



Efficient Appliances for People & the Planet

Webinar Panel and Q&A Summary

How to Achieve the World's Best MEPS – Asia

15 February 2023

The following questions were received during the Q&A portion of CLASP's webinar, How to Achieve the World's Best MEPS – Asia. This webinar provided an overview of latest tool "World's Best MEPS", which assesses the stringency of appliance efficiency standards across ten economies. Afterward, a panel of experts in policy and appliances shared their insights on the process of implementing MEPS in their regional contexts.

Panelists for this event included:

- Patrick Blake, United Nations Environment Programme
- Dr. Liu Meng, China National Institute of Standardization
- Sommai Phon-Amnuaisuk, International Institution for Energy Conservation
- Matt Malinowski, CLASP (host & co-author)

A [recording](#) of the event is available on YouTube. The presentation is available on the CLASP [website](#). To receive invitations to future webinars, subscribe to our [newsletter](#).

Panel Q&A

What potential challenges do you foresee in advancing MEPS in the countries you have expertise on / what are tools policymakers can use to overcome those challenges?

Patrick

At UNEP, we work with a lot of countries, developing/emerging economies throughout Asia, Africa, and Latin America. One of the challenges that we often see is the time that it takes to develop policies. Often, the MEPS and other policies are developed from scratch for the country. So, in order to help with that, we developed the [United for Efficiency model regulations](#). It's a template. It has all the language and definitions within it. It's something that can be used by a policymaker and different stakeholders in the country as a starting point for developing policies. And as it's been used here within the report, it helps to really benchmark where countries stand as far as policies at the moment.

Sommai

The benchmarking is something that really can help a country to see where other countries are in terms of MEPS level. And the U4E regulation model is also a very good tool. When we helped ASEAN develop the regional and national roadmaps, the U4E regulation model provided background and technical references. In terms of challenges the technical aspect is not a major challenge now. If a product is popular in a particular market, they're usually in line with international development. It's the development process that still takes time. But there are also other factors like market and political challenges that hurt development.



Some economies have product types that are really popular only in the local market — they are not popular at the international level. So, they do not have the high-efficiency version of the product available. One good example would be that in the Philippines, window type ACs are still really popular. The market is shifting to split units, but until then I think it's going to be difficult for the Philippines to impose a very stringent MEPS level.

For the political challenges, I have seen them coming from both the supply and demand sides. For the supply side, in an economy that has local manufacturers, the policy maker can expect resistance from the local industry if the local industry cannot meet the MEPS level that they are planning to enforce. In many countries, the policymakers often try to avoid confrontation with the industry opposition which is very understandable. In terms of the demand side, most of the appliances we're trying to promote MEPS and energy labels for are small household appliances. In the household, annual usage is not very high — we are talking about 2000 or 3000 hours per year, and even with that you have very good efficiency. If the cost savings are not in a certain range, it's not a very compelling argument for residential usage.

Dr. Liu

When we talk about China's MEPS, we actually have a very special view or angle. In the past 40 years, China experienced a booming economy and many changes. What we experienced during the past 40 years might have happened long ago in many developed economies. But it is what is going on today in China. For many developing countries and economies, it could be what happens tomorrow.

MEPS in China started in the late 1980s, when we developed and released the first group. We basically started from 0 and grew up. The challenge we had at that point was data. Data is always the first thing. But for many developing economies, they don't have enough and good quality data. So first we need to focus on collecting good data. The second point is capacity building. For many developing economies, when they started to develop their MEPS, maybe one of the biggest challenges is capacity building. They need to educate their technical staff, all the stakeholders about basic knowledge of MEPS. They need to educate them from A to Z. The third point is research and development. That is the technical foundation for MEPS. Through R&D, we can work closely together with stakeholders, especially industry partners. And finally, international collaboration. It's very important for many developing economies because at first, they don't have enough technical expertise. International organizations could play an important role in collaboration at the first stage.

As you show in your report, MEPS for room air conditioners and electric motors in China have already reached the very high level. They are the highest among international levels. We have 55 MEPS in China which cover household appliances, commercial appliances, industrial equipment, etc. Many of them have reached a very advanced level. But, as we often see, everything has 2 sides. It's just like climbing a mountain. After climbing 200 meters, it's very easy for you climb up another 200 meters. But right now for China, fortunately and unfortunately, we're standing at 8,000 meters. So, it's very difficult for us to climb up maybe just 10 meters higher. So currently we have already adopted the most advanced technology and most advanced method in developing MEPS. 40 years ago, we were just beginning, but right now we are the forerunners.

Right now, more and more digital technologies are being applied in appliances and equipment manufacturing, like smart household appliances. Also, system integration is another technical trend,

especially for industrial equipment. In China and the international panels, people right now are working on electric motor system integration because it will improve the efficiency of more than just the motor. We're looking at the whole system. The third thing is optimizing the testing conditions. Right now, when we're talking about the energy efficiency of appliances, we are testing the efficiency under fixed conditions. It's different from the actual operation conditions. When a consumer uses the room air conditioner in a normal setting, it's different than the lab conditions. So, we need to look at how to test and how to ensure the appliance and equipment run at their highest efficiency.

Is there any product category that you think a particular economy should prioritize when advancing their MEPS? Or enabling specific actions that will help improve the overall process?

Dr. Liu

It depends on the economic develop in the country or economy. When you're trying to develop and implement MEPS, you need to identify the most widely used appliances or equipment in your economy. That will maximize the potential to improve energy efficiency greatly in a short time. In China, these would be room air conditioners and industrial electric motors. They should be affordable household appliances. If they aren't affordable, avoid choosing that product.

Patrick

Before getting to a specific product, I want to highlight that it's not a one-off effort. Because the technology is advancing, MEPS need to advance with it. So, just because the country does have a policy in place, that policy could be very outdated. Following up on one point that Dr. Liu mentioned, I would encourage working on more than one product at a time, given that you're spending time and resources. Then you get the savings earlier than going one by one. As far as specific opportunities, it's dependent on the economy. There are different tools available to show the potential growth of some of the key products that were presented. That includes the [U4E Country Savings Assessments](#) and also the [CLASP Mepsy tool](#). Those can be initial tools to help prioritize what products to work on.

Cooling is typically the largest savings opportunity, through room air conditioners. That offers greenhouse gas savings from refrigerants as well. Many countries also start with lighting, which is attractive because the product turnover is quicker, so there will be larger financial and climate payback in the next 5, 10 years. LEDs save a lot more compared to an incandescent or even a halogen lamp.

Somma

Freezers are very popular among the Small Island Developing States, especially chest freezers. When countries develop economically and people are earning more, clothes washers and dryers have good penetration.

Audience Q&A

For a small economy which currently does not have MEPS, is it realistic for them to reach the target level?

Patrick

I think in some ways, with a smaller economy that's not a manufacturing country of the product, it offers opportunities to advance more quickly since there is no local industry. Going through the normal policy process and consultations, and then still giving notification for importers of those products, typically one year.

Somma

Within this decade, I think it's doable, provided that the popular model in each particular market is something that benefits the supply side through economies of scale. That would help negate the price of implementation. It may not be applicable to all types and categories of products, but it has for split type ACs with the cooling capacity below 3 kW or 4.5 kW.

We should not treat MEPS as standalone policy measures. We should link MEPS with the higher climate agenda, like linking them with NDCs. If we can link the MEPS with the Article 6 under the Paris Agreement, smaller economies may be able to enjoy voluntary programs as a result of transactions between larger and smaller economies.

What's next for China's MEPS? Is it better to go after "smaller" products or keep pushing to increase MEPS on heavily used or high-emitting appliances?

Dr. Liu

It depends on what state the economy is in. If right now you are just starting, it is very important for you to identify the right product for which to develop MEPS. Why it is so important? Because before that, people know little to nothing about MEPS, and they might have worries. So, we need to start from something that will give us relatively easy success, like lighting or rice cookers. We need to give people more confidence. Secondly, they need to try to involve stakeholders, as many as possible into the team to develop the MEPS.

After there is confidence in MEPS, we can move to the second stage. Now we need to do more research and analysis. We need to do more things for the preparatory work for the potential revision. China could play an important role in international collaboration, sharing our experiences, good or bad, with developing MEPS.

Thoughts on compliance programs and their role in appliance energy efficiency?

Somma

I think the main effort should be on the registration. Make sure that when the product is entering the market, there is stringent quality control. Then market surveillance comes second.

Patrick

We have worked together with IIEC on a product registration system software. The reason why we work on this is really in parallel to the model regulations. If we have MEPS, they need to be enforced. A product registration system is a very important starting point for a country that's just starting in this process. It helps to understand what products are in the market — the type of



products and the efficiency of the product — and can help in setting MEPS levels and revision levels. That can help in doing checks in stores and at customs as well.

How can we improve market surveillance to make it more effective, useful, or economic?

Sommai

There are guidelines, including CLASP's own, that recommend cost-effective ways to do market surveillance. For countries which do not have local testing facilities, they would have to send away the appliances for extensive and expensive testing. So, they should focus on something simple. For example, just go to the store and check whether the products that they carry meet all the requirements. When it comes to really checking the energy performance of the product, try to collaborate with other countries with the same product models.

Matt

Within CLASP, we usually recommend risk -based market surveillance here you don't test random products, but you look at ones that, based on your registration database, are really close to the line or what you know to be popular products. Because if that product fails, then it affects the greatest number of people versus some niche products.

Dr. Liu

In China, we have a whole system for market surveillance. Each year, the government organizes a market inspection on the national and provincial levels. Products are sent through an organized round robin test among the test laboratories. We're trying to integrate more advanced technology into the market surveillance, like a digital network among important test laboratories which could facilitate data collection and sharing with the test labs. We're also using QR codes. It makes the whole thing easier and clearer for all the stakeholders. Market inspectors and consumers just need to scan the code and then all the important information they want to know will pop up.