the commencement of new programs like HASBUP	As noted in the limitations of this assessment, there was a lack of appropriate baselines, indicators or measures developed during the establishment of the HASBUP which has limited the additionality assessment of the Program. This limits understanding around program effectiveness and value-for-money.	 Appropriate and informed baselines are able to be developed to enable robust measurement of the outcomes of future programs. Clearer indications of the market impact of future programs on target technology sectors and cohorts. Determine with greater accuracy the efficacy of public spending on future programs 	
6	To improve program efficiency and reduce barriers to entry and delivery, the Department and	Almost every Australian state and territory has its own jurisdictional energy efficiency scheme, with varying program designs and administrative requirements. This acts as a barrier	 Reduce opportunity costs for providers, increasing the incentive to patriciate in future programs and deliver to target markets. 	

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other relevant jurisdictional

bodies should seek greater

alignment in the design of

Providers are incentivised to deliver energy

efficiency upgrades and outcomes across

multiple jurisdictions

for providers and reduces the overall efficiency of the scheme.

There have been some examples of coordination, there is an

opportunity for greater alignment.

jurisdictional energy efficiency schemes

7 To promote uptake by end users, the Department should consider prioritising the use of NSW Government branded marketing or affiliation when launching new ESS methods. Providers noted a significant improvement in program uptake and consumer trust in a program following the circulation of any NSW Government branded material. The use of NSW Government branded material such as an email from Service NSW may assist with uptake and build trust when establishing new methods or activities.

- Increased consumer awareness of available incentives and benefits supports greater uptake of future program offers.
- Increased consumer trust and perceptions of credibility and legitimacy of suppliers.
- Accessible and effective communication of program rules and benefits enables clear and efficient interactions between consumers and service providers, improving outcomes for consumers.

Further detail on the recommendations and the supporting rationale is set out in Section 5 of this report.

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