# Q&A Webinar Summary
# How to Prioritize and Evaluate Efficiency Policies with Mepsy
## April 27, 2020

The following questions were received during the Q&A portion of CLASP's webinar, How to Evaluate and Prioritize Efficiency Policies with Mepsy. This webinar introduced users to Mepsy, its underlying data, methodology, and use cases, with a real-world example of how CLASP is deploying the tool in Botswana. Participants walked away with an understanding of how they can use Mepsy to evaluate the climate and energy impacts of efficiency standards, as well as how they can model specific policy scenarios using their own data.

Panelists for this event included:

- Matt Malinowski, Senior Manager at CLASP
- Steve Pantano, Chief Research Officer at CLASP
- Rebecca Schloemann, Senior Associate at CLASP

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.

# Audience Q&A

## Methodology, Data, and Assumptions

### Where can I access Mepsy's documentation?
Our methodology and assumptions are detailed here on the CLASP website. The document details key assumptions summarized during this presentation. We will publish a more detailed methodology report later this year. If you have specific questions about out methodology in the meantime, please contact us.

### How frequently will the data be updated?
Minor updates to the tool (e.g., including new data for individual appliance markets) will be made quarterly.  Major updates (e.g., to add new features and functions, or to update some of the primary assumptions such as grid emission factors, population, and GDP will be made annually, at the end of each calendar year.  All updates will be detailed on the Mepsy webpage and in the tool change log.

### How has CLASP implemented standard levels, like the U4E model tiers, into the model?
CLASP coordinated with U4E consultants when developing Mepsy and cross-referenced our results as a validation. The U4E model regulations are referenced directly for products where there is overlap: motors, refrigerators, and air conditioners.

### Are CO2 emissions from off-grid appliances included in Mepsy?

CLASP, through [Efficiency for Access](), is developing a separate tool to model the avoided CO2 impacts from off-grid solar appliances that offset use of small fossil fuel generators. Subscribe to the [CLASP newsletter]() to be notified of its release.

**Are $CO_2$ reductions computed based on the emission factors of local electric utilities?**
For grid emission factors, Mepsy uses the national statistics from countries where CLASP has conducted primary research, as well as the International Financial Institutions Technical Working Group (IFI TWG) "Harmonized Grid Emission Factor Data,"[1] an authoritative reference used by 25 organizations working on climate mitigation[2] to evaluate Clean Development Mechanism (CDM) renewable energy and energy efficiency projects under the Kyoto Protocol and Paris Climate Agreement. This source combines electricity production and emissions data, has grid emission factors for all countries, and is based on recent IEA databases ("CO2 Emissions from Fuel Combustion Statistics" and "World Energy Outlook"). Furthermore, the IFI TWG takes into account the longevity of climate mitigation measures like efficiency policies, by factoring in both the current grid emissions ("operating margin" or OM) and future electricity generation units that may not be built because of efficiency ("build margin" or BM). The two are weighted using a ratio of 33%/67%, reflecting the longevity of most efficiency measures. Factoring future predictions of grid mix is applicable to modeling efficiency policies, as the policies will last beyond the lifetime of an individual appliance.

**Are the electricity data dynamic over the time? Specific GHG emissions and prices for electricity will change a lot.**
Not at this time, but we plan to update Mepsy to include different grid emission scenarios in the future.

**Does the tool consider other features of products, such as GWP of refrigerants used in refrigeration, air conditioning, and heat pumps?**
Not at this time, but we plan to update Mepsy to include refrigerant-related impacts in the future.

**Where were the sales unit data sourced from and how can they be customized?**
Mepsy is pre-populated with stock estimates based upon best available sales data for a wide variety of countries. CLASP acquired the sales data from several well-known market research firms (e.g., Euromonitor, Omdia). While we cannot make the sales data public, we can share the stock projections data. When you download data from Mepsy, you will be able to view the stock assumptions calculated from those sales. Regarding sources for better information, sales can be very difficult to estimate. You may also customize sales unit data using your own sources. CLASP often uses customs data for import-only markets to approximate the market size. However, if manufacturers and importers are able to share data, their estimates can also provide valuable insights into the market size.

**The figures for the annual energy consumption of the products is based, for example, on energy**

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[1] International Finance Institutions, "Harmonized Grid Emission factor data set", July 2019, https://unfccc.int/sites/default/files/resource/Harmonized_Grid_Emission_factor_data_set.xlsx. Methodologies available here: https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies
[2] Members of the IFI TWG include ADB, CIF, IFC, and UNFCCC, among others.

**label declarations, which are based on the measurement standards, which differ in their methodologies. Are the data still directly comparable?**
Wherever we do not have a global source or model of product energy consumption, we have used local product data to inform country energy consumption. It is correct that the measurement standards underlying these data will vary across countries. However, we assume these variations to be reflective of the different usage in each country and have incorporated them into the analysis.

**What is the basis for consumer discount rate? What do you recommend for sources when customizing this field?**
Mepsy uses deposit interest rate from the World Bank as a proxy for consumer discount rate.3 We welcome any suggestions for other ways to source this data. To offer a suggestion, please email mepsy@clasp.ngo.

## Current Features and Future Topics for Consideration

**How do I enter manufacturing data for ceiling fans/ACs into Mepsy? Can Mepsy help in analyzing if policy adoption would lead to higher efficiency product manufacturing in a country?**
Mepsy does not calculate manufacturing industry impacts.

**Does Mepsy have an option to account for non-compliance with a policy?**
Mepsy does not currently include any data on compliance rates. We plan to include a compliance rate feature a future release, and we are conducting research to inform default compliance values to include in Mepsy.

**Have you considered using local price data as the default in Mepsy and how might this data be sourced?**
Web scraping may be a scalable approach to sourcing local price data. Mepsy does not currently use local price data as the default since prices often vary substantially within and among countries. We welcome any suggestions for how we might integrate pricing data for a wide range of countries. Please email suggestions to mepsy@clasp.ngo.

**Does Mepsy offer the ability to use change in ownership level data as a proxy for shipment data? If not, do you plan to incorporate this feature in the future?**
Not at this time, but we will consider adding this feature in the future.

**Are there plans to include the ability to estimate peak electricity demand from ACs?**
Estimating peak demand would require load shapes or peak coincidence factors for all appliance types. We welcome your suggestions for how to source this data and include it in the tool. Please email suggestions to mepsy@clasp.ngo.

**Does Mepsy allow for comparative analyses across countries?**
A comparative analysis under the default assumptions can be conducted through the global view. We are currently developing a feature that will allow users to run custom scenarios across countries to allow further comparisons.

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[3] World Bank, "Deposit interest rate (%)", World Development Indicators, 2019.
https://databank.worldbank.org/reports.aspx?source=2&series=FR.INR.DPST

**Does Mepsy provide policymakers with information on relevant markets to harmonize with to benefit from larger market for EE products?**
Not at this time.

**Does the team plan to include MEPS comparison to see where each country stands?**
Currently this is not an option in Mepsy, but could be considered in the future. In the meantime, we will soon launch the CLASP Policy Resource Center (CPRC), which will allow users to conduct comparative analysis of MEPS between countries. The CPRC, which builds on the success of the former CLASP Policy Database, is a global policy tool spanning energy and water efficiency policies, as well as quality standards for off-grid products. Through the CPRC, CLASP will provide a free and accessible hub to policymakers, researchers, the industry, and practitioners in the appliance and equipment sector. The comprehensive database contains policy information from over 120 countries and 14 different product groups, making it easy to view, compare, and download policy information to support policy development, product prioritization and other technical analyses.

**Does CLASP plan to revise Mepsy to include projections that cover at least 2035-2040? This would help capture the full impact of an S&L program and demonstrate the positive impacts to policymakers.**
Some of our data sources are limited to 2030, but we are actively looking at ways of extending model projections to 2040 and beyond, and hope to include this option in a future update.

**Mepsy's current user interface makes it difficult to view small island states on the map. Would CLASP consider including a slide that depicts the islands?**
The zoom feature on the world map enables users to view small island states. We are also working on a drop-down field that will make it easier to select and view data for smaller nations.

## Comparison to Other Tools

**This seems very similar to the methodology used for preparatory studies under the Ecodesign Directive - are there differences?**
The methodologies are broadly similar, but may differ in some slight aspects, such as the shape of retirement functions, whether impacts are counted in the year that products are shipped or in the following year, etc.

**Have there been improvements in the methodology over its predecessor PAMS-MEPS?**
The methodologies are broadly similar, but do differ in some minor ways, such as the shape of retirement functions.

**Is there any way to integrate Mepsy with Long Range Energy Alternatives Planning System (LEAP) tool developed by SEI?**
We have not yet evaluated integration between Mepsy and other tools.

## Additional Resources

Mepsy: The Appliance & Equipment Climate Impact Calculator', CLASP, V1.0, April 2021, https://clasp.shinyapps.io/mepsy

CLASP. (2021). *Mepsy Methodology & Assumptions.* *https://www.clasp.ngo/wp-content/uploads/2021/04/mepsy-methodology-assumptions.pdf*.

CLASP. (2021). *Introduction to Mepsy: The Appliance and Equipment Climate Impact Calculator.* https://www.clasp.ngo/wp-content/uploads/2021/01/Introduction-to-Mepsy.pdf.

CLASP. (2021). *Mepsy Quick Start Guide.* https://www.clasp.ngo/wp-content/uploads/2021/01/Mepsy-Quick-Start-Guide.pdf.