Final report

The Pilot Study Project for Establishing a One-Stop Shop for Renewable Energy in Thailand

for
Thailand Consumers Council

By
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Executive Summary

Distributed Energy Resources (DERs) such as rooftop solar hold strong potential for households and small-scale consumers in Thailand, yet their adoption faces persistent barriers. Key challenges include: (1) limited installer reliability and after-sales service, (2) high upfront costs, (3) lack of clear, accessible information coupled with complex permitting processes, and (4) insufficient government support, particularly the absence of net-metering policies. These factors have slowed residential solar growth, leaving the sector largely dependent on private and civil society initiatives.

The one-stop-shop pilot project, implemented under the *Guan Hiw Saeng* campaign, tested a collective purchase model to address these barriers. The project launched its website (https://collectivesolar.thailandsolarfund.org/) on March 14, 2025, providing information on installation, FAQs, a solar calculator, and registration. It was officially introduced at the World Consumer Rights Day event (March 14–15, 2025), which drew over 128 participants through booths, presentations, and media coverage.

Between March 14 and July 31, 2025, the pilot achieved its objectives: 128 households applied, and 52 proceeded with deposit payments for installation, reaching the project's target with a strong conversion rate of 40.6%. Communication efforts, primarily through Facebook (316,032 impressions from 72 posts), on-site promotions, and online seminars, supported outreach and engagement. The customer journey from online system size calculation to technical consultations and installation assessments demonstrated an effective sales and support process.

However, the pilot also highlighted structural challenges in Thailand's solar market. Barriers include limited cost-effectiveness for many households (due to low daytime usage and no buy-back policy), intense price competition among installers (sometimes at the expense of quality), high upfront investment requiring financing options, and long application periods that slow decision-making.

Findings indicate that the collective purchase model is difficult to sustain in Thailand's highly competitive, price-sensitive environment without additional funding. Larger installers often undercut prices, limiting the model's scalability and viability. Alternative approaches may be more effective, such as:

- A contractor review and rating platform to improve transparency and trust.
- A hybrid one-stop-shop model combining advisory, coordination, and quality assurance services to counter price undercutting, substandard components, and unfulfilled after-sales commitments.

On communications, while Facebook extended reach, peer-to-peer recommendations proved far more persuasive, reflecting solar's nature as a high-trust investment. Video testimonials from actual users emerged as the most engaging and credible content, underscoring the importance of user-generated storytelling in future campaigns.

Project Overview

Project Name: Project to Study and Pilot the Establishment of a One-Stop-Shop for Renewable Energy in Thailand

Background

Solar rooftop technology has become increasingly advanced and affordable, offering households and small businesses a reliable source of clean, renewable energy. Beyond lowering reliance on fossil fuels and reducing greenhouse gas emissions, solar rooftops promote self-sufficiency and support the growth of Distributed Energy Resources (DER).

Despite this potential, adoption in Thailand remains limited. A study based on consumer surveys and interviews identified the following barriers:

- **Knowledge gaps** – limited understanding of system use, benefits, and safety.
- **Mistrust** – concerns about technology reliability, installer quality, and after-sales service.
- **Permit complexity** – lengthy approval processes involving multiple agencies.
- **Confusing information** – inconsistency across sources, leaving consumers without clear guidance.
- **High upfront costs** – while systems yield 20–25% annual returns over 25–30 years, the initial investment is prohibitive for many households.

Solar Collective Purchase Project

To address these barriers, the Solar Fund, operated by the social enterprise **RE Generation**, launched the **Solar Collective Purchase Project** under the *Guan Hiw Saeng* ("Group of Sun-Hungry People") campaign. The initiative promotes public access to solar energy through collective action, with three core strategies:

1. **Trusted information hub**: developing a one-stop website with reliable resources, financial calculators, and FAQs.
2. **Quality assurance:** screening technology, equipment brands, and installers to guarantee standards and after-sales service.
3. **Collective purchasing:** aggregating household and small-shop demand to lower prices through group installation, while also coordinating the permit process.

The project set out to recruit at least 50 households in the target area for a collective installation, operating on a not-for-profit, social enterprise model designed to expand solar access while ensuring consumer protection and trust.

Objectives

- To build consumer awareness and understanding of the options and benefits of **Distributed Energy Resources (DER)** in Thailand, leading to a more knowledgeable consumer base and a stronger DER market.
- To develop and pilot a One-Stop-Shop with the potential to become a business model that can address the obstacles and make DER readily available to Thai consumers.

Implementation Plan

The one-stop-shop model by the Solar Fund (managed by the social enterprise REgeneration) will begin pilot testing in Thailand. This model involves **collective solar installations by consumers** (collective purchase model), based on the case study of CLEAR-X from the European Union, as presented in the report *"Designing a One-Stop-Shop for Consumer Renewable Energy Systems."*

The model operates in three key stages:

1. **Study and selection of appropriate technology** that suits the environment and consumers in Thailand.
2. **Screening and verification of solar installers and equipment providers** to ensure reliability, quality, and after-sales service.
3. **Communication campaign** to invite consumers to join together for group purchases and installations. This collective effort enables consumers to access quality solar systems at reduced costs through bulk purchasing.

The project aims to recruit **at least 50 households**, each installing a system sized between **3 to 5 kW**, with the potential to expand up to **10 kW**, depending on consumer demand.

PROJECT GOALS:

Short term:

- Collect insights on the key challenges faced by Thai energy consumers.
- Develop practical resources to help consumers adopt Distributed Energy Resources (DER).
- Build awareness and trust among consumers to boost confidence and uptake of DER.
- Engage a broad audience, including the general public, policymakers, industry players, and financial institutions.
- Generate evidence-based learnings on effective strategies and gaps, to improve the one-stop-shop and inform future campaigns.
- Design and pilot a one-stop-shop model with the potential to evolve into a viable business solution for overcoming consumer barriers to DER adoption.

Long term:

- Strengthen consumer awareness and understanding of DER options and benefits, creating a more informed public and a more robust DER marketplace in Thailand.

- Provide evidence and recommendations to establish a one-stop-shop business model as a not-for-profit social enterprise, ensuring continued support to address consumer barriers and expand DER accessibility.
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PROJECT OUTLINE:

Activity Category	Activities	Output Indicators	Outcome
Research and Planning Month 1	▪ Review the current state of DER in Thailand, understanding consumer needs and identifying key challenges in DER adoption.		**Gather new information about the issues facing energy consumers in Thailand**
	▪ Develop a strategic plan that includes goals, target audiences, key messages, and desired outcomes.	Project Plan document	
	▪ Collaborate with regulatory bodies, such as government agencies, local organizations, energy companies, and other consumer rights groups, to gather information about policies and regulations related to DER adoption in Thailand and prepare to amplify the campaign.	3-6 meetings or events held ส่ง Stakeholders landscape document	
Develop the One-Stop-Shop website and Awareness Campaign Months 1	Develop website content for the consumer one-stop shop on TCC's website. Should include: ▪ Types of DER solutions available in Thailand ▪ Benefits of DER adoption for consumers (cost savings, energy independence, environmental impact) ▪ Explain financial benefits, which include available incentives, grants, and subsidies, to offset the initial costs of DER installation. ▪ Steps to adopt DER solutions including tips on applications for permits	Completion of draft content	**Identify and generate useful resources to support energy consumers to adopt DER in Thailand**

Activity Category	Activities	Output Indicators	Outcome
	▪ Case studies of successful DER implementations in Thailand ▪ Frequently Asked Questions (FAQs)		
	▪ Design and develop the webpages for the one-stop shop	Draft website pages	
	▪ Design and develop materials for the Awareness Campaign	**Awareness Campaign Strategic Plan**	
Deploy the One-Stop-Shop website and Awareness Campaign Months 1	▪ Launch the website and campaign to bring the stakeholders together and introduce them to the one-stop-shop concept for DER consumers.	Functional one-stop-shop available on the TCC or TSF website	**Raise consumer awareness and confidence around DER and encourage uptake in Thailand**
	▪ Develop and distribute a press release announcing the launch of the one-stop shop.	Press releases issued to relevant media outlets.	
	▪ Promote the one-stop shop on UK TCC's and partners' social media channels.	Social media posts promoting the one-stop shop with clear calls to action	
	▪ Conduct information dissemination through e.g. seminars and forums to showcase the website and discuss the benefits of DER integration, including feed-in tariffs mainly for commercial providers.	1-2 briefings/ events	
Sustained Awareness Campaign Months 2-5	Maintain a comprehensive awareness-raising campaign using various channels, including: ▪ Conduct advocacy and educational workshops and seminars in communities to explain DER technology and its benefits. ▪ Utilize social media and local radio for regular informational segments on DER. ▪ Reach out to financial institutions, like banks and lending institutions to discuss	Consistent campaign activities across multiple channels.	**Reach a wide audience of potential DER participants among general public, and other key actors such as policy-makers, industry players and financial institutions**

Activity Category	Activities	Output Indicators	Outcome
	favourable financing options for consumers investing in DER.		
Monitor, Analyze and Report Month 5	▪ Monitor website traffic and user engagement with the one-stop-shop throughout the project (e.g., page views, time spent on site, downloads).	Data gathering document and system in place (*this should be established early in the project*)	**Generate new insights about what works and what doesn't, to enable continuous improvement of the one-stop-shop and future awareness campaigns**
	▪ Analyze campaign performance metrics to assess reach and effectiveness. Using various channels (e.g., social media reach, website referrals, webinar registrations. Online and offline).	Report on the total number of consumers reached, level of consumer understanding of DER based on website analytics and surveys (if conducted).	
Operate installation of solar rooftop to target households Month 5-7	▪ Operate installation of solar rooftop to target households	Installation results	**Target households installed and solar rooftop**

Communication

ก๊วนหิ้วแสง

รวมพลังซื้อโซลาร์ ถูกกว่า คุณภาพชัวร์ ขออนุญาตครบ จบทุกหลังคา

THAILAND SOLAR FUND กองทุนแสงอาทิตย์ | RE Generation | CONSUMERS INTERNATIONAL | สภาองค์กรของผู้บริโภค Thailand Consumers Council

Campaign name: Guan-Hiw-Sang (Solar Hunger Gang)

Tagline: "Join forces to buy solar – cheaper, guaranteed quality, fully permitted, hassle-free for every rooftop."

Logos

Campaign Communication Goals:

1. To drive purchase decisions – Convince at least 50 target households to buy into the solar installation service offered by the campaign by May.
2. To provide accessible knowledge – Ensure the target group can access all relevant information about solar installation through a single, one-stop source.
3. To build public understanding – Promote the idea that solar power is simple, approachable, and accessible to everyone.

Results of the project

1.The Current State of DER in Thailand and Key Consumer Challenges

Distributed Energy Resources (DERs) are becoming an increasingly relevant and viable approach to electricity generation in Thailand. By producing power at the point of consumption—such as in homes, commercial buildings, or communities—DERs like **rooftop solar systems** reduce transmission losses, enhance energy security, and promote sustainable renewable energy use. Rooftop solar is considered one of the most promising and suitable DER technologies for Thailand.

Current Solar Installation Numbers

The number of solar panel installations in Thailand has been steadily rising, particularly in the residential and commercial sectors. This growth is driven by growing environmental awareness and a significant drop in technology costs. However, the exact number of installations is difficult to determine because relevant government agencies do not publicly release this data, and many households install systems without going through the complex permit process. Despite the growth, the overall proportion of solar installations remains very small compared to the total number of electricity users. This is evident from aerial and satellite imagery and indicates that Thailand's vast solar energy potential is still largely untapped.

Major Problems and Obstacles for Consumers

A survey and a series of in-depth interviews with consumers interested in solar installations revealed five primary challenges and obstacles. The survey was conducted online, mainly through Facebook groups dedicated to solar installation, with 56 respondents and 21 follow-up interviews. The top five issues identified were:

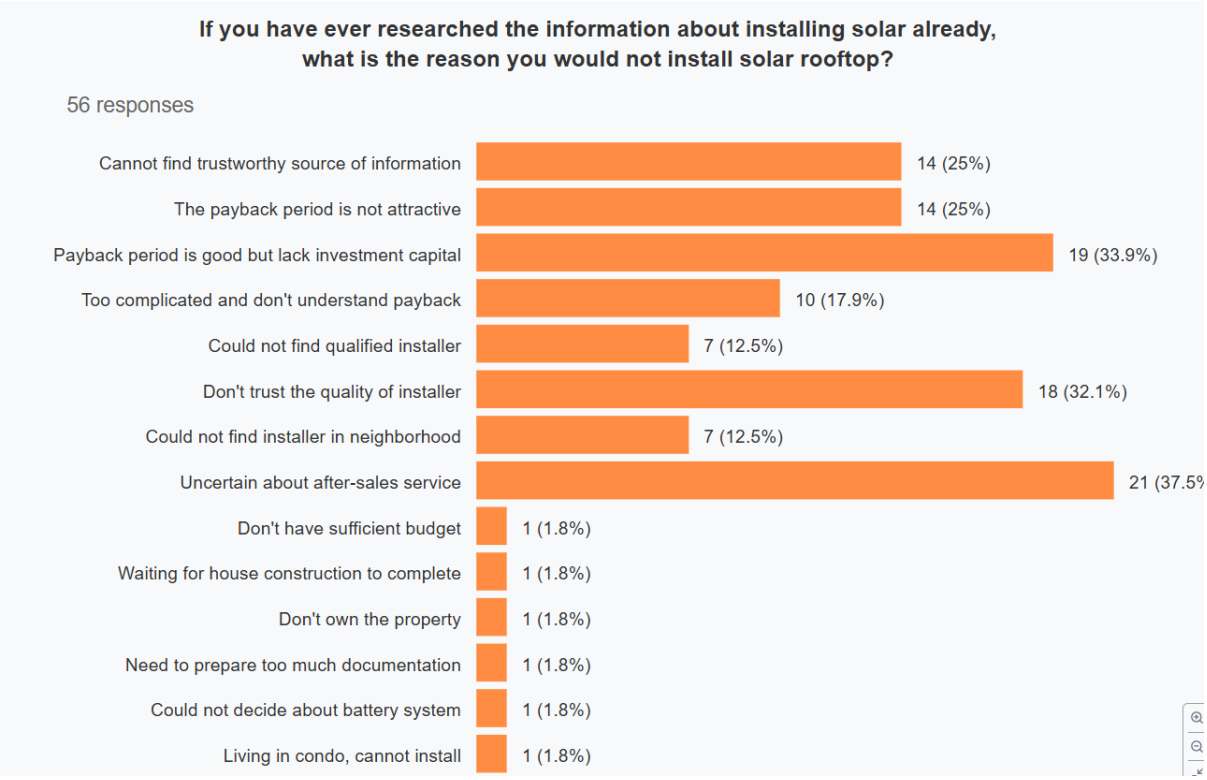
1. Reliability of after-sales services: Consumers are concerned about the long-term support and maintenance of their solar systems.
2. High upfront costs: Many potential customers lack the upfront capital to invest, even when the system is proven to be cost-effective for their homes.
3. Limited installer reliability: There is a general lack of confidence in the quality of work performed by installers.
4. Lack of clear and accessible information: Consumers struggle to find trustworthy information, especially regarding the complex and confusing permit application process.
5. Cost-effectiveness constraints: low daytime usage: Many believe that solar is not a worthwhile investment because they don't use much electricity during the day. This is compounded by the fact that Thailand currently lacks a net-metering policy, and the previous residential power buy-back program stopped accepting applications in September 2024.

Government Support Measures

The Thai government appears to have implemented various support measures to promote solar energy adoption. These include initiatives like the "Residential Solar Program" which allows individuals to sell excess electricity back to the grid at a fixed rate, import tax exemptions on certain solar equipment, and financial institution loans to make solar technology more accessible.

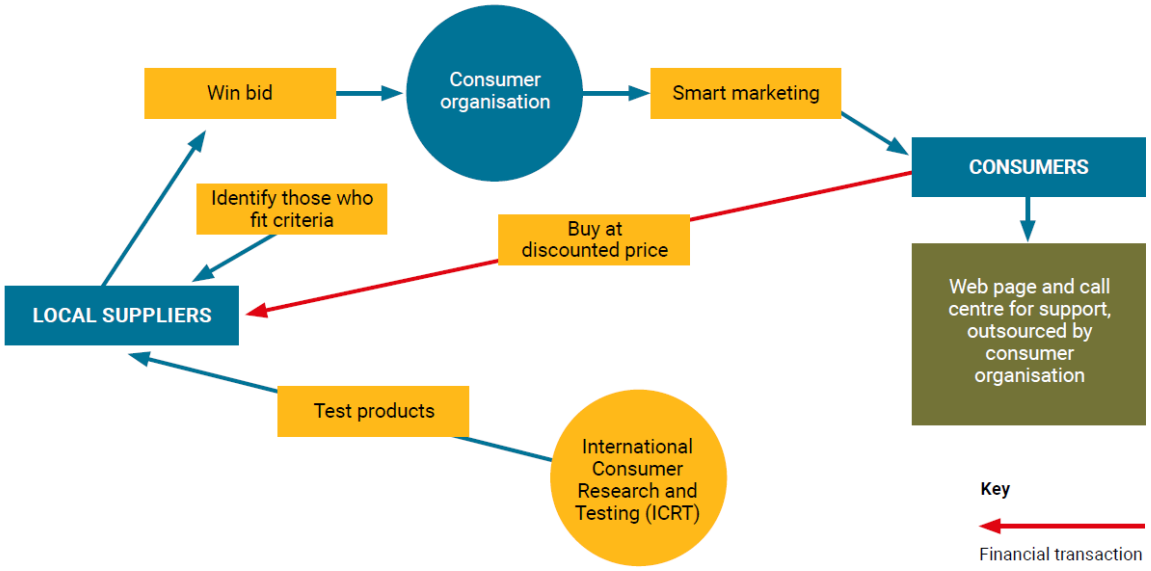
However, in practice, access to these programs is often difficult and comes with significant limitations. For instance, the Residential Solar Program typically takes anywhere from 6 months to over a year to get approval. Furthermore, the program stopped accepting applications in September 2024 because the quota was full, and there have been no updates on expanding it.

Similarly, financial institution loans often target large businesses, as many banks are unwilling to lend to individual households due to the small loan size. Banks also typically do not accept solar systems as collateral, making it genuinely challenging for many households to secure the funding needed for solar installation.



One-stop-shop collective purchase model

2. The CLEAR-X model



CLEAR-X: A Project Model from Consumer International

The **Solar Collective Purchase Project** is modeled after the CLEAR-X project, which was proposed in the Consumer International report, "Designing a one-stop-shop for consumer renewable energy systems." This same report also suggests that a portion of the sales price should be allocated to a revolving fund. This fund would allow the one-stop-shop to become self-sustaining and operate continuously.

Summary

Distributed Energy Resources (DERs), particularly rooftop solar systems, represent the most practical form of decentralized energy for households and small consumers in Thailand. Yet their adoption faces persistent challenges: (1) low consumer trust in installers, especially regarding quality and after-sales service; (2) high upfront investment costs; (3) limited reliable information and a lengthy, complex permitting process; and (4) insufficient government support, including the absence of net-metering policies.

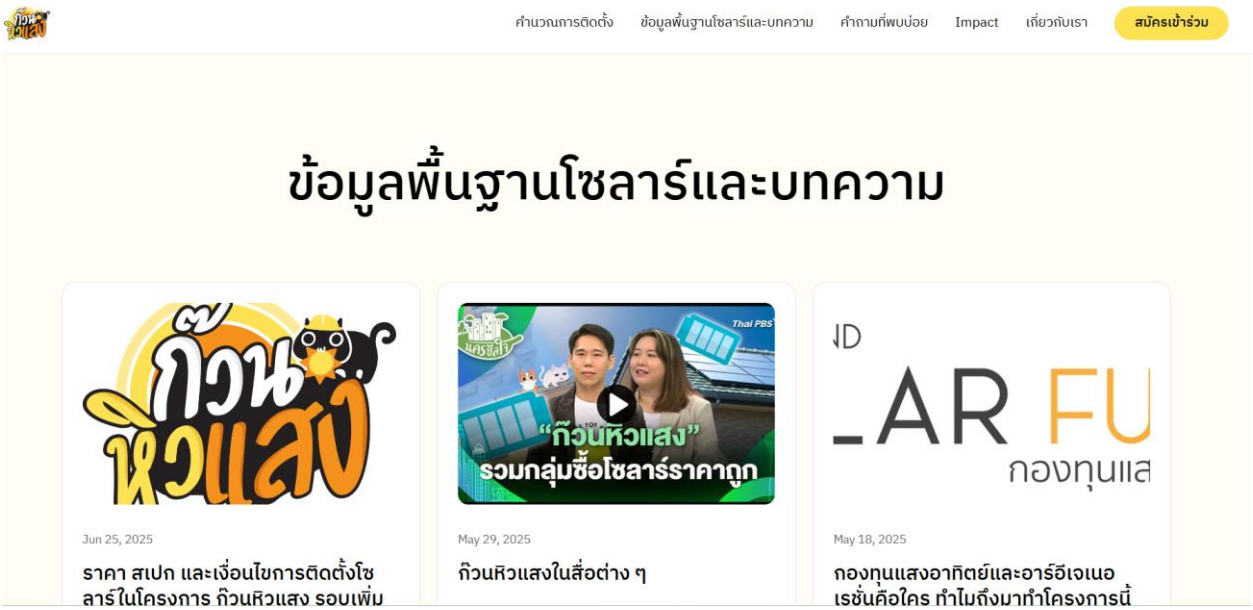
As a result, residential solar deployment remains below its true potential, relying largely on private sector and civil society initiatives. While social innovations such as the Solar Collective Purchase Project show promise in expanding public access, they cannot substitute for sustained government support and enabling policies, which are essential for unlocking Thailand’s full renewable energy potential.

2. Development of the One-Stop-Shop Website and Campaign

The project involved developing a One-Stop-Shop website as a platform for information and decision-making support for household solar rooftop installations. This was supported by a comprehensive campaign that included an on-site project and website launch, online communication via the Solar Fund's Facebook page, and online seminars. These seminars provided knowledge on the benefits of solar rooftops, technical installation details, and answered questions about joining the project, all to encourage consumers to understand and fully utilize the one-stop-shop service and the collective purchase initiative.

2.1 Website Development

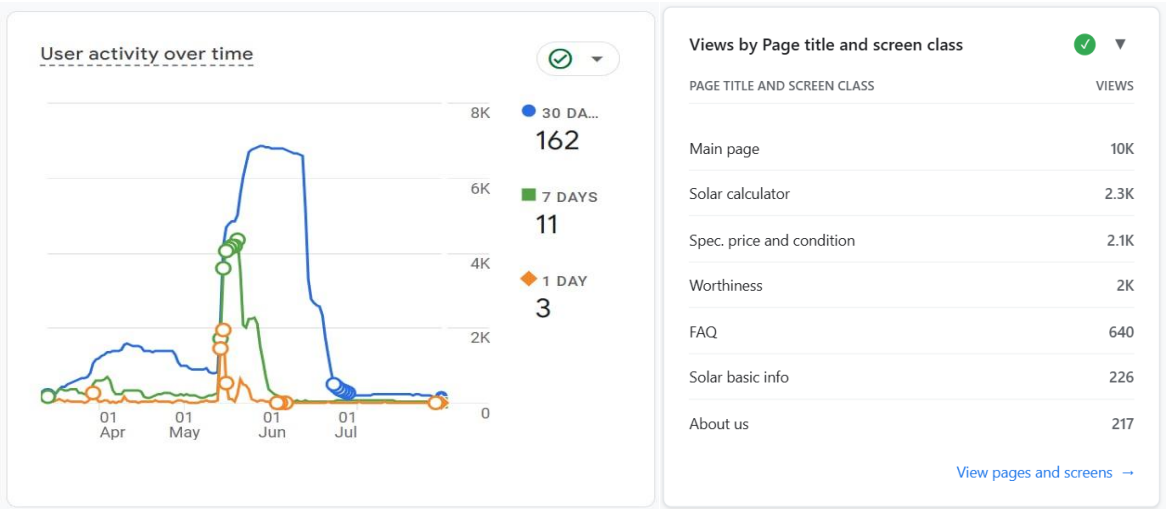
The project website was developed as a sub-URL of the Solar Fund website and launched on March 14, 2025. It can be accessed at: https://collectivesolar.thailandsolarfund.org. The website features a calculator, basic information, FAQs, a section on the project's impact, and a portal for project applications. It also includes 18 articles on the fundamentals of solar cells and the project itself.



Website and Campaign Activities The project's website received approximately **10,000 views**, with the most popular sections being:

- Solar installation calculator (2,300 views),
- Pricing, specifications, and installation conditions (2,100 views), and
- Estimated cost-effectiveness assessment (2,000 views).

This data highlights that consumers prioritize concrete information that helps them with the planning and decision-making process for investing in solar rooftops.

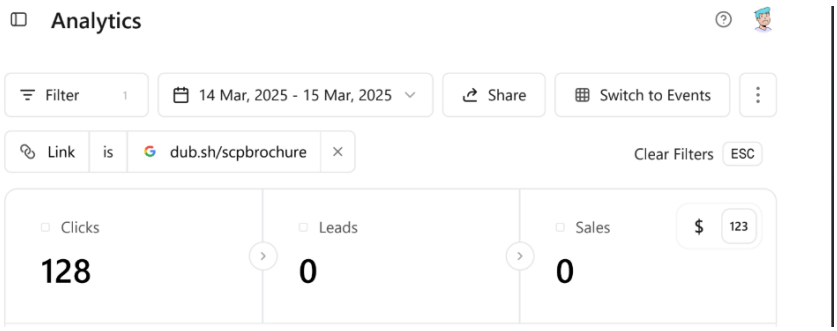


2.2 Website and Campaign Launch Activities

The campaign included a mix of on-site and online activities to promote the project and its one-stop-shop service. These activities comprised 6 on-site events, 72 posts on the Solar Fund's Facebook page, and 2 online seminars. The seminars were designed to educate consumers on the benefits of solar, technical installation details, and to answer questions about participating in the project, encouraging them to fully engage with the one-stop-shop service and the collective purchase initiative.

2.2.1 On-site Project Launch Event

The project was officially launched with an on-site event at the World Consumers Rights Day hosted by the Thailand Consumer Council on March 14-15, 2025, at the Centara Life Government Complex & Convention Centre in Bangkok. The project set up a booth to introduce the solar collective purchase one-stop-shop, branded as "Guan Hiw Saeng" (Group of Sun-Hungry People), and gave interviews to various media outlets. The booth attracted at least 128 participants who scanned a QR code; the actual number of attendees was likely higher as not everyone scanned the code.



2.2.2 Other On-site Promotional Activities

Following the launch, the project continued its on-site promotional efforts at several other events to reach a diverse audience and build broader awareness of the solar rooftop project. These events included:

- Woman in Conservation on March 8, 2025
- An activity at Suankularb School on April 23, 2025
- The City Nature Challenge on April 26, 2025
- The ALT Alumni Reunion on May 11-12, 2025
- The BKK Expo on May 15-18, 2025

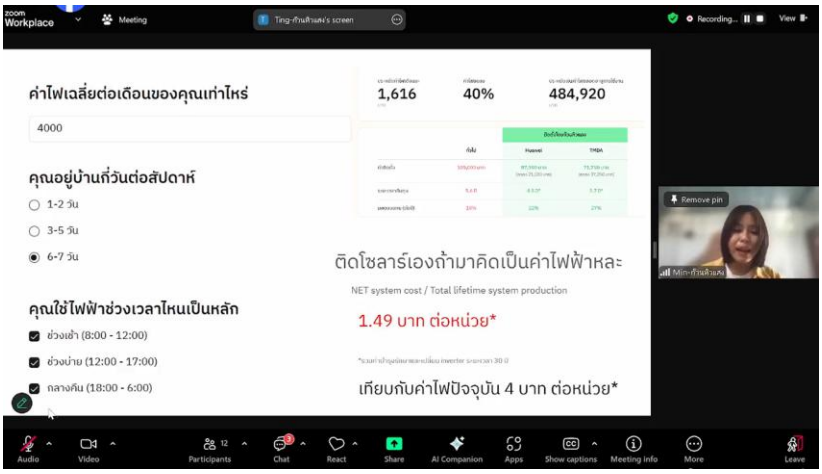
2.2.3 Online Campaign Activities via the Solar Fund's Facebook Page

The project conducted a continuous campaign on the [Thailand Solar Fund's Facebook page], creating a total of 72 promotional posts. These posts generated 316,032 impressions, covering educational content about solar rooftops, project news, examples of successful installations, and FAQs. This approach aimed to increase engagement and understanding among followers.

2.2.4 Online Seminars

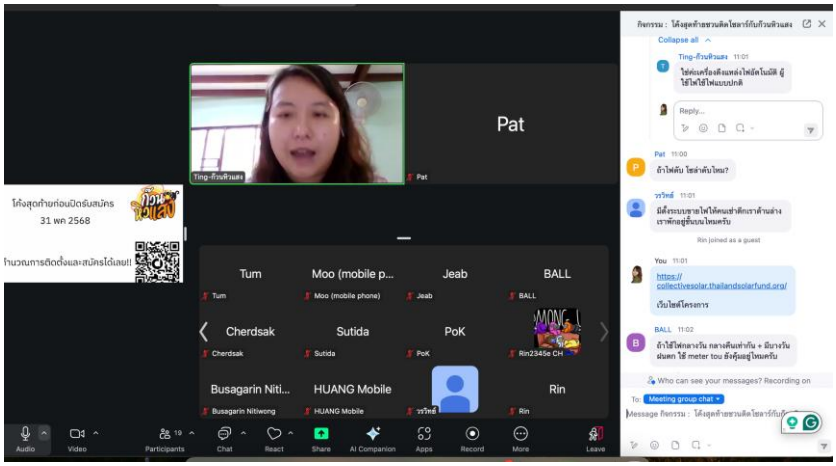
Two online seminars were held to educate participants on the benefits of solar rooftops, technical installation details, and to answer questions about joining the project. A total of 24 participants attended the seminars:

The first time on **April 19, 2025:** 8 participants



April 19, 2025: 8 participants (12 people in Zoom - 4 team members)

The second time on **May 24, 2025:** 16 participants



May 24, 2025: 16 participants (19 people in Zoom - 3 team members)

3. Testing the Efficiency and Effectiveness of the One-Stop-Shop Collective Purchase Model

The collective purchase model was developed to address the main obstacles that prevent consumers from installing solar. The core hypotheses were:

1. Distrust in after-sales service.
2. High initial investment costs, even when installation is financially viable.
3. Concerns about installer quality.
4. Lack of reliable information, particularly regarding the complex permit process.
5. Lack of cost-effectiveness due to not using electricity during the day, as Thailand lacks a net-metering policy and the residential power buy-back program was discontinued in September 2024.
6. The model could become sustainable and self-sufficient by adding a portion of the sales price to a revolving fund, as recommended by Consumer International's report, "Designing a one-stop-shop for consumer renewable energy systems."

To test these hypotheses, the project was launched with a one-stop-shop website and an online campaign on the Solar Fund's Facebook page, providing information to address these concerns.

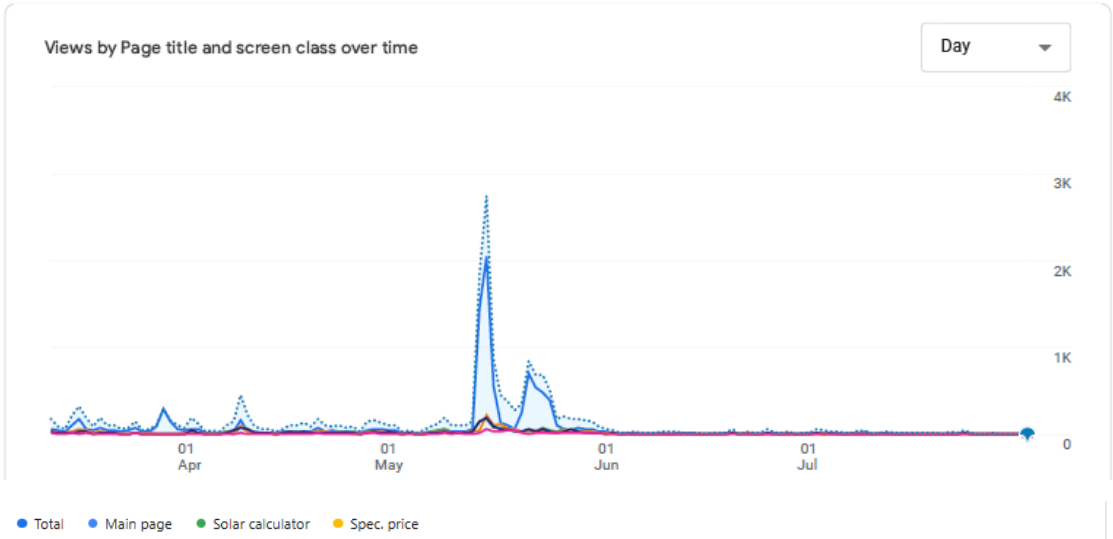
The pilot project successfully onboarded a total of **52 households**. The project had to run two application rounds to reach its goal. The first round, from March 14 to May 31, 2025, only attracted 40 households, falling short of the 50-household target. This was attributed to several key factors: a slowdown in the macroeconomic climate, with GDP growth at -0.3% in April compared to 2024, coupled with rising inflation; global concerns over prolonged international conflicts; unfavorable weather conditions from March to May 2025 (average temperature of 30.27°C, 1.16°C lower than in 2024, and high rainfall in April), which reduced the demand for air conditioning; and a newly announced tax measure for residential solar on June 24, 2025, with unclear details, causing consumers to wait for more information. A second round, from July 1-31, secured an additional 12 households, bringing the total to 52.

Combined Data from Facebook and Website:

The project successfully generated **128 applications** and resulted in **52 solar rooftop installations**.

Overview:

- Facebook page impressions: 316,032
- Website visits: 10,450
- Visits to the solar calculator page: 2,337
- Online applications submitted: 128 households
- Deposits and confirmed installations: 52 households
    - Round 1 (March 14 - May 31, 2025): 42 households
    - Round 2 (July 1 - July 31, 2025): 10 additional households



Plot rows | Search... | Rows per page: 10 | Go to: 1 | 1-10 of 50

	Page title and screen class	Views ↓	Active users	Views per active user	Average engagement time per active user
☑	Total	**18,849** 100% of total	**9,117** 100% of total	**2.07** Avg 0%	**3** Avg
☑	1 Main page	**10,450** (55.44%)	8,199 (89.93%)	1.27	4
☑	2 Solar calculator	**2,337** (12.4%)	1,148 (12.59%)	2.04	4
☑	3 Spec. price and condition	**2,053** (10.89%)	1,297 (14.23%)	1.58	1m 3
☑	4 Worthiness	**1,988** (10.55%)	835 (9.16%)	2.38	1m 0
☑	5 FAQ	**640** (3.4%)	310 (3.4%)	2.06	4
☐	6 Solar basic info	**226** (1.2%)	140 (1.54%)	1.61	2
☐	7 About us	**217** (1.15%)	149 (1.63%)	1.46	3
☐	8 Impact	**114** (0.6%)	81 (0.89%)	1.41	1
☐	9 Article	**114** (0.6%)	60 (0.66%)	1.90	1

Applicant Source (from application survey):

- **Facebook:** 40.9%
- **Friend referral:** 32.3%
- **Line:** 9.4%
- **Other:** 17.4%

Analysis of Reach and Application Effectiveness:

- **Facebook** generated high reach but had a low conversion rate (application to installation).
- **Friend referrals** proved highly effective, indicating that solar is a high-trust product where recommendations from friends and close contacts are more influential in the decision-making process.
- **Line** also showed potential as a supplementary communication channel.

Facebook Campaign Analysis: The Facebook campaign was divided into four phases: Launch, Content Marketing, Hard Sell, and Follow-up. The analysis shows that while content marketing generated interest, pricing was the key driver for decisions.

- **Phase 1: Launch (March 2025):**
    - **Reach:** ~57,000 (18% of total)
    - **Success:** Long video advertisements were highly effective.
    - **Weakness:** Educational content had low engagement.
- **Phase 2: Content Marketing (April 2025):**
    - **Reach:** ~155,000 (49% of total)
    - **Success:** Testimonial videos and promotions performed well.
    - **Challenge:** Infographic content received little interest.
- **Phase 3: Hard Sell (May 2025):**
    - **Reach:** ~42,000 (13% of total)
    - **Success:** A significant price reduction generated high engagement.
    - **Strategy:** Focused on direct selling and countdown timers.
- **Phase 4: Follow-up (June-July 2025):**
    - **Reach:** ~61,000 (20% of total)
    - **Content:** Installation updates, reviews, and deadline extensions.
    - **Performance:** Steady, but with reduced reach.

Website Analysis:

- Total Views: 18,849
- Active Users: 9,117
- Average Views per User: 2.07
- Average Engagement Time: 3 minutes

User Behavior by Page:

1. Most Viewed Page ("Guan Hiw Saeng - Collective Solar"):
    - Views: 10,450 (55.44% of total views)
    - Active Users: 8,199
    - Average Engagement: 1.27 views/user, indicating interest but not deep exploration.
2. Pricing and Specifications Page:
    - Views: 2,337 (12.4% of total views)
    - Engagement Time: 4 minutes (higher than average), confirming price as a key factor.
3. Quality and Installation Pages:
    - Engagement Time**:** High (over 1 minute), showing consumer concerns about quality.

Analysis of Price Impact on Purchasing Decisions: The rooftop solar market is highly competitive and price-sensitive. The project's initial pricing, which included costs for scaling up the model, was too high to be competitive. This impacted the conversion rate from interested leads to actual customers.

- To address this, the project adjusted its pricing strategy by removing the unnecessary scaling-up costs. The new, lower price was more competitive, leading to an increase in applications and successful installations.

Capacity	**Inverter**	**Price (THB)**	**Price before adjusted (THB)**	**Price after adjusted (THB)**
3kW	HUAWEI	109,000	**87,980**	**81,900**
	TMDA	89,000	**71,750**	**65,900**
5kw	HUAWEI	139,000	**114,720**	**109,000**
	TMDA	119,000	**96,510**	**90,900**
	HUAWEI 3-phase	149,000	**128,370**	**122,900**
10kw	HUAWEI	219,000	**178,960**	**173,900**
	TMDA	199,000	**160,650**	**154,900**
	HUAWEI 3-phase	239,000	**200,830**	**194,900**

Outcomes of the Strategic Adjustment

The price adjustment strategy successfully made the project more appealing and competitive. As a direct result, there was a significant increase in applications from potential customers.

Results from the One-Stop-Shop Pilot Project's Hypothesis Testing

Based on identified consumer challenges, the pilot project to establish a One-Stop-Shop using the solar collective purchase model was built on the following hypotheses:

Hypothesis	**Hypothesis of one-stop-shop collective solar project**	**Results**
Reliability in After-Sales Service	The project would increase consumer confidence in after-sales service by carefully screening installers based on their work history.	✅ Correct Consumers expressed confidence in the project's ability to provide reliable installation and after-sales care, with minimal questions on this topic. The low engagement on website and Facebook content related to maintenance suggests that the project successfully addressed these concerns from the outset. Furthermore, the fact that people who had previously installed solar with other providers reached out to the project for help indicates that the one-stop-shop model effectively eliminates this specific consumer pain point.

Hypothesis	Hypothesis of one-stop-shop collective solar project	Results
High upfront costs	The collective purchase model would lower installation costs, making solar accessible to more households.	✅ Correct The collective purchase model did lead to lower prices. This is evidenced by the high engagement on the website's pricing page (4 minutes average engagement time), with users returning multiple times (2.04 views per user) to calculate costs. The success of the "Big Price Reduction" and promotional posts on Facebook (with reaches of 21,562 and 2,373, respectively) further proves that price is a primary obstacle for consumers. The project's need to reduce its price to gain traction directly demonstrates that cost is a critical barrier.
limited installer reliability	The project would increase consumer confidence in installer quality by screening contractors based on their work history.	✅ Correct Evidence from the website and Facebook confirms this. The pricing and specifications page had high engagement, and video testimonials from real customers were significantly more effective at driving interest and action (4-7% engagement) compared to other content types (0.2-1.8%). The low number of consumer inquiries about installers also suggests that the project's vetting process successfully built trust.
Lack of clear and accessible information	The one-stop-shop website would serve as a reliable source of information for household solar.	✅ Correct The website's average of 2.07 views per user, with low average engagement time on the main page but high engagement on detailed pages, indicates that users were actively navigating different sections to gather comprehensive information before making a decision. This confirms the website successfully functioned as a credible, centralized information hub.

Hypothesis	Hypothesis of one-stop-shop collective solar project	Results
Cost-Effectiveness Constraints: Low daytime usage	The project cannot solve the issue of low cost-effectiveness for households that don't use much electricity during the day, as this requires government support.	✅ Correct While many people were interested and applied, those who did not proceed with installation often cited a lack of cost-effectiveness as the reason. This is due to the absence of a net-metering policy and the discontinuation of the residential power buy-back program in September 2024. The project alone cannot resolve this systemic issue, which requires intervention from the government.
Sustainability of the One-Stop-Shop Model	Adding a portion of the sales price to a revolving fund would make the one-stop-shop self-sustaining.	❓ Inconclusive This hypothesis could not be definitively proven because the project had to lower its prices to remain competitive, which directly impacted its ability to generate sufficient revolving capital. The project's need to reduce prices to attract customers suggests that a small markup to fund the one-stop-shop makes the offering uncompetitive. This study focused on an EPC (Engineering, Procurement, and Construction) model and did not explore a "collective purchase, separate installation" model, so it cannot fully determine if this business model is sustainable in Thailand's highly price-sensitive market.

Analysis of Challenges and Obstacles

The one-stop-shop pilot project identified and attempted to solve several key challenges during its implementation.

Project Implementation Challenges	Solutions and results
Limited number of suitable homes: Many households are not a good fit for solar because they don't use	The project initially focused on Facebook for promotion but saw limited interest. After a popular interview on "Manut Krungthep" (Bangkok Humans) led to increased inquiries, the project shifted

Project Implementation Challenges	Solutions and results
much daytime electricity, and the government doesn't buy back surplus power.	its strategy. The project continued to adapt its marketing and outreach efforts to address these factors. It expanded its reach through more on-site and offline promotions, including booths and brochures in residential areas and cooperatives, and extended the project duration. It also sought media coverage from outlets like ThaiPBS and The Cloud to increase public awareness.
Fewer installations than expected: This was potentially due to a slowing economy, the start of a school semester delaying long-term investments, or insufficient outreach.	
Intense price competition and undercutting: Despite a 20% discount from the collective purchase model, some competitors offered even lower prices, often by compromising on quality.	The project emphasized **quality and reliability** in installation and after-sales service to counter low-quality competitors. Ultimately, it decided to further lower its price by removing the portion intended for the revolving fund, making the offer more competitive and proving that price was a major hurdle.
High initial investment and need for financing: Many consumers couldn't afford the upfront cost even with a 20% discount and needed financing options.	The project offered a financing option through ICBC Bank with a 10-20% down payment and 48-84 month installment plans. While many inquired, only one person actually took the loan. The project concluded that since solar installation is not an urgent necessity, consumers were more willing to wait and save up rather than take on debt and pay interest.
Damaged roofs preventing installation:	The project provided recommendations for roof repair technicians. However, the cost of these repairs prevented many from moving forward with the solar installation.
Long decision-making period: A lengthy application window (until May 31) caused potential customers to delay their decision.	The project introduced tiered sales promotions (1,000 Baht off for the first 15 people, 500 Baht off for the next 15). When this was not effective, the project cut the price for all customers by removing the budget for future project campaigns, which significantly boosted installations.
Media perception as a commercial entity: Many media outlets viewed the project as a for-profit venture and either refused to provide free promotion or charged standard commercial rates, which the project could not afford.	The project leveraged its existing network for limited, localized promotions.
Customer demand for larger systems (e.g., 10kW)	The project expanded its installation offerings to include systems up to 10kW.
Specialized customer needs: Some customers had unique requests, such as integrating old solar panels with a new system.	The project provided initial technical advice and coordinated with installers to customize systems for the benefit of these customers.

Project Implementation Challenges	Solutions and results
Interest from surrounding areas: Customers from nearby provinces like Ayutthaya and Nakhon Nayok expressed interest.	The project addressed these cases individually with the installer and expanded its service area as needed to accommodate participating consumers.

4.Study Findings and Recommendations

The study confirmed that a **one-stop-shop platform for renewable energy** could be highly effective in Thailand. Since the "prosumer" concept of producing one's own energy is new to most Thai households, a single, trustworthy source of information and support is crucial for building confidence and encouraging investment.

However, the **collective purchase model, particularly using an EPC contract, may not be the most suitable approach** for widespread adoption. Despite offering a 20% discount, the model struggled to compete with the intense price undercutting in the market. The need to further lower prices (by 5%) to attract customers meant the project couldn't generate enough revenue to fund future campaigns, making the model financially unsustainable in the long term.

Still, the collective purchase model can serve as a **strategic tool for public relations**, raising awareness and generating interest in renewable energy and energy independence.

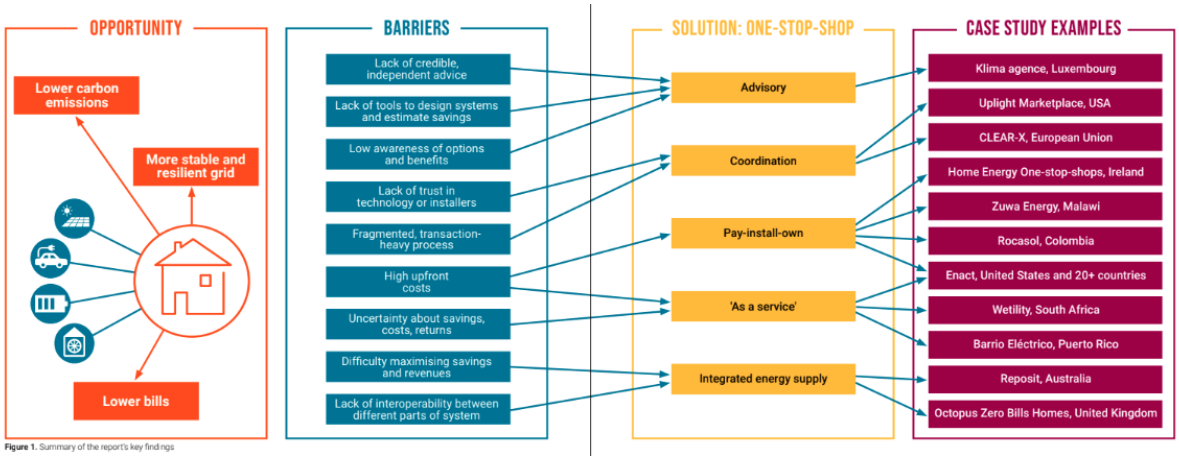


Figure 1. Summary of the report's key findings

Given the high competition and price-sensitive market, a more effective one-stop-shop model for Thailand might be a platform for reviewing and vetting installers. This model, a hybrid between an "Advisory" and "Coordination" one-stop-shop, could address the issue of price undercutting and the use of low-quality, unknown components (e.g., wiring, mounting frames) or unfulfilled after-sales service promises (e.g., five-year warranties that are not honored).

5. Summary of Project Learnings, Obstacles, and Policy Recommendations

Upon completion, the project found that attracting participants was challenging due to both structural and behavioral obstacles:

- Zero Export Policy: Thailand's policy prohibits households from selling excess electricity back to the grid, which significantly limits the financial benefits of solar rooftops.
- Unclear Government Incentives: During the project, a tax deduction for solar installation was announced, but the details were unclear and may have practical hurdles, such as the long wait times for grid connection permits.
- Financial Constraints: The high initial cost was a major concern.
- Perception of Necessity: Despite low-interest loans being available, most people were unwilling to take on debt for a solar system, even if the monthly payment was less than the electricity savings. This reflects a broader attitude that solar is not yet seen as an urgent necessity and still relies on fossil fuels powerplants.
- Low Awareness**:** Many people are still unfamiliar with solar rooftops and do not fully appreciate the value of energy independence. On-site outreach received very low interest, highlighting the need for more education and campaigns to promote the value of energy autonomy.

Policy Recommendations

Limitations and Obstacles	**Policy Recommendations**
Household Usage & Zero Export Policy Many households feel solar installation is not worthwhile because they mainly use electricity at night and are restricted by the Zero Export Policy (no excess energy allowed to be sent back to the grid).	Allow power purchase from citizen-owned solar systems with a **25-year contract period** and the following conditions: ● **1. No Quota:** Remove purchase quotas in terms of capacity and grid absorption limits. ● **2. Flexible Pricing:** The feed-in tariff should be adjustable according to the latest official announcements. ○ **Fair Pricing:** Set a purchase rate **10–20% lower** than what utilities pay large-scale producers (like EGAT), and use the difference to: ■ Upgrade the grid and distribution system. ■ Improve the system to better support decentralized energy production. ● **3. Use the price margin to upgrade the grid:** Utilities should invest in improving the distribution system to efficiently support Distributed Energy Resources (DER), avoiding technical

Limitations and Obstacles	Policy Recommendations
	excuses that the grid cannot handle more connections. ○ **System stability:** These upgrades will make the grid more stable and flexible, even with an increasing number of small-scale producers.
Unclear Government Incentives While the government announced tax incentives for households installing solar, the details remain unclear, and implementation is hindered by bureaucratic requirements (e.g. time-consuming connection permits).	Ensure all **policy details are clear and ready** before public announcements. Expedite implementation and detail publication of existing tax incentive policies to build confidence among consumers and installers.
Financial Barriers ● Many consumers are concerned about the high upfront costs and do not see solar as a pressing need, even with available low-interest loans. ● Surveys found that even when monthly repayments are lower than savings on electricity, most people are still reluctant to borrow, reflecting a general perception that solar is a luxury, not a necessity. ● Additionally, rising household debt and economic uncertainty make taking on more debt unattractive.	Introduce **Zero-Interest Loans** for solar rooftop installation and energy efficiency upgrades. **Loan Term:** 5 years, **Loan Amount:** 30,000–300,000 THB
Low Awareness and Understanding of Solar Technology ● Many people are unfamiliar with solar rooftops and do not fully appreciate the value of energy independence. ● On-the-ground outreach efforts received very little response, indicating a lack of public understanding.	Increase public education and awareness campaigns, emphasizing the value of renewable energy and energy independence. Government agencies, especially the Department of Climate Change and Environment and the Department of Alternative Energy Development and Efficiency, should: ● Collaborate to explain the benefits and necessity of solar to the public. ● Partner with educational institutions to incorporate topics such as climate change, energy independence, personal finance, and sustainable investment into learning programs.

Limitations and Obstacles	Policy Recommendations
Complicated and Costly Installation Permits ● Current permit regulations for residential solar are overly burdensome, requiring both civil and electrical engineers to sign off on plans. ○ **Estimated permit costs:** ■ Engineering certification: 3,500–4,000 THB ■ Grid connection fee: 2,140 THB ■ **Total:** Nearly 10% of the total installation cost for a small 3kW rooftop system. ○ Permit processing is slow, and in some cases, applications are rejected without explanation.	**Relax regulations** for small residential solar systems to reduce unnecessary costs. For example: ● If the solar panel weight is under 25 kg/m², a civil engineer's approval may not be required. Create a **centralized online permit system** with: ● Clear timelines for application outcomes, ● Transparent reasons for rejections, ● Clear instructions for corrections and resubmissions.

However, there are also supporting factors that could encourage solar adoption. For instance, electric vehicle (EV) ownership often increases interest in rooftop solar, as EV owners seek to offset charging costs with renewable energy. Likewise, household tax deduction policies for solar installations may incentivize adoption, though their impact remains uncertain and should be assessed in the coming year.

During project implementation, it became clear that Thailand's solar rooftop market is highly competitive. The project's bundled installation price, which included costs for scaling the model to other areas, was not competitive. Adjustments were made by removing expansion-related costs, enabling the project to offer more competitive pricing.

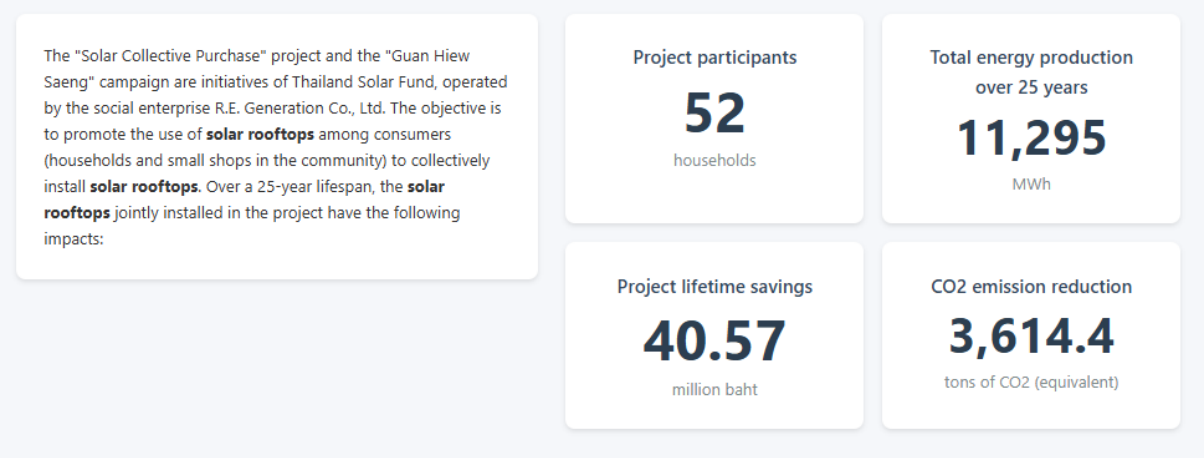
This experience highlights a key limitation: the group-purchasing business model is difficult to sustain commercially without supplementary funding. As a result, alternative models should be explored. One promising approach is a technician review platform, designed as a one-stop-shop where consumers can access verified information, post real reviews, and compare installers. To ensure credibility and neutrality, such a platform would ideally be operated by trusted institutions such as the Department of Alternative Energy Development and Efficiency, the Thailand Consumer Council, or the Foundation for Consumers.

Nonetheless, group-purchasing initiatives retain strategic value as awareness-raising and public engagement tools. They can generate consumer interest in renewable energy and energy independence, even if not viable as standalone businesses. Encouragingly, the Eastern Renewable Energy Network has expressed interest in expanding the *Guan Hiw Saeng* collective purchase model to other provinces, including rooftop and agricultural solar applications, thereby broadening access and visibility for renewable energy solutions.

6. Impact

The project successfully installed solar rooftop systems on **52 households**, which was able to reduce the total cost 1.39 million Baht for all consumers who joined the collective purchase scheme. The total installed capacity is **251 kW**.

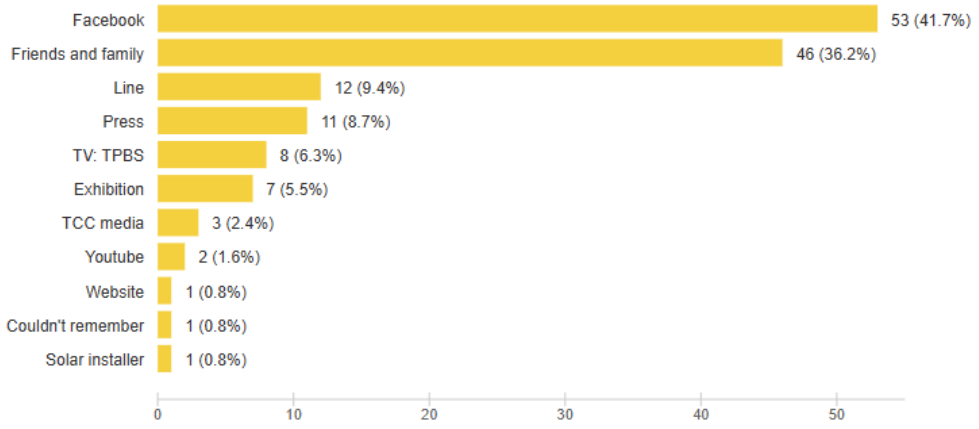
- **Electricity Production:** 451,800 kWh per year, and 11,295,000 kWh over a 25-year lifespan.
- **Cost Savings:** 1.62 million Baht per year, and 40.57 million Baht over 25 years.
- **CO_2 Reduction:** 144.6 tons of CO_2 per year, and 3,614.4 tons of CO_2 over 25 years, equivalent to planting approximately 401,600 trees.



Appendix

Where do you get information from?

127 responses



Summary of communication of solar collective purchase project (Facebook Page)									
No.	Date	Name	Reach	View	Link Click	Message	Like	Comment	Share
1	2568-03-12	Opening a campaign with a poster	11,921	21,724	87	-	192	25	203
2	2568-03-13	Video Clip : The universe is in turmoil	42,537	44,197	3,516	-	260	13	71
3	2568-03-14	Post : Invitation to join the booth at TCC's WCRD 2025 event	414	1,115	3	-	20	1	1
4	2568-03-16	Pic. Post : the booth at TCC's WCRD 2025 event	656	1,604	4	-	42	0	4
5	2568-03-17	Pic. Post : the advantage from joining the campaign	548	1354	9	-	13	0	3
6	2568-03-17	Pic. Post How to join the campaign	605	1,420	28	-	15	0	5
7	2568-03-21	Quote : Love Earth by Using Solar Power with the Light-Hungry-Gang	6,323	14,241	90	-	66	3	55
8	2568-03-22	Video Clip : The Benefits of using Solar Power 1	18,485	21,339	1284	-	119	4	7
9	2568-03-24	Quote : Love Earth by Using Solar Power with the Light-Hungry-Gang (Another)	654	1316	5	-	21	2	3
10	2568-03-31	Short Video Clip : The Benefits of using Solar Power	3,032	3940	54	8	35	6	7
11	2568-04-02	Article: What to do before solar installation	624	1,261	17	-	15	1	4
12	2568-04-04	Article : The worth of joining the campaign	1,079	2,228	22	-	12	1	8
13	2568-04-04	Video Clip : The universe is in turmoil	111,970	113,258	6531		674	25	74
14	2568-04-08	Infographic : What is Solar Cell?	832	1,665	1	-	14	1	6
15	2568-04-08	Infographic : How many types of solar panels?	559	1,040	-	-	16	1	1
16	2568-04-10	Video Clip: The Interview with a radio program, News Family	397	549	-	-	16	1	1

Summary of communication of solar collective purchase project (Facebook Page)									
No.	Date	Name	Reach	View	Link Click	Message	Like	Comment	Share
17	2568-04-10	Poster : Promotion for the first 15 solar rooftops	4,902	9,612	59	27	47	10	12
18	2568-04-11	Article: How does solar installation help your electricity's bill? and Why is it worth your investment in long terms?	717	1,151	13	-	14	0	2
19	2568-04-16	Post : Invitation to visit Q&A (online session)	928	1,875	-		11	1	14
20	2568-04-16	Article : How to maintain your solar installation	846	1,388	-		18	1	3
21	2568-04-18	Infographic : All types of solar installation	383	750	-		15	2	4
22	2568-04-19	Short Video Clip : The Benefits of using Solar Power 4	8,090	11,441	72	11	106	8	44
23	2568-04-20	Poster : Promotion for the first 30 solar rooftops	8,802	15,286	77	29	41	3	11
24	2568-04-20	Video - Recap of Q&A session	241	377	-	-	7	0	0
25	2568-04-21	Article : How to apply for permission for solar installaion	959	1,690	10		25	1	15
26	2568-04-22	Infographic : Get to know all equipments of solar installation	430	756	-	-	15	1	2
27	2568-04-23	Infographic : Procedures for requesting permission to install solar cells on residential rooftops	506	944	-	-	20	1	2
28	2568-04-24	Infographic : How to choose the right power capacity for your solar installation	449	929	12	-	13	1	2
29	2568-04-25	Infographic : How long do you have to use your solar installation before reaching break-event-point?	385	720	8	14	1	1	
30	2568-04-26	Infographic : how to maintain the system	383	725	-	-	18	1	2

Summary of communication of solar collective purchase project (Facebook Page)									
No.	Date	Name	Reach	View	Link Click	Message	Like	Comment	Share
31	2568-04-26	Short news : update the number of all participants in the campaign	1,187	2,066	1	-	18	1	9
32	2568-04-27	Pic. Post : the meeting with Department of Alternative Energy Development and Efficiency, Ministry of Energy	381	725	-	-	21	1	0
33	2568-04-27	Short VDO Video Clip : The Benefits of using Solar Power 3)	1,466	1,707	-	-	33	1	11
34	2568-04-28	Short Video Clip : The Benefits of using Solar Power 5)	1,003	1,392	-	-	31	1	17
35	2568-04-28	Pic. Post : The meeting with TMDA's executive)	741	1,392	-	-	23	1	0
36	2568-04-29	Infographic : How Solar Cells Work)	892	1,300	-	-	15	0	1
37	2568-04-30	Video Clip : When a celebrity visit our booth at TCC's WRCD 2025	2,900	5,445	117	45	56	5	4
38	2568-05-01	Article : The Benefit of installation of Solar cells at your home	1,370	1,878	1	-	13	0	1
39	2568-05-02	Article : Price, specifications and conditions for installing solar panels with us	342	557	11	-	7	0	0
40	2568-05-03	Article : Types of renewable energy suitable for household installation in Thailand	525	900	7	-	14	0	3
41	2568-05-09	Short News : Hot deal - A new price for all who join the campaign	21,562	30,635	142	40	68	21	45
42	2568-05-09	Pic post : Proposing a new price	2,373	3,694	65	10	24	6	8
43	2568-05-10	Infographic : How does solar power help our earth?	257	530	-	-	5	0	0
44	2568-05-10	Infographic : Why is using solar power better?	254	626	-	-	11	0	1

Summary of communication of solar collective purchase project (Facebook Page)									
No.	Date	Name	Reach	View	Link Click	Message	Like	Comment	Share
45	2568-05-13	Pic. Post : Invitation to join the booth at BKK EXPO	615	1,142	-	-	19	0	8
46	2568-05-13	Pic. Post : events in the booth at BKK EXPO	460	846	2	-	17	1	2
47	2568-05-14	Video Clip : ThaiPBS's Wan Mai Variety	2,720	1,811	38	-	34	1	7
48	2568-05-14	Pic. Post : events in the booth at BKK EXPO	837	1,183	-	-	43	2	6
49	2568-05-14	Short advertisement	5,560	7,311	129	44	95	9	7
50	2568-05-16	Article : Happiness in retirement	407	489	-	-	7	0	1
51	2568-05-16	Infographics : Everything you need to know about solar installation at home (Album)	451	705	1	-	15	1	9
52	2568-05-17	Article : Clean Energy from an Environmentalist's Perspective	572	652	2	-	13	1	2
53	2568-05-18	Article : Green cafe for the new generation	1424	1821	12	-	14	1	7
54	2568-05-21	Pic post : counting down 10 days to close the project	6,454	11,015	98	31	47	13	23
55	2568-05-21	Pic post : Q&A invitation	537	755	-	-	11	1	7
56	2568-05-22	Pic post : counting down 8 days to close the project (price)	5763	7,523	98	7	29	4	19
57	2568-05-24	Video rerun Q&A	373	563	-	-	9	1	2
58	2568-05-27	Pic post promotion 3 last days	4913	9681	283	26	26	0	7
59	2568-05-31	Pic post promotion last day	826	1424	-	-	11	0	9
60	2568-06-04	Article Solar cell isn’t only electrical energy	220	360	15	-	12	1	2
61	2568-06-08	Article : Things to know before install solar	215	339	10	-	9	1	1
54	2025-06-20	Short Video installation update	454	1,404			81	1	6
55	2025-06-24	AW testimony #1	961	1,744			49	3	7
56	2025-06-25	Aw testimony #2	568	1,098			31	0	3
57	2025-06-29	Pic Post installation update 1	623	1,299			49	1	4

Summary of communication of solar collective purchase project (Facebook Page)									
No.	**Date**	**Name**	**Reach**	**View**	**Link Click**	**Message**	**Like**	**Comment**	**Share**
58	2025-07-01	AW extension of the project	3,821	7,736	39		49	19	4
59	2025-07-02	AW Price update	5,742	12,427	241	27	43	12	7
60	2025-07-05	Pic Post installation update 2	2,605	5,601	29	4	39	4	2
61	2025-07-06	Pic Post installation update 3	657	1,232			44	1	3
62	2025-07-08	Pic Post installation update 4	539	1,096			40	2	3
63	2025-07-11	Pic Post installation update 5	301	628			15	1	1
64	2025-07-11	Pic post counting down 7 last houses	1,041	2,313			66	2	12
65	2025-07-12	Pic Post installation update 6	181	420			8	1	1
66	2025-07-13	Pic Post installation update 7	334	597			15	2	1
67	2025-07-18	Pic post counting down 6 last houses	277	543			12	2	2
68	2025-07-18	Short Video : installation update of the project	122	161			6	2	1
69	2025-07-22	Pic Post installation update 8	499	862			23	3	2
70	2025-07-23	Pic Post installation update 9	216	383			8	2	1
71	2025-07-25	Pic Post installation update 10	313	572			16	2	2
72	2025-07-31	Pic Post installation update 11	521	927			38	1	4
		Total	**316,032**	**421,405**	**13,243**	**323**	**3,263**	**250**	**851**

Results of Solar Rooftop Installation in the Project

The test of the One-Stop-Shop collective purchase model found that a total of 52 households participated in the project. The results are summarized as follows:

- 47 households have completed installation.
- 2 households were surveyed by technicians but found to be unsuitable for installation.
- 3 households decided not to proceed with the installation. These included both those who cited valid reasons and those who withdrew without providing an explanation.

List of participants

No.	[redacted]	[redacted]	Solar size (kw)	Installation results
1	[redacted]	[redacted]	5	Installation completed on 2025-06-27
2	[redacted]	[redacted]	5	Installation completed on 2025-07-21
3	[redacted]	[redacted]	3.125	Installation completed on 2025-07-10
4	[redacted]	[redacted]	3.125	Installation completed on 2025-07-18
5	[redacted]	[redacted]	5	Installation completed on 2025-08-02
6	[redacted]	[redacted]	3.125	Installation completed on 2025-07-22
7	[redacted]	[redacted]	5	Installation completed on 2025-07-24
8	[redacted]	[redacted]	5	Installation completed on 2025-07-06
9	[redacted]	[redacted]	6.875	Installation completed on 2025-08-02

No.	[redacted]	[redacted]	Solar size (kw)	Installation results
10	[redacted]	[redacted]	3.125	Installation completed on 2025-06-23
11	[redacted]	[redacted]	3.125	Installation completed on 2025-06-19
12	[redacted]	[redacted]	5	Installation completed on 2025-07-15
13	[redacted]	[redacted]	3.75	Installation completed on 2025-06-29
14	[redacted]	[redacted]	7.5	Installation completed on 2025-07-16
15	[redacted]	[redacted]	5	Installation completed on 2025-06-24
16	[redacted]	[redacted]	5	Installation completed on 2025-07-10
17	[redacted]	[redacted]	3.125	Installation completed on 2025-08-02
18	[redacted]	[redacted]	10	Installation completed on 2025-06-23
19	[redacted]	[redacted]	5	Installation completed on 2025-09-10
20	[redacted]	[redacted]	5	Installation completed on 2025-07-01

No.	[redacted]	[redacted]	Solar size (kw)	Installation results
21	[redacted]	[redacted]	3.125	Installation completed on 2025-07-01
22	[redacted]	[redacted]	3.125	Installation completed on 2025-06-21
23	[redacted]	[redacted]	5	Installation completed on 2025-08-02
24	[redacted]	[redacted]	3.125	Installation completed on 2025-07-06
25	[redacted]	[redacted]	3.125	Installation completed on 2025-06-24
26	[redacted]	[redacted]	5	Installation completed on 2025-07-04
27	[redacted]	[redacted]	5	Homeowner changed mind because emergency cash needed
28	[redacted]	[redacted]	5	Installation completed on 2025-08-09
29	[redacted]	[redacted]	5	Installation completed on 2025-07-10
30	[redacted]	[redacted]	3	Technical survey found installation not possible due to old roof; homeowner not ready to renovate
31	[redacted]	[redacted]	5	Installation completed on 2025-09-13
32	[redacted]	[redacted]	5	Installation completed on 2025-07-18
33	[redacted]	[redacted]	5	House construction unfinished due to contractor fraud and

No.	[redacted]	[redacted]	Solar size (kw)	Installation results
				abandonment; installation not possible
34	[redacted]	[redacted]	5	Installation completed on 2025-07-10
35	[redacted]	[redacted]	3	Homeowner changed mind, installation canceled
36	[redacted]	[redacted]	5	Installation completed on 2025-07-12
37	[redacted]	[redacted]	5	Installation completed on 2025-06-21
38	[redacted]	[redacted]	5	Installation completed on 2025-07-21
39	[redacted]	[redacted]	6.875	Installation completed on 2025-09-07
40	[redacted]	[redacted]	5	Installation completed on 2025-06-04
41	[redacted]	[redacted]	15	Homeowner changed mind, installation canceled
42	[redacted]	[redacted]	3	Installation completed on 2025-09-26
43	[redacted]	[redacted]	5	Installation completed on 2025-07-28
44	[redacted]	[redacted]	10	Installation completed on 2025-09-01
45	[redacted]	[redacted]	5	Installation completed on 2025-08-26

No.	[redacted]	[redacted]	Solar size (kw)	Installation results
46	[redacted]	[redacted]	3.125	Installation completed on 2025-09-05
47	[redacted]	[redacted]	10	Installation completed on 2025-08-27
48	[redacted]	[redacted]	3.125	Installation completed on 2025-08-30
49	[redacted]	[redacted]	3.125	Installation completed on 2025-09-08
50	[redacted]	[redacted]	5	Installation completed on 2025-10-29
51	[redacted]	[redacted]	5	Installation completed on 2025-10-29
52	[redacted]	[redacted]	5	Installation completed on 2025-10-29