

Fighting Climate Change One Appliance at a Time: Assessing an Appliance Labelling and Standards Programme in Six Pacific Island Countries

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ABSTRACT

Pacific Island Countries (PICs) face catastrophic effects from climate change. Most PICs also are used as “dumping grounds” for inefficient appliances. To reverse this practice, the Pacific Appliance Labelling and Standards Programme (PALS) has worked with 10 targeted PICs since 2012 to support legislation and implementation of Minimum Energy Performance Standards and Labelling (MEPSL). This 2019 evaluation examined how PALS has contributed to four key goals that underscore effective MEPSL efforts: political commitment; enabling legislation; effective implementation; and regional capacity.

This evaluation focused on four PICs that passed and are implementing MEPSL legislation – Fiji, Samoa, Vanuatu, and Solomon Islands -- and two that have drafted legislation – Kiribati and Cook Islands. Methods included a review of program materials, a literature review, and in-depth, in-person interviews with over 50 PALS stakeholders, including government agencies, retailers, programme staff, and donors.

Our analysis shows that five of the six PICs had never considered MEPSL prior to PALS and all six attribute PALS with being essential to their progress. This paper examines how PALS’ lean approach – including garnering high level support; providing legislative templates and legal advice; providing collective and individual training for in-country staff, government officials, and retailers; enabling regional feedback among PICs; building public awareness; launching an on-line appliance permit data base; and other innovative strategies – helped PICs overcome many hurdles and enabled their success. It also examines the challenges that remain and how further support is needed to cement and expand upon the progress made to date.

Introduction

This section describes PALS, its logic, and evaluation approach.

Programme Background and Rationale

Pacific Island Countries (PICs) face adverse effects from climate change, rely heavily on imported diesel fuel to generate electricity at high cost to consumers, and face growing demands for power. In addition, few PICs have pursued energy efficiency to help mitigate these challenges, and often have been used as dumping grounds for “junk appliances” that are inefficient, more costly to run, and lower in quality.

To address these issues, the Pacific Appliance Labelling and Standards Programme (PALS), with funding and oversight from the Commonwealth of Australia, and regional management from the Pacific Community (SPC), has supported ten PICs since 2012 as they sought to enact legislation and implement Minimum Energy Performance Standards and Labelling (MEPSL) for their highest energy-consuming appliances. The budget for the PALS programme was AU\$3 million. The original programme was slated to last three years, but was extended, without a budget increase, to six years, primarily due to slower than anticipated legislative processes.

The overall purpose of PALS is to strengthen national and regional capacities to adopt, and to effectively and sustainably manage and enforce, MEPSL. Adoption and implementation of MEPSL promised participating PICs the well-established benefits of energy efficiency, as shown in Figure 1.

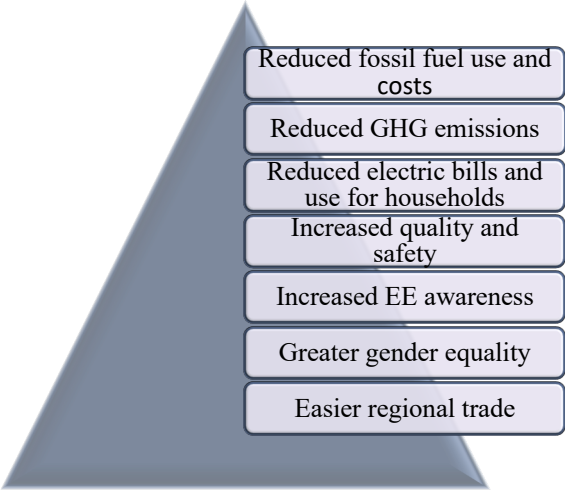


Figure 1 Benefits of energy efficient appliances (EE) through MEPSL

The PALS programme logic rests upon the PICs engaging in a variety of activities to achieve the four interconnected desired outcomes shown in Figure 2. This figure also embodies the general “process of support” that PALS provided to PICs, beginning with activities to help foster political commitment, and proceeding through establishment of an enabling environment, assisting with adoption and implementation, and supporting increased regional cooperation and capacity. The initial step of confirming political commitment is at the root of all MEPSL efforts and is closely tied the success of subsequent desired outcomes.

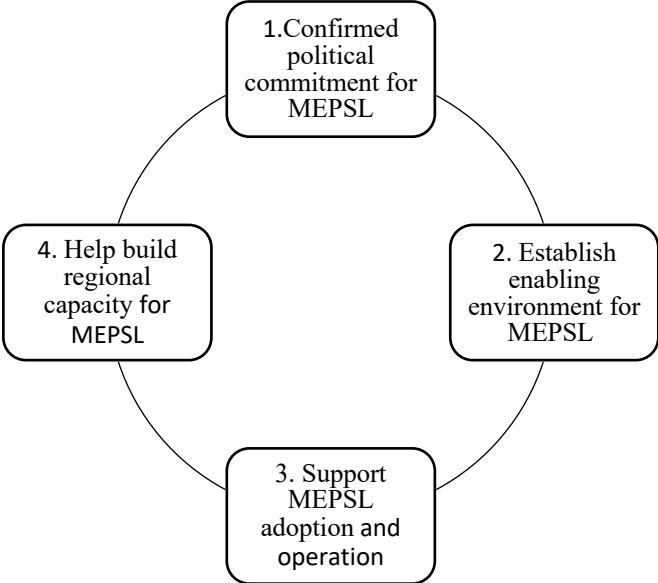


Figure 2 PALS' desired outcomes and logical process

Table 1 describes the basic flow-through logic for PALS in more detail. It shows:

- Each of PALS four desired outcomes
- The activities used to achieve those outcomes
- The indicators to assess the success of each desired outcome

To achieve its desired outcomes, SPC works with in-country staff and outside experts to conduct a variety of activities, including foundational market and cost/benefit assessments; assistance with legislation; technical and operational training; public awareness campaigns; and monitoring and evaluation. The programme targets these key stakeholders:

- Government officials, including lawmakers, energy and climate change officers, consumer protection officers, and revenue and customs officers
- Private sector importers, retailers, and shipping agents for appliances
- Household consumers (of all ages)

Table 1 PALS logic: desired programme outcomes, activities and success indicators¹

Desired outcomes	Activities	Success indicators
Confirmed political commitment to MEPSL ²	<ul style="list-style-type: none"> ◆ Conduct market analyses and cost-benefit studies ◆ Facilitate cabinet endorsement ◆ Facilitate MEPSL workplans ◆ Incorporate MEPSL in national documents 	<ul style="list-style-type: none"> ◆ Studies support commitment ◆ Cabinet supports MEPSL ◆ PICs create MEPSL workplans ◆ PICs specify energy savings and financial benefits
Establish enabling environment for MEPSL	<ul style="list-style-type: none"> ◆ Establish national focal points for PALS ◆ Establish National Steering Committees ◆ Increase staff capacity for MEPSL ◆ Conduct appliance registration training for government officials ◆ Build MEPSL capacity among government officials, including customs ◆ Provide expertise to draft MEPSL legislation ◆ Train government officials to use registration database ◆ Conduct community consultations and engagement ◆ Assist with consumer awareness strategy and activities ◆ Deliver workshops and resources packages for retailers/suppliers 	<ul style="list-style-type: none"> ◆ National focal points in place ◆ National Steering Committees in place and operating ◆ Staff added to support MEPSL ◆ Officials trained and able to register appliances ◆ Officials trained and understand MEPSL ◆ PICs receive adequate legislative support ◆ Online registration database (DB) developed ◆ Officials adequately trained on DB ◆ Engagement forums are attended and effective ◆ Consumer awareness campaigns are conducted and effective ◆ Retailer training is conducted and effective

¹ This table reflects PALS's current logic and is adapted from the tracking table in progress reports; Databuild's mid-term assessment; and interviews with stakeholders.

² "Confirmed" denotes both up-front and continued political commitment.

Desired outcomes	Activities	Success indicators
Support MEPSL adoption and operation	<ul style="list-style-type: none"> ◆ Provide technical assistance to adopt MEPSL ◆ Provide MEPSL assistance, consultations, and trainings to solve operational challenges 	<ul style="list-style-type: none"> ◆ Legislation is adopted and enacted ◆ Assistance, consultations, and trainings are available, attended, and valued
Help build regional capacity for MEPSL	<ul style="list-style-type: none"> ◆ Recruit PALS regional manager ◆ Establish Regional Steering Committee with PICs ◆ Prepare quarterly and annual progress reports ◆ Create partnerships with other parallel MEPSL activities ◆ Prepare roadmap to expand PALS programme ◆ Conduct programme reviews/evaluations 	<ul style="list-style-type: none"> ◆ Regional manager in place ◆ Regional Steering Committee established and operating ◆ Timely and satisfactory quarterly and annual reports are prepared ◆ Joint activities and partnerships are established ◆ Roadmap for PALS's expansion is established ◆ Recommendations addressed from reviews/evaluations

Scope and Methods

This end-of-program evaluation examines the extent to which PALS met its four desired outcomes. It also examines the key challenges PALS encountered during MEPSL's legislative and implementation processes, and recommends how to mitigate those challenges if similar programmes were to be pursued in the future. The evaluation was conducted in March through May of 2019. It focused on six of ten PICs that participated in PALS: three that passed and one that sought expanded MEPSL legislation – Samoa, Vanuatu, Solomon Islands and Fiji,³ and two that drafted but did not pass MEPSL legislation – Kiribati and Cook Islands.⁴

Evaluation methods included a review of programme materials and relevant literature. Based upon these secondary sources and in consultation with PALS and SPC staff, the lead evaluator developed an evaluation plan that outlined the evaluation topics and associated research questions. The lead evaluator then developed a qualitative and flexible interview guide. 57 in-depth interviews⁵ with PALS stakeholders, including: programme staff, technical advisors and donors; representatives from relevant governmental ministries and departments; appliance retailers, wholesalers, and agents; and other stakeholders.

Progress Toward Desired Outcomes

Table 2 summarizes the progress PALS made, across the six PICs included in this assessment, toward each of its four desired outcomes, using the key indicators the programme established to measure its success. Based upon a qualitative assessment of key success indicators, PALS made high progress

³ Fiji passed MEPSL legislation prior to PALS but with support from PALS pursued expanded legislation to cover more appliances.

⁴ Of the remaining four participating PICs, one had enacted legislation (Tuvalu) and three had drafted legislation (Tonga, Niue, Papua New Guinea)

⁵ The lead evaluator worked with three experienced SPC evaluation staff to conduct the interviews; all interviews, except three, were conducted in-person.

toward three of its four desired outcomes: political commitment, support of MEPSL adoption/operation, and regional capacity building. PALS' progress varied from low to high on the fourth desired outcome, establishment of enabling environments.

Confirm Political Commitment - High

High level political commitment is key to passing MEPSL legislation and to ensuring it operates successfully. In all six PICs, PALS' research, technical acumen, and in-person meetings helped convince cabinet level officials to support new or expanded MEPSL legislation. It provided essential support to draft MEPSL legislation in five PICs and to expand MEPSL's coverage in the sixth PIC. In four of six PICs, ongoing political commitment to MEPSL is documented in national plans and through statements of support from government officials; in a fifth PIC, MEPSL is referenced in an "energy road map."

Establish Enabling Environments – Low to High

The key indicators under this outcome provide critical links between confirmed political commitment and the adoption of MEPSL legislation. All PICs said PALS' financial support for legal advice for legislation was essential, and all applauded the development of the Pacific Appliance Database, an online tool for registering appliances. However, this evaluation suggests that three key indicators, which are connected to PALS' services and also to ongoing political support, varied significantly across the PICs: having a dedicated and available focal point; having other staff actively involved and trained to support MEPSL efforts; and being able to raise and maintain awareness and support among stakeholders (e.g., high level government officials, consumers, retailers). When PICs scored well on these indicators, they were more likely to pass legislation, have fewer operational challenges, and were more optimistic about the future for MEPSL.

Support MEPSL Adoption/Operation – High

Three PICs report they would not have passed legislation or be implementing MEPSL without PALS, and one credits PALS with essential support for their efforts to expand appliance coverage (which they still expect to attain). As suggested above, those with more staff and recognition and support from stakeholders appear to have fewer operational challenges and are more optimistic about the future. The two PICs that have drafted but have not passed legislation voiced continuing interest in adopting MEPSL. However, the likelihood of passage is uncertain.

Help Build Regionwide Capacity – High

PALS has been a central force in expanding MEPSL in the region. Through its Regional Steering Committee meetings and its high quality technical support, it has upgraded an entire region's attention to the value of high efficiency appliances. Even the PICs that did not pass legislation participated regionally and valued their participation highly. All PIC stakeholders stressed that the MEPSL effort is still fledgling and would benefit greatly from further targeted support.

Table 2 Overall PALS progress scorecard in six targeted PICs

Desired outcomes	PALS progress	Key success indicators from documents and interviews
Confirm MEPSL political commitment	High	<ul style="list-style-type: none"> • PALS facilitated cabinet endorsements/workplans for all PICs, using research, benefits packages, and in-person support. • Government agencies understand/support MEPSL (5 of 6). • MEPSL incorporated or referred to in national documents (5 of 6). • Samoa, Solomon Is., and Vanuatu say MEPSL would not exist without PALS; Fiji credits PALS with push to expand coverage; Kiribati and Cook Islands credit draft legislation to support from PALS.
Establish MEPSL enabling environment	Low to High (varies by indicator/PIC)	<ul style="list-style-type: none"> • All 6 PICs said PALS' financial support for legal experts to draft legislation was critical. • Stakeholders applauded PALS' creation, piloting, and launch of the online Pacific Appliance Database (PAD) to register appliances, but some noted its lack of lighting measures posed operational challenges. • PALS had Focal Points in 6 PICs but their commitment and availability to support MEPSL efforts varied. • While PALS training built at least some skills and expertise in all six PICs, skill levels and staff resources varied from low to high across the PICs. • 3 PICs with MEPSL legislation have regularized or cross-trained additional staff but in 1 PIC the staffing is very limited; in PICs without legislation, staffing is very limited. • Stakeholder awareness/support for MEPSL varied from low to high. The lowest levels of this key indicator were in PICs without legislation and with less staff. • The efficacy of National Steering Committees varied from non-existent to useful.
Support MEPSL adoption and operation	High	<ul style="list-style-type: none"> • Samoa, Solomon Islands, and Vanuatu say PALS was necessary to adopt and implement MEPSL. • PALS leveraged Fiji's leadership and helped them press for expanded appliance coverage under MEPSL. • Kiribati still hopes to pass legislation, especially if some support is available. • Cook Islands shifted away from MEPSL due to lack of adequate staffing and prioritization of renewables projects, but still voiced interest in future support. • PALS training and consultations rated as highly important to MEPSL success.
Help build region-wide capacity	High	<ul style="list-style-type: none"> • PALS regional management/consultants often highly praised. • Most government stakeholders agree capacity has been built in the region, but note MEPSL is new and needs further support. • Staff are trained and passionate but still limited in some PICs. • Regional Steering Committee meetings highly valued and spurred competition among PICs. • PALS reporting is thorough and responsive to donor needs. • Stakeholders identified key areas where further support is needed to ensure PALS' legacy and to expand MEPSL.

Conclusions and Recommendations

Conclusion 1: Despite multiple challenges, the PALS' programme logic and activities produced long term, tangible, and valuable results

The PALS' experience, as evidenced through its significant progress toward its desired outcomes, suggests that if the ingredients are right, PICs can leap over more conservative appliance efficiency strategies, such as voluntary compliance, and pursue legislation first. Passing MEPSL legislation first establishes a baseline of high efficiency for appliances entering PICs and provides immediate and lasting benefits. Having MEPSL does not preclude other strategies to encourage consumers to purchase covered appliances sooner or at higher efficiency levels, such as incentive and financing programmes. In addition, while monetized impacts are beyond this assessment, qualitative results from this evaluation, and impact assessments of MEPSL programmes throughout the world, suggest PALS brought good value for money: average cost per PIC was AU\$50K per year.

Nonetheless, as detailed in Table 3 PALS faced many challenges in assisting PICs pursue MEPSL and its success was not uniform. As with many programmes, some challenges were outside of its control and others it could help resolve. The five areas where PALS faced challenges were:

1. Passing legislation
2. Operations and enforcement
3. Maintaining and transferring MEPSL knowledge
4. Building stakeholder awareness and knowledge
5. Demonstrating programme value

As shown in the third column of Table 3, the PALS' experience with challenges pointed to specific and actionable recommendations that will improve any future PALS-type efforts. All recommendations are forward-looking and high level, and are based on PALS' evolution over the past six years. They are intended to remind those familiar with PALS about the lessons learned and to help those new to PALS achieve success. These challenges should be addressed in future programme planning documents (e.g., proposals, strategic plans, workplans); in conversations and meetings with PICs; and in evaluation efforts. They can be used as a resource and checklist to:

- Anticipate and help overcome snags in programme processes and progress
- Help orient PICs to what it takes to succeed with a PALS-type approach
- Set reasonable expectations for timing of MEPSL progress
- Continue and enhance the demonstrated efficacy of a PALS' approach

Table 3 Key challenges and recommendations

Key challenge areas	Description of key challenges	Recommendations
1. Passing Legislation	<ol style="list-style-type: none"> 1. Legislative processes are unpredictable. 2. Fiji's challenge to add appliances under MEPSL was likely to initial law's less flexible language. 3. Departments responsible for carrying out MEPSL cannot bring forward legislation and must depend on other departments. 	<ol style="list-style-type: none"> 1. Assume MEPSL legislation will take 4-5 years.⁶ 2. Embed flexible language in legislation to allow new appliances to be added more easily to MEPSL legislation. 3. Involve stakeholders early; plan for more funding and time when legislative situations are more complex.

⁶ See the next sub-section for a comparison across countries of "time-to-market" for MEPSL efforts.

Key challenge areas	Description of key challenges	Recommendations
	<ol style="list-style-type: none"> 4. Focal points are non-existent or over-committed. 5. The need to use in-government legal staff (e.g., Attorney General’s Office staff) to draft MEPSL legislation resulted in time delays. 	<ol style="list-style-type: none"> 4. Ensure focal points are supported and have adequate time to devote to MEPSL legislation. 5. Budget for outside legal expertise to draft legislation even if a “redo” is needed.
<ol style="list-style-type: none"> 2. Operations and Enforcement 	<ol style="list-style-type: none"> 1. Implementation requires cross-department cooperation, new processes, and staff training. 2. Personal shipments contain non-compliant products and take time/resources to resolve. 3. Lack of ability/resources/storage space to enforce “seize and return” policies. 4. Customs agents may see MEPSL enforcement as low priority, time consuming, and counters to encouraging trade. 5. Customs/commerce ministries like clear and consistent rules for enforcement. 6. Paper registration is a time consuming, inefficient process for appliance retailers and importers and for MEPSL staff. 7. Adjusting product lines to meet AU/NZ standards and product testing can be time consuming and expensive. 	<ol style="list-style-type: none"> 1. Assume 1-2 years to get MEPSL up and running after legislation is passed. 2. Include shipping agents in other countries as key audiences for MEPSL requirements. 3. Problem-solve through regional consultation and outside expertise. 4. Involve customs early as key stakeholders; offer training, regional presence, and recognition as carrots. 5. Provide clear rules and consistent enforcement decisions. 6. Extend PAD training resources to all PICs and keep PAD updated with all appliances and models. 7. Continue exchange of information about reliable labs and test results. Continue to harmonize standards across appliances sources.
<ol style="list-style-type: none"> 3. Maintaining and Transferring MEPSL Knowledge 	<ol style="list-style-type: none"> 1. PALS staff turnover resulted in the loss of time and key areas of knowledge. 2. Most PICs were concerned about being understaffed going forward. 	<ol style="list-style-type: none"> 1. Provide support for knowledge maintenance and transfer over a longer time frame. Cross-train larger staff as back-up. Offer continuing training opportunities. Continue regional forums. 2. Maintain national coordinators as part of ministry budgets. Emphasize the benefits of learning new skills (e.g., EE, enacting legislation), becoming “expert” at your job, being a champion
<ol style="list-style-type: none"> 4. Building Stakeholder Awareness and Buy-in 	<ol style="list-style-type: none"> 1. Changing EE actions and processes is a long-term commitment (@ 10 years). 2. Getting attention of multiple stakeholders is hard (retailers, consumers, communities, agencies). 3. Reaching all stakeholders is hard in PICs that have multiple islands, languages, and cultures. 4. Consumers often look for the cheapest up-front costs in appliances, which are unlikely to be the most energy efficient 	<ol style="list-style-type: none"> 1. Plan long-term campaigns that build in progress indicators. 2. Use multiple outreach strategies with prior success, such a radio, social media, trusted messengers (e.g., children, faith organizations), or a popular local TV show. 3. Look for compatible public, non-profit, and private partners to share campaigns, multiply benefits. Emphasize country and consumer benefits, especially saving money, quality and safety, and protecting the environment. 4. Consider adding financing and incentive strategies to move the market more quickly.

Key challenge areas	Description of key challenges	Recommendations
5. Demonstrating Programme Value	<ol style="list-style-type: none"> 1. Funders prefer “hard” products 2. Funders and other stakeholders want impacts that can be monetized or quantified. 3. Soft outcomes and impacts are a harder sell, but still important to uncover and resolve challenges, track awareness. 	<ol style="list-style-type: none"> 1. Build in low-maintenance, enduring products – such as flexible legislation and on-line tools like the Pacific Appliance Database. 2. Plan for and conduct impact evaluations that measure energy and cost savings and other economic benefits. 3. Plan for process evaluations that can relay ongoing progress and compelling stories. Plan for periodic customer surveys to track changes in awareness, knowledge, and behaviors.

Special Note on Time to Market for MEPSL Efforts

The initial timeframe for PALS was based upon a three-year schedule; the PALS experience and experience elsewhere suggests the schedule was too ambitious. As Table 4 shows, MEPSL time-to-market within the PICs was well within the time parameters of other countries. Experience with MEPSL in the region may help others adopt faster, but the PALS design should not be viewed not a quick fix. Rather, as stakeholders pointed out, PALS’ strategies and tactics took “a while to build but have a strong chance of sticking.” Its approach is consistent with other successful long-term programmes that require significant changes in how government, businesses, and individuals operate.

Table 4 Estimated years to market for MEPSL for selected countries

Country	Product(s)	Est. years to market	Why?
Targeted PICs	Refrigerators, Freezers, A/C, Lighting	4-6	Multiple countries, limited resources, individual needs and cultures; steep initial learning curve; expansion should take less time if flexibility built into legislation.
Europe	Ecodesign and Energy Labeling Directive	10+	Multiple products, multiple nations, complex process, factors beyond EE included
Brazil	Industrial Motors	14	First process, commercial product, many stakeholders
Brazil	Distribution Transformers	6	Reduced time due to lessons learned with motors; future MEPS expected to take 5 years or less
Australia	Refrigerators, Electric Water Heaters	7	Initial products and processes; attention to climate change and experience should reduce timing to 5 years
Tunisia	Refrigerators	5	Established MEPSL product, fewer stakeholders

Conclusion 2: For a modest price, a PALS’ approach provides ongoing and valuable services and insights for PICs, the region, and beyond

PALS is a success story with a recognized “brand” in regional governmental agencies. It has built a region-wide network of MEPSL supporters and PALS’ staff and contractors are sought out as trusted advisors. The four PICs that have enacted MEPSL are concerned about a future without PALS, both within their countries and regionwide, since MEPSL is a new endeavor for most of them. While they are committed to MEPSL, they also hope that PALS can continue to provide services until their efforts are further

established. Finally, they hope more PICs will adopt legislation so that MEPSL becomes a regional standard.

Six PICs (including four not included in this assessment) have already made it through the hurdles required to draft legislation. With some continued support, and seeing the success of the other PICs, they may be persuaded to enact MEPSL and thereby expand its regional presence. Papua New Guinea (PNG), in particular, holds the largest single opportunity for energy savings and GHG reductions in the region.

The PICs interviewed accepted that PALS, if continued, would likely need to change. They offered recommendations for its continued presence as described below. An initial “ballpark” figure for providing a reasonable subset of these services would be ~AU\$250K/year for three years for the six PICs included in this assessment. This budget would help enact MEPSL in Kiribati and Cook Islands, and expand the legislation in Fiji to cover more appliances. It would also help address technical, market, and regional coordination needs, and help embed MEPSL procedures, tools, and connections within PICS and region-wide. Overall, these steps will ensure a much stronger MEPSL legacy across the South Pacific.⁷

Recommendations for Continued PALS Services to Support MEPSL

These recommendations fall into four categories: PICs with draft legislation only; PICs that began MEPSL in 2016 or later; PICs that began MEPSL prior to 2016; and region-wide recommendations. PICs not included in this assessment are in parentheses. All recommendations have a three-year window.

PICs with Drafted MEPSL Legislation: Kiribati, Cook Islands (Papua New Guinea [PNG], Tonga, Niue)

- Develop brief analyses,⁸ using programme intelligence, input from PICs, key indicators from **Error! Reference source not found.**, and challenges and recommendations from **Error! Reference source not found.**, to assess if targeted support from PALS would facilitate MEPSL legislation within three years.
- Proceed to specify and provide needed services in those PICs where the strengths and opportunities are strong and the type of assistance needed is clear, cost-effective, and is likely to result in passage of legislation within three years.

PICs With MEPSL for 1-4 Years: Samoa, Solomon Islands, Vanuatu (Tuvalu)

- Support refresher training courses and provide technical consultations for stakeholders for three years.
- Support broader appliance coverage and more stringent standards for three years.
- Support continued efforts to build awareness/buy-in among all stakeholder for three years
- Support an energy and cost savings impact study for at least one PIC after three years of MEPSL operation.

PICs With MEPSL for 5+ Years: Fiji

- Provide targeted assistance to help Fiji extend MEPSL to other appliances for three years.

⁷ The four remaining PICs not covered in this study, including one which has enacted MEPSL and three which have draft legislation, require a separate assessment as to the budget required.

⁸ One approach would be to conduct a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis.

- Conduct a pilot programme to test if incentive and financing strategies can move the market faster or to higher levels of efficiency with a three-year time frame.

Region-Wide Recommendations

- Maintain and update the online Pacific Appliance Database (PAD) for three years.
- Sponsor annual Regional Steering Committee/Regulator Group meetings for three years.
- Support research for three years to measure other effects of MEPSL, such as its impacts on consumer awareness and purchases; gender equality; safety; and integration of efficiency and renewable energy sources.

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