Cooling Demand

This lever controls the sub-levers in the table, the ambition levels are for the end year 2050, and the unit of index is relative to 2015.

The use of air conditioners for room cooling is fueled 100% by electricity and is utilized within both residential and non-residential buildings. Cooling energy demand accounts for about 65% of the total energy consumed in the non-residential buildings. In 2015, the estimated number of residential buildings with AC was 2.6% only while that of non-residential buildings was 35% and both are expected to greatly increase by 2050 due to improvement in the economy, population growth, urbanization and change in life style.

This will bring about an increase in demand for cooling but with government efficiency measure in the use of efficient appliances and introducing the new efficient building design plan will reduce the rate of energy demand for cooling.

Key Interactions:
The adoption of efficient cooling technology will reduce rate of energy consumption in cooling and will therefore lead to reduction in energy demand and hence reduce emission from generation.

Level 1
Assumes an increase in AC ownership with increase in population and economic growth and hence the energy demand is expected to increase by 2050 considering the continuous use of inefficient cooling technology.

Level 2
Assumes a reduction in the cooling energy demand by 2050 due to improved efficiency in cooling technology by about 20% through replacement of cooling technology with efficient technology.

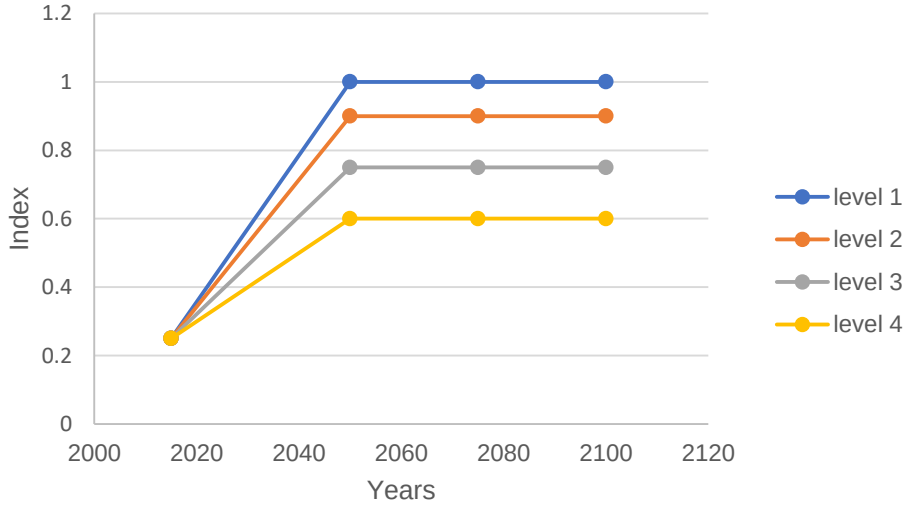
Level 3
Assumes 80% improvement in energy efficiency due to ban in importation of inefficient cooling technology.

Level 4
Assumes a 100% penetration and efficiency improvement due to use of efficient technology in cooling and efficient building design to accommodate the climatic condition which will further decrease the energy demand in cooling.

Default Timing Start Year: 2015 End Year: 2050

Cooling Demand	Unit	2015	Level 1	Level 2	Level 3	Level 4
Deployment Penetration (Domestic)	Share	0.25	0.5	0.4	0.35	0.35
Demand Per unit (Non-Domestic)	Index	0.25	2.3	2	1.7	1.5
Energy Intensity						
Energy Intensity (Domestic)	Index	0.25	1	0.90	0.75	0.60
Energy Intensity (Non-Domestic)	Index	0.25	1	0.90	0.75	0.60

ENERGY INTENSITY – DOMESTIC COOLING



Hot Water Demand

This lever controls the sub levers shown in the table, ambition levels are for the end year 2050, and unit of index are relative to 2015.

In 2015, Biomass account for 65.80% of the fuel used for hot water activities in the residential areas while electricity accounts for 15%. By 2050, the hot water demand is expected to increase with increase in population and economic activities and hence increasing the demand in energy consumption. But with improvement in the economy, the country will witness a shift in fuel use from biomass to the use of efficient clean fuel and technology, so hot water demand is expected to be supplied through electric heaters most of which are powered by solar. The adoption of new and efficient technology (energy saving) will further lead to decline in the demand hot water demand and energy consumed with improved efficiency and emission reduction.

Key Interactions:
Decrease in Demand for hot water will directly reduce the energy need and hence energy supply requirements.

Level 1
It is assumed that the demand for Hot water and the energy consumption will continue to increase as usual due to population increase and the continues use of biomass and inefficient technologies.

Level 2
Assumes a slight reduction in hot water demand and hence a reduction in energy consumption by 20% from 2015 due to reduction in the use of biomass fuel and a 50% electricity access.

Level 3
Assumes a significant decrease in energy consumption for hot water due to reduction in biomass use, and increase electricity use due to 100% electricity access.

Level 4
Assumes a complete fuel shift to electricity use for hot water demand most of which comes from solar heating.

Default Timing Start Year: 2015 End Year: 2050

Sub Lever	Start Year: 2015, End: 2050					
Hot Water Demand	**Unit**	**2015**	**Level 1**	**Level 2**	**Level 3**	**Level 4**
Demand/ Person (Domestic)	Index	0.25	1.3	1	0.75	0.50
Demand / Area (Non-Domestic)	Index	0.5	2.50	1.80	1.40	1.00