

Institutional Aikido

Bringing Power to the People of Thailand

This case study is published as part of the Democracy Center's series of Climate Campaign Profiles. These studies have been produced to gather lessons from climate activism in diverse places and contexts in order to share these with other campaigners and help build the effectiveness of their advocacy work. You can find the full series in the Climate & Democracy section of our website.

By Ben Brouwer

the story

Thailand is a rapidly developing country well on the path to a polluting and destructive energy system: sprawling cities, energy-sucking shopping malls, huge centralized power plants burning coal and natural gas, and World Bank funded mega-dams that have wiped out homes and traditional fishing grounds. But tucked inside this reality is a remarkable piece of energy regulation that has led to the explosive growth of a whole different kind of energy economy: decentralized, small-scale, renewable energy systems that are owned by individual businesses and communities, rather than a monopoly utility. The story of how these model regulations were drafted and adopted is an example of what one of the key campaigners involved, Chris Greacen, describes

as "Institutional Aikido." Referring to the Japanese martial art that instructs practitioners to absorb and redirect the force of an attacker, Chris says that his approach to creating change is to "find that sensitive point in the status quo system, and apply pressure at the right time and place to shift the equilibrium, directing energy in new, positive ways."

Chris and his wife Chuenchom "Chom" Sangarasri Greacen saw an opportunity in Thailand and seized it, leading the way to get a series of new regulations that enable owners of small scale hydroelectric, solar, biomass and biogas systems to easily connect their generator to the utility grid, and get paid for the electricity they produce. The first round of the so called "Very Small Power Producer" (VSPP) regulations was approved by the Thai Cabinet in 2002. Modifications in 2006 improved the regulations with an attractive "feed-in tariff" (an incentive payment for sellers of renewable energy) and by allowing larger generators (expanding from 1 to 10 megawatts) to fall under the same rules.

By 2011 the VSPP regulations had driven the development of more than 180 innovative renewable energy projects, including solar farms, methane digesters at hog farms and tapi-

oca factories, and generators powered with rice husks. Between them the new projects represent an output of more than 1,000 MW (about the generating capacity of one and a half average size coal fired power plants). Projects totaling four times that capacity have signed agreements with the utilities, although it is not likely that all will be developed. For extensive discussion of the technical and regulatory components of the regulations, visit palangthai.org/en/vspp.



One megawatt solar array in Bangkok, Thailand. An example of the renewable energy development driven by Thailand's VSPP regulations. Photo courtesy of Palang Thai.

While still only representing roughly 3% of Thailand's installed electricity generating capacity, this new generation of small-scale, widely distributed renewable energy systems has been picked up [as a model](#) for the developing and developed world alike as we look for policy approaches that drive innovation in the utility sector and help us fight climate change with clean energy.

The fate of Mae Kam Pong

In the late 1990s Chris Greacen, then a PhD student at University of California Berkeley, was studying off-grid, small-scale hydroelectric generators in rural Thailand. The rapid push for development in Thailand would soon bring power lines to one community that had been powered for 20 years by a low-impact hydroelectric generator which the residents had built themselves. The arrival of the national utility grid

would effectively mean the end of this village's energy self-reliance. But as Chris recounts, the village of Mae Kam Pong didn't want to see their clean, renewable energy supply fall into disuse: "they said, 'it provides jobs for people in the community, and we're proud of it; we built this thing.'" Technologically it would be simple enough to tie the small generator into the coming utility grid, allowing the community to offset its power needs and even sell excess electricity to the utility company. The more complicated piece of the puzzle would be political and regulatory.

the targets

Chris and Chom are quick to point out that they didn't look at passing the VSPP regulations through an advocacy lens with "strategic targets" in mind. However in retrospect it is clear who had influence over the fate of small scale renewable energy projects in Thailand, and therefore who they needed to get on board.

Energy Policy and Planning Office

Housed within the Ministry of Energy, the [Energy Policy and Planning Office](#) (EPPO) is charged with formulating and enforcing energy policies that, according to their vision statement, guide Thailand on a path of "national sustainability." The office is looked to as an authority on energy policy within Thailand's government, and on matters such as the VSPP regulations their recommendations generally receive Cabinet approval without much question. In other words, EPPO was the most important authority to convince when it came to pitching new renewable energy rules. But fortunately, they didn't need any convincing: EPPO administrators were ready to support VSPP regulations, they just needed someone to get it done right.

Thailand Utilities

The biggest seat at the table overseeing changes in the power sector is occupied by Thailand's electric utilities, state-owned monopolies that generate, transport and then sell electricity via a vast (and growing) network of power lines. As the recipients of any excess electrons generated by participants in the VSPP program, the utilities needed to be comfortable with the safety of the mechanisms used to connect renewable energy systems to their power lines. They also needed to be confident that they would be able to manage the varied, and at times unpredictable, input of energy from independent generators.

An important note of political context is that when the VSPP regulations were being developed, the state-owned utilities were facing privatization and deregulation of their operations. The government-backed deregulation plan was not popular with the utility managers.

the strategy

At the same time that Chris was researching rural hydroelectric projects, Chom was working as a policy analyst at EPPO. The utilities had already shelved a request from EPPO to figure out how to integrate projects like the one in Mae Kam Pong. So when the story of a village hydro project about to be swallowed up and spit out by the approaching electric grid made its way back to the director of EPPO's power division, she turned to Chris and Chom and offered them the opportunity to figure out how to save Mae Kam Pong's hydro project. Chom helped tackle the economic components of the regulations and Chris worked out the technical details. The pair used strategic messaging, alliances and tactics to not only find a solution for Mae Kam

Pong, but to open the door to a wave of new independent renewable energy projects.



Thailand's model renewable energy policy took root in the village of Mae Kam Pong, where community leaders wanted to find a way to connect their micro-hydroelectric generator to the grid and sell excess power to the utility companies. Photo courtesy of Palang Thai.

Messaging Strategy: Point to what works

In negotiations about the new regulations, Chris and Chom highlighted the working models their VSPP rules were based on: "[net-metering](#)" rules in the United States (specifically from California and New Jersey), as well as a set of renewable energy laws for "Small Power Producers" that had been on the books in Thailand since 1992. The regulations would accommodate a wide range of projects with broad public appeal: hydro, biogas, biomass, municipal waste, solar or wind generators, but only up to 1 MW in peak power output. Chris and Chom stressed that the new regulations would be business-friendly by ensuring that the application process for this new category of "Very Small Power Producers" was much easier than the existing regulations for renewable energy producers.

The quick success of the VSPP rules, especially among farmers who began to generate electric-



This facility makes methane out of waste water at a tapioca flour plant. Photo courtesy of Palang Thai.

ity from pig manure biogas or byproducts such as rice husks, paved the way for an expansion of the program in 2006. The second round of regulations was buoyed by a new national commitment to supply 8% of Thailand's electricity from renewable supplies by 2011. Supporters of the VSPP projects could point to them and say, "This is working, but with a few changes, this law could really help Thailand reach its national goal."

There was also a growing constituency of businesses that had maxed out the 1 MW limit of the original VSPP regulations. For example, there are a lot of factories in Thailand manufacturing tapioca flour out of cassava roots. New businesses emerged that built systems to take waste streams from the factories and produce useable energy. As Chris explains, "In addition to meeting all of the heating needs for the factory, generating all of the electricity for the factory, and selling 1 MW of electricity they still had to flare a lot of biogas. This story kept coming up: 'we've got these regulations in place, they're great, but just because of a bureaucratic shortcoming we're flaring all of this biogas that could be used to generate renewable electricity.'" This common sense appeal extended to stinky pig farms too. Chom explains, "These regulations made a

lot sense for pig farms because the farms were a smelly public nuisance and the biogas generators [encouraged by the regulations] helped to significantly reduce the smell and pollution of water supplies."



The methane is then burned in three 1 megawatt generators to make electricity. Photo courtesy of Palang Thai.

The new rules raised the generator output limit to 10 MW, opened the program to efficient co-generation units, and most importantly, established a "feed-in tariff" incentive payment for every unit of energy produced. The payments varied according to generator technology and size, but created an attractive and secure market for new solar, biomass and biogas systems in particular. The pro-business appeal of the feed-in tariff (creating a secure market for an emerging industry) worked to counter the opposing argument that the incentives went too far and would unfairly subsidize renewable energy off the backs of average utility customers across the country.

Ally Strategy: Get the right people at the table

Working closely with the utility companies and regulators, and operating without public pressure, lobbying, op-eds or media coverage, Chris

and Chom saw Cabinet approval for the VSPP rules in less than a year. Their strategy was to work collaboratively with the authorities (government regulators), and to establish allies in the sector with the biggest influence on the process (utilities).

Early on, Chris and Chom recognized that they would need the support of the electric utilities in order to advance the VSPP regulations. Chris explains, “While the utilities as a whole sat on the regulations, there were some people within the utilities that could see the big picture, and while they acknowledged this might be a little bit of a hassle for them, they also could see that this would be good for Thailand as a whole.” Three factors ensured their success in bringing the utilities on board as an ally. First, Chris explains, “We identified those people in the utilities [who saw the value of the regulations] and worked with them so that when a working group was convened...they were at the table, and not opposed.”

Who's leading the charge?

- [Palang Thai](#)

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because they were consistent with private sector participation in the power sector in the sense that they would enable more customer-owned generators. The utilities could give back a little bit by making a concession on this while they were fighting against [utility privatization].”



Chom Greacen, one of the primary drivers behind Thailand's successful VSPP renewable energy regulations, emphasized the effectiveness of their campaign's collaborative, non-confrontational strategy. Photo courtesy of Palang Thai.

Third, they were careful to address the utilities' concerns about reliability and safety. According to Chris, utility managers looked at the first phase of regulations and said, “One megawatt? That’s nothing!” From the perspective of the utilities, starting the program with a one megawatt cap was manageable. It allowed them to get comfortable with the safety mechanisms and operations of the new generators, before scaling up to a cap of 10 megawatts. In this regard, starting small turned out to be an important strategic step. They also allayed concerns of the utilities by bringing in a well-respected electrical engineering professor to facilitate the roundtable negotiations that were used to vet the policy.

The success of the first round of regulations built a new constituency of supporters and allies:

farmers interested in making money off pig excrement and rice husks, engineers and entrepreneurs eager to build solar farms, and factory operators wanting to squeeze income out of waste streams.

The campaign was largely pulled off by a husband and wife team and the small Thai-based non-profit organization, Palang Thai, that they formed in 2003. Chom had established personal connections within the utility and regulatory sector from her years of working in EPPO, and as a Thai national. Chris, an American, brought his international knowledge of model renewable energy policies, engineering, and on-the-ground experience in Thailand.

Action Strategy: Make it real

Round Table Talks

Much of the negotiating over the VSPP rules was done by a working group that included regulators, utilities, academics and renewable energy advocates. With her inside knowledge of Thailand's energy sector, Chom was able to identify people within the energy utilities who were interested in seeing more renewable energy developed, and make sure to bring them to the table early on.

Witnessing Renewables in Action

Trips to village hydroelectric, biogas and biomass projects in Thailand helped show regulators, utilities and politicians the positive impact of the laws they were developing. The tour of the Mae Kam Pong hydro project in particular helped illustrate larger themes such as watershed conservation. Chom recounted how the village leader explained to the team of policy makers that "the micro-hydro project encouraged villagers to protect the watershed because suddenly they could see the benefit from a reliable flow of

water." Chom went on to say that "policy makers want to have interactions with people that are positive. Fostering those relationships can help make them feel good about what they're doing."



The details of the VSPP regulations were hashed out in round table meetings that included the country's electric utility companies, regulatory agencies and renewable energy advocates. Photo courtesy of Palang Thai.

Chom and Chris also arranged and led study tours for two delegations of key Thai decision-makers to the USA to visit progressive utilities that had embraced customer-owned renewable energy. Chris explained that, "People love to go on study tours. The utilities had big budgets for study tours; all that was needed was someone to organize the tour and itinerary." That was a role that Palang Thai capably stepped into. By selecting itineraries that showcased utilities supporting renewable energy, Chris and Chom allowed Thai utility engineers and regulators to connect with their peers and be encouraged by success stories. The tours also served to break down the silos between Thai government bureaucrats by giving them a shared experience.

Lessons

The success of regulations incentivizing small scale renewable energy in Thailand is a lesson in the power of working collaboratively. It is a reminder that not all advocacy requires the op-eds in newspapers, marches, lobbying and law-suits that are so familiar to the environmental movement.

Start small

By starting with unsubsidized projects of a relatively small size, the longer term campaign to bring more small-scale renewable energy to Thailand started off in good favor with the government and utilities. This set the stage for the program to expand into a widely utilized feed-in tariff, an effective subsidy for renewable energy.

Seize the moment

The combination of a major deregulation battle, surging concerns about fossil fuel-driven climate change, and the demand for electricity in a rapidly developing country was the perfect combination of factors in which to initiate and then expand these regulations. Chris and Chom were positioned, with their field experience, political connections and vast technical know-how, to step in and make the most of the moment.

Make it real

Energy regulations are an especially confusing and impermeable subject, but by looking at the rules in terms of real life projects like village hydro projects, tapioca flour factories and stinky pig farms, the political leaders could see the value in these regulations. Study tours to utilities in the United States that are friendly to renewable energy allowed utility engineers to talk directly with their counterparts and to see grid-tied renewable energy systems in action. This cam-

paign is a reminder of the importance of grounding policy development and political advocacy with tangible stories and examples.

Watch out for problems

As the popularity of the regulations grew, especially following the 2006 expansion, the VSPP regulations have, to some degree, become a victim of their own success. By making it much easier for the agriculture sector to generate electricity from rice husks and other agricultural waste products, there has been a run-up in the price of agricultural biomass, effectively stalling the construction of new biomass-fueled generators. Some communities have also resisted the biomass generators due to increased truck traffic and local air pollution from cheaply constructed generators. A thorough environmental impact assessment may be required to better regulate the biomass sector of this industry in particular.

The 2006 feed-in tariff for solar systems led to a rush on permits and contracts for solar farms. In response, the government lowered the incentive payment in an attempt to reign in speculation and to pre-empt political backlash against government subsidies for renewable energy. Politicians have also set up a new ‘Managing Committee’ that serves as a program gatekeeper with little transparency. See the ‘Renewable energy’ section of this recent Palang Thai [Proposed Power Development Plan](#) for details on the opportunities and obstacles for further small scale renewable energy development.

Work collaboratively, skip the brouhaha

In this age of political extremism and exciting direct action it can be hard to remember that victories often emerge from the dullest of places: conference rooms. Chris and Chom credit their success to a patient, collaborative negotiating

process that succeeded in getting the right people at the table, and addressing obstacles and opposition from the start.

Chris and Chom explain that, “There are ways to accomplish good policy and changes without making a big brouhaha about it. In the Thai context, a big public movement can freak out the government and make things more difficult.” They knew that marching through the street wouldn’t get them what they wanted (even if they had the organizing capacity to pull off sustained protests), and that they were much better off working in coordination with the utilities and utility sector regulators.

Chris and Chom’s latest project in the world of Thai energy policy is a [fundamental re-visioning](#) of the country’s energy planning process. With the same “institutional aikido” that won a notable victory for small scale renewable energy projects, they are flipping the notion of what “power plant” means on its head, they are rolling over long-held assumptions about exponential economic growth and they are doing the best they can to turn Thailand away from a disastrous dirty energy development model.

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Timeline

1992: Thailand establishes “Small Power Producer” regulations, a predecessor to the “Very Small Power Producer” (VSPP) regulations.

2001: Chom and Chris Greacen begin developing VSPP regulations in roundtable meetings with utilities and regulators.

2002: Thai cabinet passes VSPP policy, establishing a regulatory framework for independent renewable energy producers (up to 1 megawatt in size) to sell electricity to utilities.

2006: VSPP regulations expanded to include broader range of generating technologies as well as generators up to 10 megawatts. A feed-in tariff (incentive payment based on electricity produced) is added to the policy, further encouraging renewable energy development.

2009: Feed-in tariff increased, more for projects that offset diesel fuel

2010: The feed-in tariff is scaled back to moderate the surging popularity of the program.

Read on

[Slow-starting tariff delivers renewable energy boom](#), Leonardo Energy, by Aedan Kernan

[Power to the people](#), Bangkok Post, Vasana Chinvarakorn

[Details and updates on the VSPP regulations](#), Palang Thai

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