Using the Product Policy Analysis Tool (PPAT) to Inform Product Prioritisation in India

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SUPER-EFFICIENT EQUIPMENT AND APPLIANCE DEPLOYMENT INITIATIVE



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For more information:

- CLASP: <u>http://www.clasponline.org</u> and the <u>PPAT Tool</u>
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Using the Product prioritization and Analysis tool (PPAT) to inform Product prioritization in India





Bureau of Energy Efficiency

Background and Introduction



- Product Prioritization and Analysis Tool (PPAT) was developed to inform strategic decisions about which products to incorporate into India's standards and labeling program, based on potential energy and cost savings.
- The PPAT generates scenarios based on current and forecasted market data and policy circumstances.











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oduct	GHG A Po (in Milli of I	batement tential ion tonnes CO2e)	Main Categ	jory			
ehicles	1	46.6	Fuel Operated & Transport Pro	ducts			1
	1	33.9	Fuel Operated & Transport Pro	ducts			
s	:	92.8	Home Appliances & Equipments				
		72.6	Industrial Products				
		70.7	Industrial Products				
hicels		55.5	Fuel Operated & Transport Pro	ducts			
		51.1	Consumer Electronics & Extern Equipment	al Power Supply			
		49.1	Industrial Products				

2015

Product Policy Analysis Tool (PPAT) v2.0





Model Framework









Key Capabilities



- 1. Data Simulation
- 2. Policy Analysis
- 3. Scenario comparison
- 4. Life cycle analysis
- 5. Visuals and Reports





Data Simulation



- Data entry and editing- Ability to add, delete and modify data on product, product categories
- Dynamic tool- allows users to edit/add values for most of the parameters i.e., emission factor, data source, growth rate etc.
- Ability to select data from multiple sources such as manufacturing associations, BEE, consumer organisations etc.





Policy Analysis



Ranking of products based on energy and GHG savings







Policy Analysis



Allows modeling policy scenario and measure the impact of S&L strategies on Market Transformation.

- 1. MEPS
- 2. Comparative
- 3. Endorsement

Product Select Product Please select product ♥ Recent Policy Analyses ♥ Room AC	MEPS Label	Comparative Label	Endorsement Label	
Open Remove Save Save As Product Air Conditioners Description Domestic space conditioning equipment including split ACs, window units ranging between 0.5 - 3 TR. Category Home Appliances & Equipment Average Power/Capacity (W) 1,740.00 Usage (hours per year) 1,200 Stock in Analysis Year 71,394,882 Cumulative Stock Uptill Analysis Year 359,565,013 Policy Analysis Impact In Analysis Year 2020 Cumulative up till Analysis Year 2020 Cumulative up till Analysis Year 2020	Inputs Existing Market Range (Enter range for rate of energy consumption) Minexisting 2.228.0 W Maxexisting 2.262.0 W Market Range after MEPS (Enter range for rate of energy consumption) Minrevised 1.218.0 W MEPS 2.112.0 W Calculate Savings :- 64,25,132 MWh	Inputs No. of Labels 5 Q Generate Label Savings Percentage 1 Star 5.0 ^ 2 Star 10.0 ^ 3 Star 15.0 ^ 4 Star 20.0 ^ 5 Star 2.5.0 v please double click the label to edit values Calculate Savings :- 1,86,07,400 MWh	Inputs Products Affected (%) 15 Energy Savings Potential (%) 25 Generate Report Calculate Energy Consumption Without Savings 25,516,282,896,000 W With Savings 24,559,422,287,400 W Savings :- 9,56,861 MWh	MEPS Comparative Endorsement



Scenario comparison



- Analysis of savings from combination of S&L policy types
- Combination strategies include MEPS-comparative, MEPS-Endorsement, MEPS Comparative endorsement or Comparative endorsement





Life cycle analysis



- Monetary savings and pay back period are calculated over the life of the product
- Calculated for *Consumers* on per unit cost and on *National* stock.





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Visuals and Reports



- Data export
- Automated report generation
- Data Visualisation





Data export



- Information on product ranking, energy savings and GHG abatement potential can be exported in various formats including word, excel and pdf
- Export allows post processing of data

Product	Ranking		Expected Energy Savings		GHG Abatement Potential	
	Within Category 🔺	Overall		Units	(in mtCO2e)	
Energy Source: Electricity			103,315,352		84.6	
Ceiling fans	1	4	53,871,939	MWh	44.2	
Air Conditioners	2	6	22,360,877	MWh	18.3	
Refrigerators	3	8	9,109,148	MWh	7.5	
Washing Machine	4	11	4,543,579	MWh	3.7	
Geysers	5	12	3,430,921	MWh	2.8	
Microwave Ovens	6	14	295,075	MWh	0.2	
Vacuum Cleaner	7	15	53,919	MWh	0.0	
Table Fans/Pedestal/Wall	8	20	2,651,462	MWh	2.2	
Water Purifiers: RO/Aquaq	9	34	83.611	MWh	0.1	

Products

Summary





Automated Report Generation











Data Visualisation









Data Visualisation



Challenges



- Data collection and updation
- Lack of detailed studies for all the product categories that provide/validate the assumptions used in the tool on
 - Usage pattern
 - Average life of products
 - Efficiency degradation
 - Market segmentation
 - Anticipated/available technological upgrades







THANK YOU





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