Committing to Environment Conservation (continued)

Energy Efficiency and Carbon Management²⁵

In our effort to further our contribution towards the Company's climate action strategy and achieve a 35% reduction in carbon emissions by 2030, we adopt a comprehensive approach of 'monitor, decarbonise, and minimise'.



Monitor*

As part of our energy management plan, we monitor our year-on-year energy consumption, categorise the sources into a renewable and non-renewable mix, implement sustainable energy optimisation initiatives, and subsequently, develop emission reduction target plans. ~31% of our energy consumption portfolio in FY22 is from renewable sources of biomass, solar, and windmills.

Energy Consumption (in GJ)	FY19	FY20	FY21	FY22
Total energy from non-renewable sources	2,955,895	3,249,576	2,984,789	3,020,730
Total Energy from Renewable Sources	913,174	925,374	1,308,767	1,383,094
Total energy consumption	3,869,069	4,174,950	4,293,557	4,403,824
Energy intensity [*] (GJ/revenue in ₹ Million)	22.06	19.32	19.10	17.21

*Revenue of sites mentioned in the scope of the boundary is considered for this calculation.



Energy Mix (%)



²⁵GRI 103-1, GRI 103-2, GRI 103-3, GRI 302-1, GRI 302-3

Energy Consumption Trends (in GJ)

*Data pertaining to the site boundary has been changed for this reporting year. We have considered 38 operational (manufacturing and R&D) sites for FY22 whereas in FY21, 14 sites were considered.

Energy Consumption (in GJ)

	FY19	FY20	FY21	FY22
Electricity consumption	1,780,317	1,892,836	2,002,450	2,026,117
Steam consumption (biomass briquette fuel based)	475,746	490,634	745,010	771,969
Fuel consumed	1,613,006	1,791,480	1,546,096	1,605,738
Total energy consumption	3,869,069	4,174,950	4,293,556	4,403,824



Decarbonise

Indirect Energy Mix (%)

In our endeavour to transition towards a cleaner future, we have been gradually adopting renewable sources of energy and catalysing our action plan towards the reduction of carbon emissions. We minimised the use of High Speed Diesel (HSD), furnace oil, and coal by transitioning to greener biomass fuel. We have further enhanced our renewable energy share across the Company's net energy mix by outsourcing steam generated from biomass briquettes. The steam is generated using biomass briquettes in boilers across our manufacturing locations, which is then directed as a fuel to manufacturing processes.

In FY22, the amount of steam purchased from biomass increased by 62% compared to FY19.

Direct Energy Mix (%)





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Committing to Environment Conservation (continued)



Minimise²⁶

At Sun Pharma, we extensively implement energy reduction initiatives to further crystallise our ambition of reducing our Scope 1 and 2 emissions. Energy reduction²⁷ initiatives undertaken in FY22 mentioned below.

- Reduced power consumption in a compressed air system with the introduction of an intelligent flow controller
- Improved pumping efficiency at various pumping system
- Replacement of old, inefficient brine compressor with an energy-efficient compressor and improved chiller performance (ikw/TR)
- Use of the dry vacuum pump in place of steam ejectors
- Steam consumption at Multi Effect Evaporator (MEE) reduced by utilising waste heat for preheating MEE feed
- Minimisation of steam distribution losses through steam trap optimisation
- Reduced pumping power in chilled water system by installation of a closed-loop pumping system
- Synchronisation of Diesel Generator (DG) to reduce diesel consumption
- Utilisation of flash steam for hot water generation
- Utilisation of Variable Frequency Drive (VFD) in compressed air system
- Energy-efficient Axial pump installed in MEE to reduce power consumption



- Reduced power consumption in refrigeration system with the use of automatic tube cleaning system
- Improved efficiency in plant lighting





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²⁷The measures undertaken in FY22 are considered for determining the energy saving. Accordingly, the baseline of FY21 is considered for energy reduction calculations.