

IMPORT OPPORTUNITY

COAL AVAILABILITY SCENARIO TO THERMAL POWER PLANTS, INDIA

An insight upon the gap in the coal availability to thermal power plants in India & opportunity for imported coal

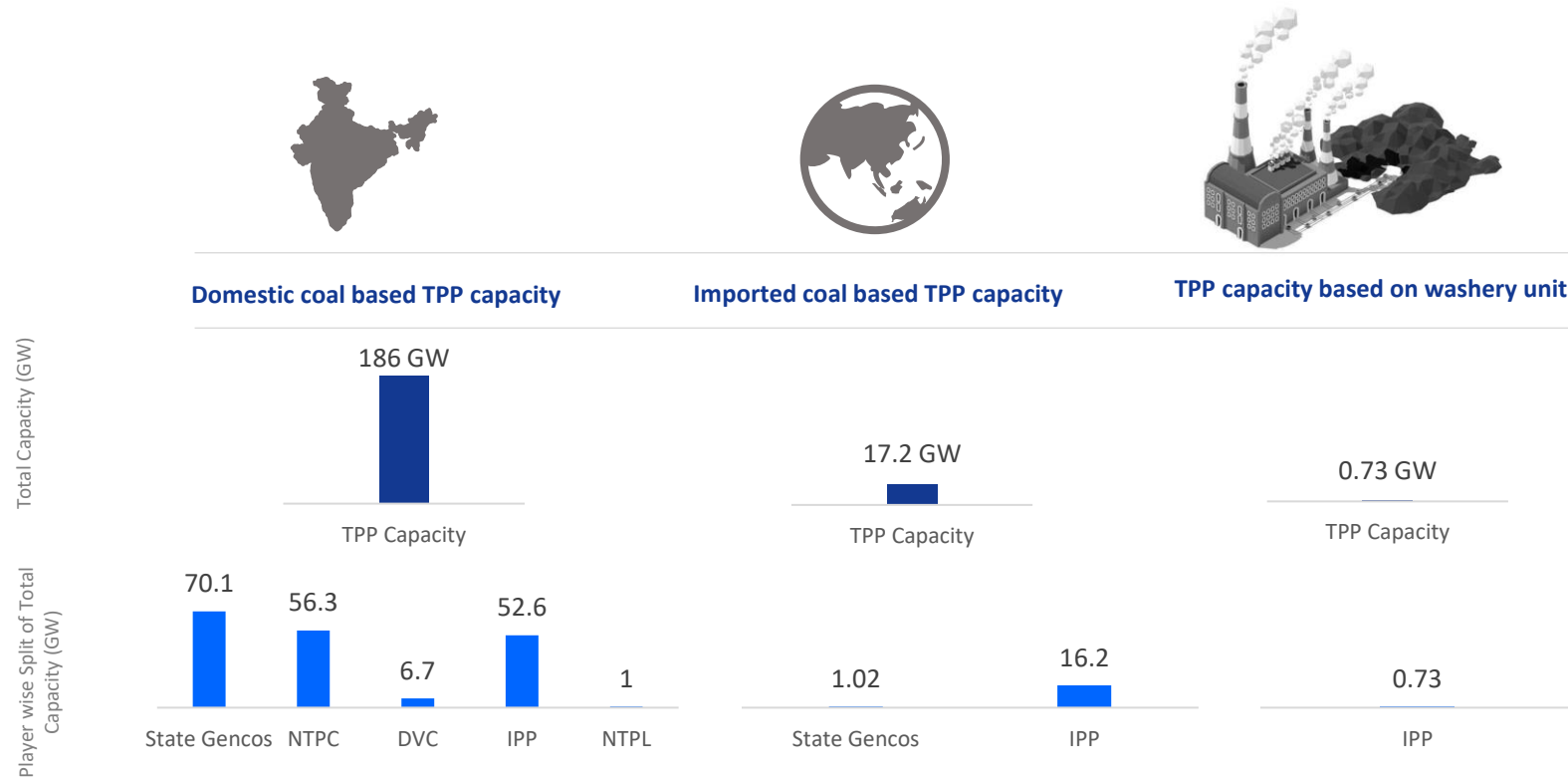


MARKET FACT

Coal fired generation in India

Coal fired thermal generation capacity in India stands to be approx. 204 GW as of December 2022. Of this total capacity nearly 90% is based on the domestic availability of coal (at large) while 8.3% is purely based upon the imported coal. On 9th Jan 2023, **Gol has directed all the thermal power generation companies in India to import coal for blending 6 percent** till September 2023. Below Exhibit indicates the coal fired power generation capacity of India.

Coal fired power generation capacity in India based upon coal domestic & imported coal as of December'2022



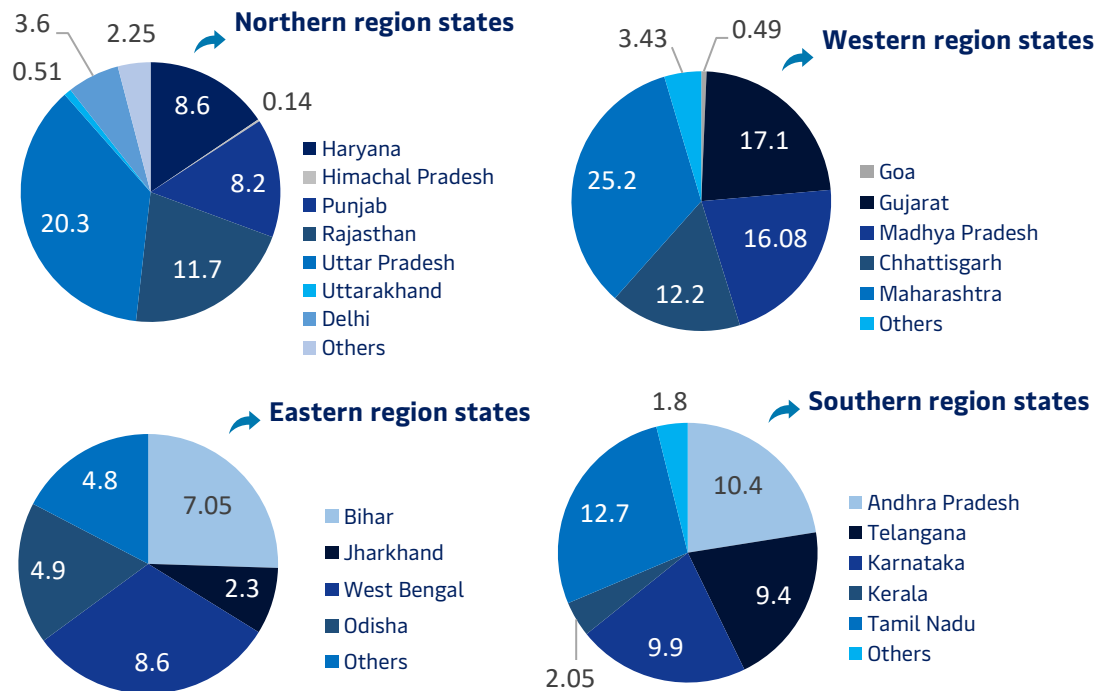
Source: EI MRAC Reports, MoP, Channel Checks

MARKET FACT

State wise coal fired power capacity

In India, western region cumulatively has **74.5 GW** of coal fired power generation capacity as of December'2022. Of this total capacity **Maharashtra** boasts the largest capacity of **25.2 GW**, followed by Gujarat (**17.1 GW**) & Madhya Pradesh with **16.08 GW** capacity. Exhibit below indicated state wise coal fired power generation capacity in India.

State wise coal fired power generation capacity (GW) in India as of December 2022



Note:

- (i) Northeastern region states have total of **0.61 GW** of coal fired power generation capacity as of December 2022

Source: EI MRAC Reports, MoP, Channel Checks

Top states with highest coal fired power generation capacity



204 GW
Total coal fired power generation capacity of India

*As of December 2022

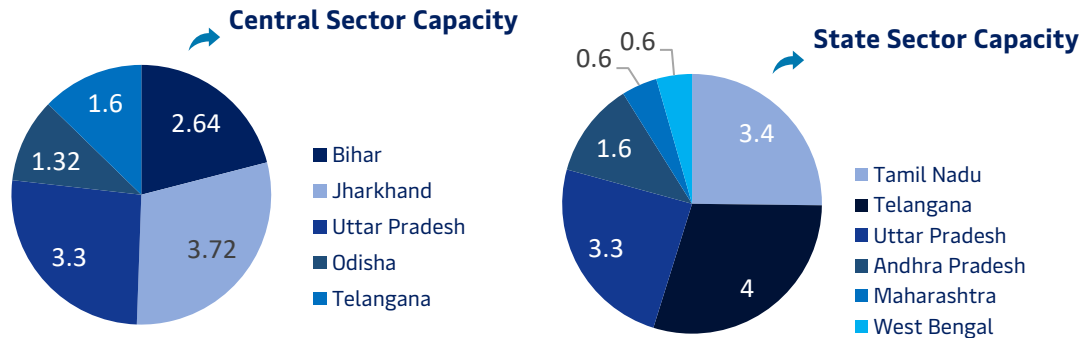
States with coal fired power generation capacity above 10 GW	
States	Capacity (GW)
Maharashtra	25.2
Uttar Pradesh	20.3
Gujarat	17.1
Madhya Pradesh	16.08
Tamil Nadu	12.7
Chhattisgarh	12.2
Rajasthan	11.7
Andhra Pradesh	10.4

OPPORTUNITY

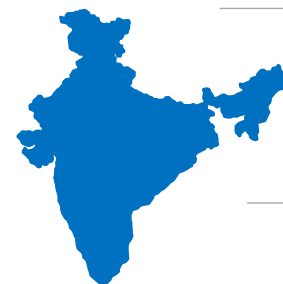
Upcoming coal fired capacity in India

In India, nearly **60.5 GW** of coal fired capacity is likely to be upcoming till year 2028 and is in different stages such as – under construction, announced, permitted, pre-permit etc. Of this total upcoming capacity, about **26 GW** is the under-construction capacity of central & state GENCO's and is likely to get commissioned by 2027 (as of December 2022).

State wise under construction coal fired power generation capacity (GW) in India as of December 2022 (Central & State GENCO's Capacity only)



Upcoming Coal Fired Generation Capacity Breakup	
Category	Capacity (GW)
Announced	8.49
Pre-permit	9.35
Permitted	10.6
Under construction	32



60.5 GW
Total upcoming coal
fired power generation
capacity of India

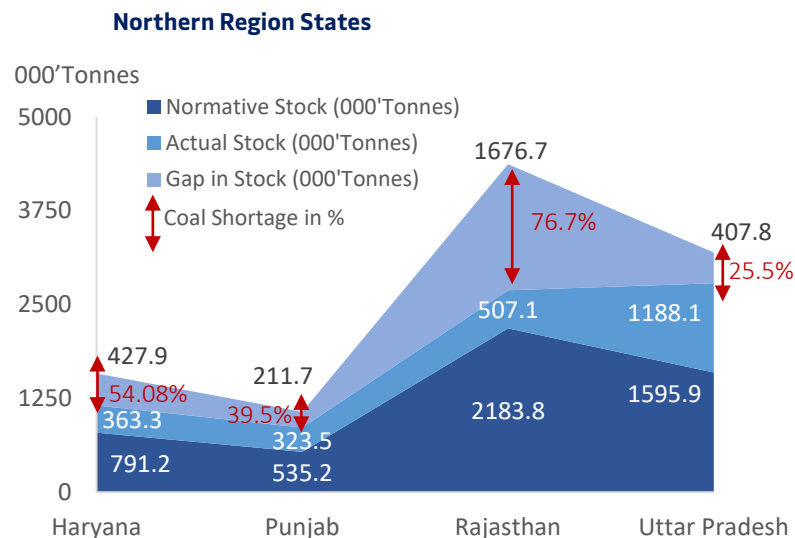
*As of December 2022

GAP ANALYSIS

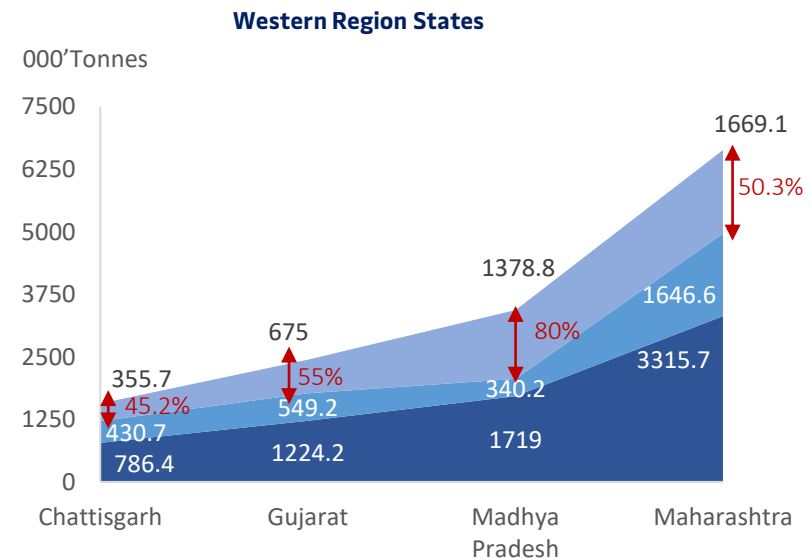
Coal stock requirements & availability

In India, as of December 2022 the coal stock availability to domestic coal based thermal power plants was observed to be **54 percent** less than their actual requirement. As of December 2022, the total coal stock requirement of domestic coal based thermal power plants was **53104 (Thousand Tonnes)** to which only **28525 (Thousand Tonnes)** was available.

State wise gap analysis of the coal stock required by domestic coal based thermal power plants (of State GENCOS) and the actual supply



Note: Normative stock of coal (in days) is typically 22 days for State GENCO plants in Haryana, Punjab & Rajasthan. In the state of Uttar Pradesh its 14 days for Anpara TPS, for rest its 22 days only.



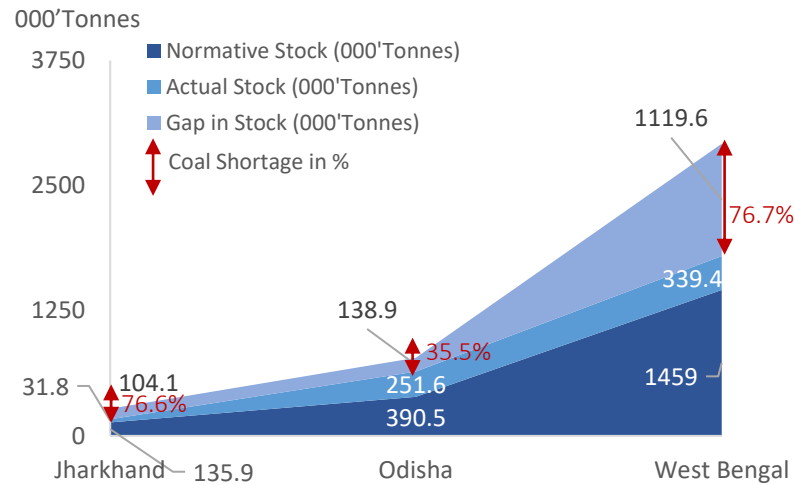
Note: Normative stock of coal (in days) is typically 22 days for State GENCO plants in Gujarat & Maharashtra. In the state of Chhattisgarh its 14 days for Korba West TPS & in Madhya Pradesh its 14 days for Amarkantak Ext. TPS only.

GAP ANALYSIS

Coal stock requirements & availability

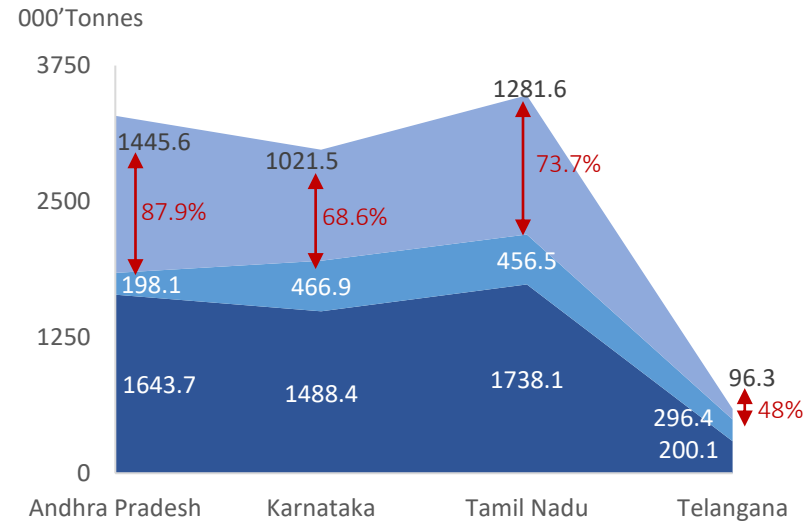
State wise gap analysis of the coal stock required by domestic coal based thermal power plants (of State GENCOS) and the actual supply (Contd.)

Eastern Region States



Note: Normative stock of coal (in days) is typically 22 days for State GENCO plants in West Bengal & Jharkhand. For Odisha, its 14 days only.

Southern Region States



Note: Normative stock of coal (in days) is typically 22 days for all State GENCO plants in the southern region.

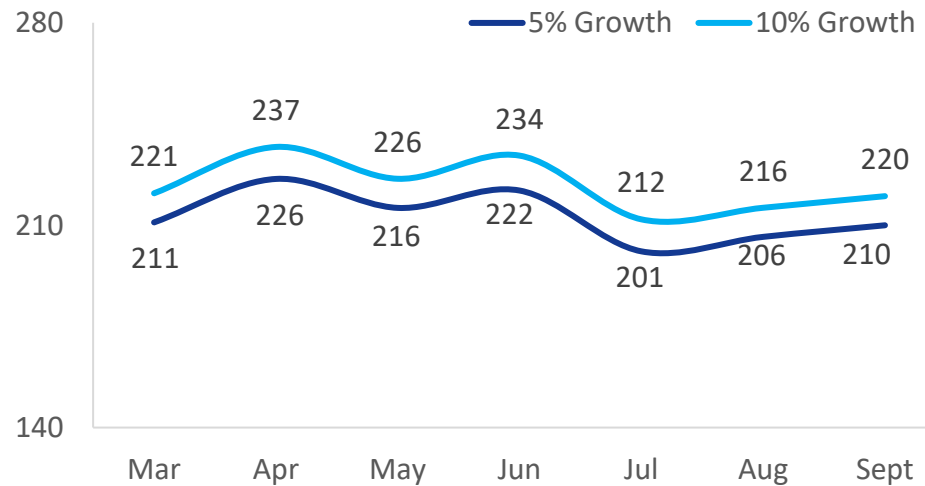
ANTICIPATED RISE

Peak Power Demand & Power Generation

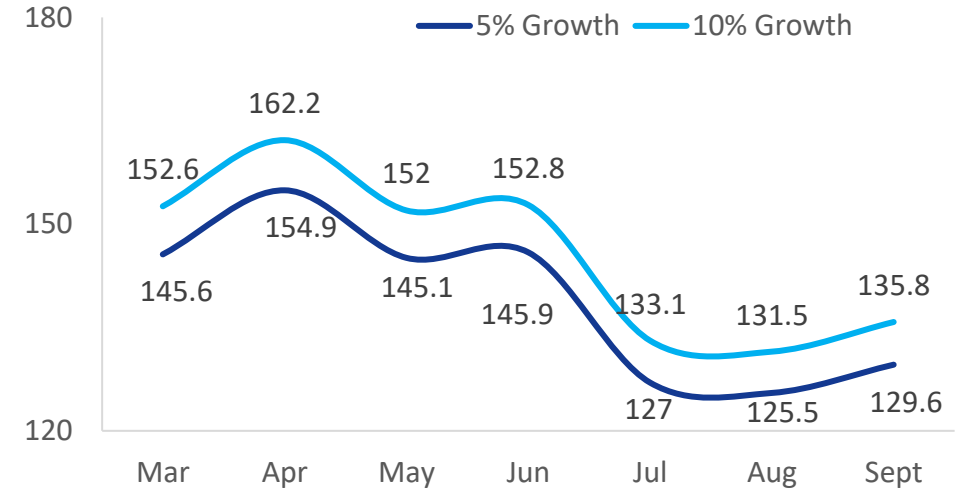
As per Eninrac Analysis **peak power demand** of India shall witness a growth of **5-10%** from the last year estimates, and so will the actual thermal power generation. In March 2022, peak power demand of India was **201 GW**, with an assumed growth of 5-10% its anticipated to hover between **211-221 GW** in March 2023 & the anticipated actual coal fired power generation shall vary b/w **146-153 GW**.

Month wise anticipated peak power demand & actual coal fired power generation of India for a period (March-September 2023)

Peak Power Demand (GW)



Actual Generation (GW)



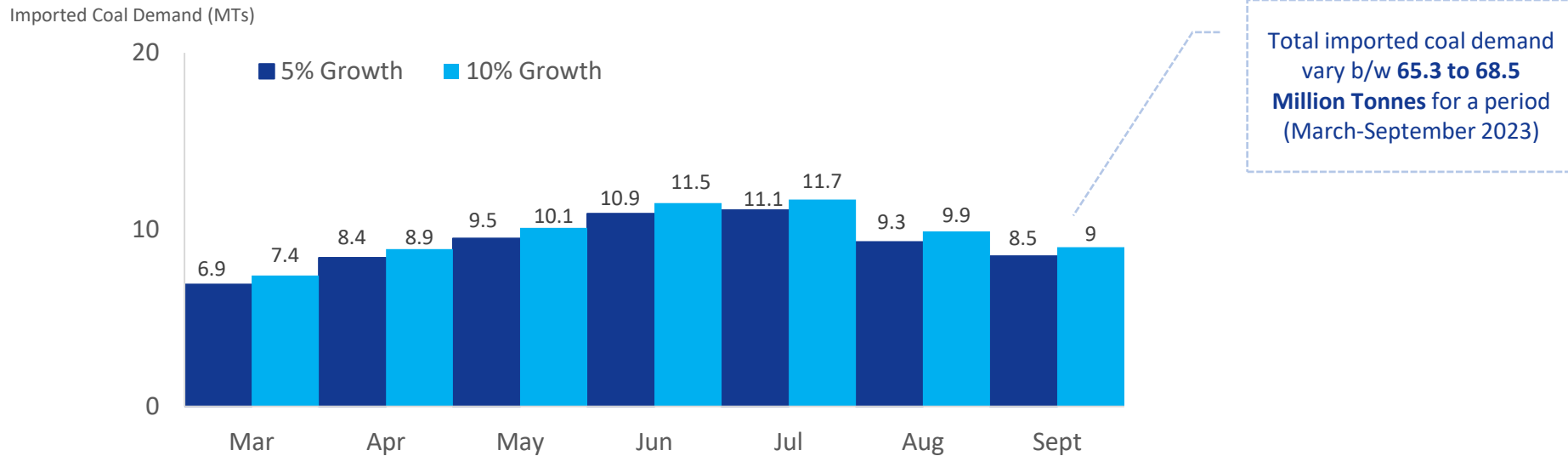
Note: Actual coal fired power generation for each month is estimated with monthly average PLF into consideration

OPPORTUNITY GAIN FOR IMPORTED COAL

Imported Coal Requirement in India

On 9th January 2023, government of India gave a mandate to all the **GENCOS including the IPPs for timely import of coal** for blending purposes. The central & state GENCOS along with the IPPs are directed to take necessary action & immediately plan to import coal through a transparent competitive procurement for blending at the rate of **6%** by weight to have coal stocks at their power plants for smooth operations till September 2023. With GoI's move in picture close to **57% growth** is anticipated in the demand for imported coal as per eninrac analysis for a period (March-September'2023) as compared to the same period in year 2022.

Month wise anticipated imported coal demand in India for a period (March-September 2023)



WANT SPECIFIC MARKET STORY?
WRITE OR CALL TO US

at connect@eninrac.com
+91 93190 48963/47963, +91 72900 16953