24th NATIONAL AWARD EXCELLENCE IN ENERGY MANAGEMENT

INDIAN FARMERS FERTILISER COOPERATIVE LIMITED (IFFCO), AONLA-II UNIT

Team Members:-

Mr. G. C. Tripathi, Dy General Manager (Power)
Mr. Chandan Mishra, Chief Manager (Process)

IFFCO IN BRIEF

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Leading producer & marketer of fertilizer in India

Number of Plant Locations in India: 5

Year of Commissioning - 1975
Annual Ammonia Capacity - 3.63 Lakh MT
Annual Urea Capacity - 5.45 Lakh MT

Year of Commissioning - 1975
Annual NPK/DAP Capacity - 24.15Lakh MT

Year of Commissioning - 1981/1997
Annual Ammonia Capacity – 9.75 Lakh MT
Annual Urea Capacity - 16.98 Lakh MT

Year of Commissioning - 1988/1996
Annual Ammonia Capacity - 11.48 Lakh MT
Annual Urea Capacity - 20.00 Lakh MT

Year of Acquiring - SEP-2005
Annual Capacity - 19.20 Lakh MT (DAP + COMPLEX)

Urea & DAP/NPK

Secondary Nutrient

Water Soluble

Bio-Fertiliser

Growth Promoter

Nano Urea & Nano DAP
An initiative of IFFCO to provide eco-friendly solution to maintain soil health & increase crop productivity.

IFFCO VENTURES

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JIFCO

OMIFCO

ics
Industries Chimiques du Sénégal

KIT

KLL

INDIAN POTASH LIMITED
IPL

NEW AGE
FINANCIAL ADVISORY

NCDEX

AquAgri

IFFCO BAZAR

CN IFFCO
FROZEN FOODS

IFFCO-TOKIO
GENERAL INSURANCE
Muskurate Raho

KISAN FINANCE

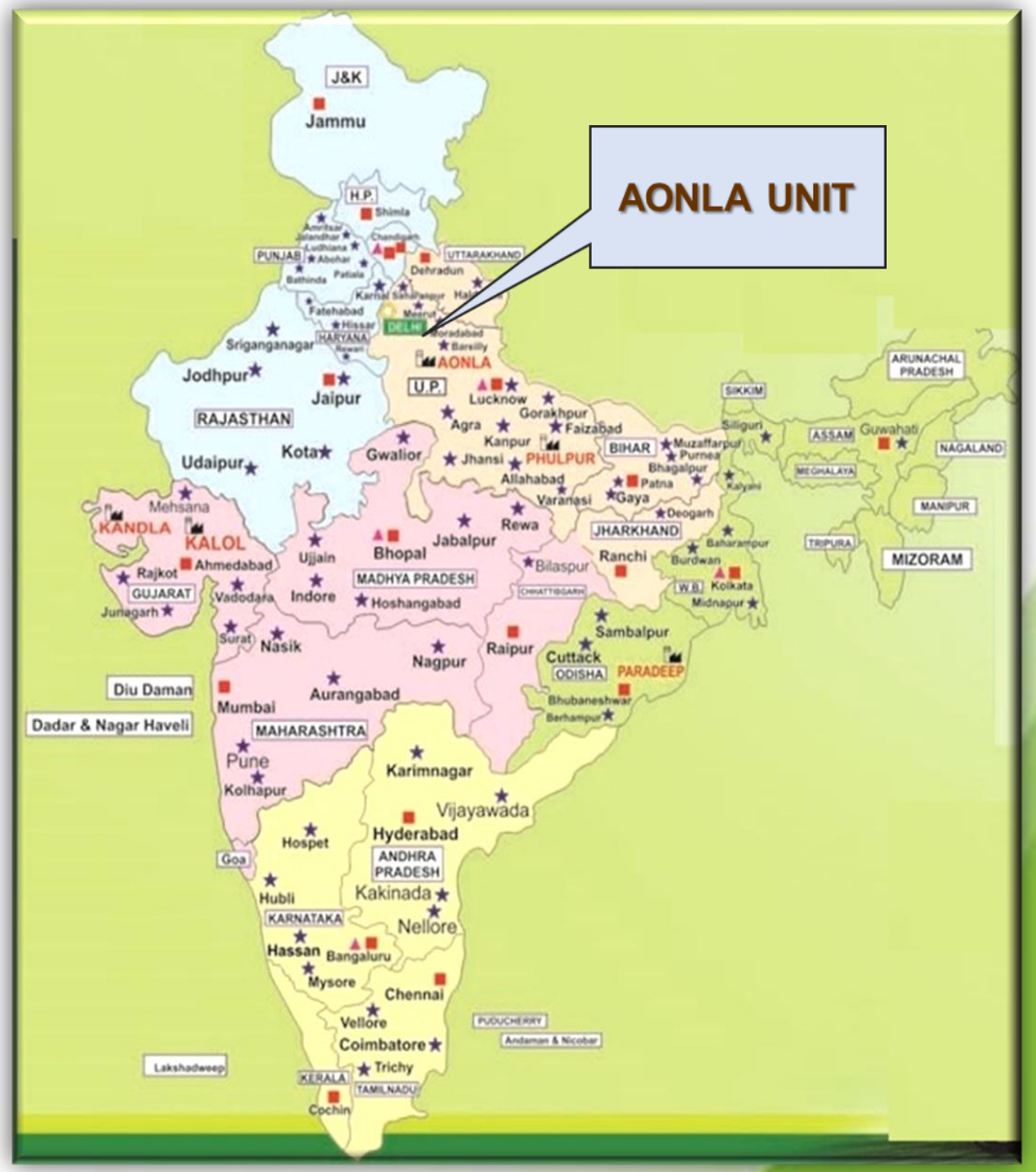
IFFCO – MC
CROP SCIENCE

IFFCO KISAN

SIKKIM IFFCO organics

IFFCO AONLA UNIT

IFFCO Aonla Unit, located in northern part of India, operates **Two streams of Ammonia (capacity 1740 MTPD each)** and **Four streams of Urea (capacity 1515 MTPD each)** and is based on Natural Gas as Raw Material.



IFFCO AONLA UNIT: BRIEF

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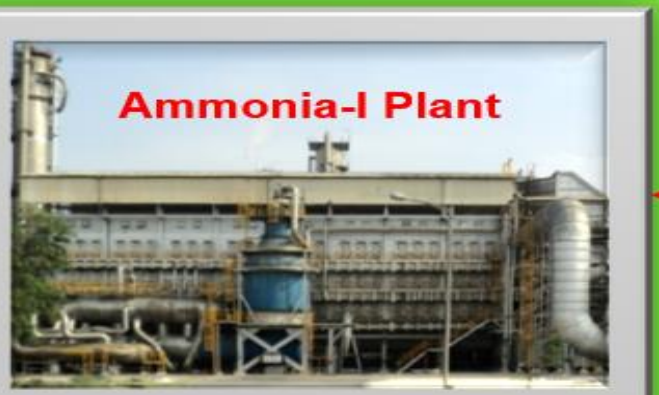
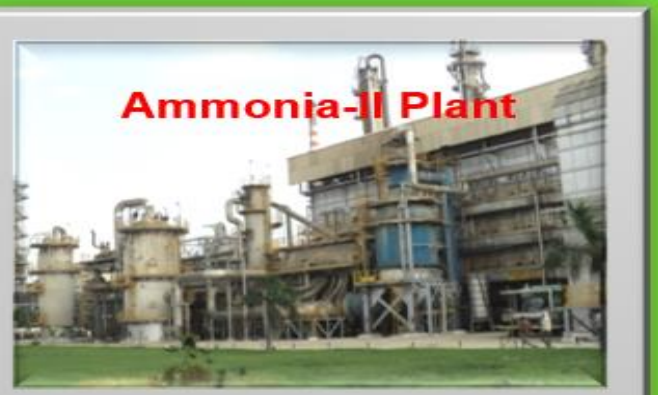


Production: 1900 MTPD
Technology: HTAS

Utilities: Cooling Tower, Air Compressors, IG Plant, Raw Water Handling System, DM Plant, Ammonia Storage Tanks, Effluent Treatment Plant



Production: 1900 MTPD
Technology: HTAS

Production: 3350 MTPD
Technology: SNAMPROGETTI

Power Generation: 35 MW
Steam Generation: 130 MT/hr

Production: 3350 MTPD
Technology: SNAMPROGETTI

AMMONIA-UREA MANUFACTURING FLOW DIAGRAM

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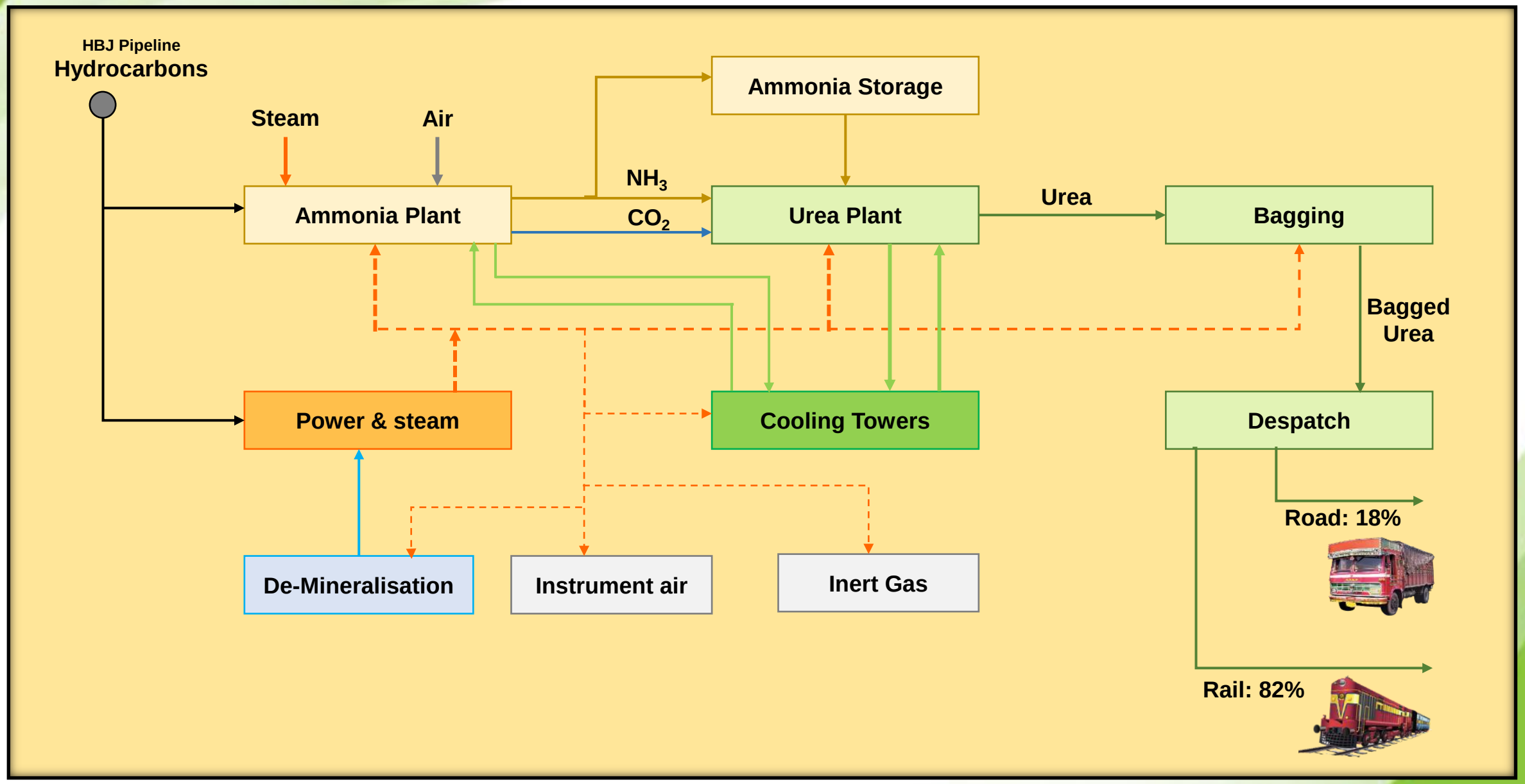

AMMONIA PLANT PROCESS FLOW DIAGRAM

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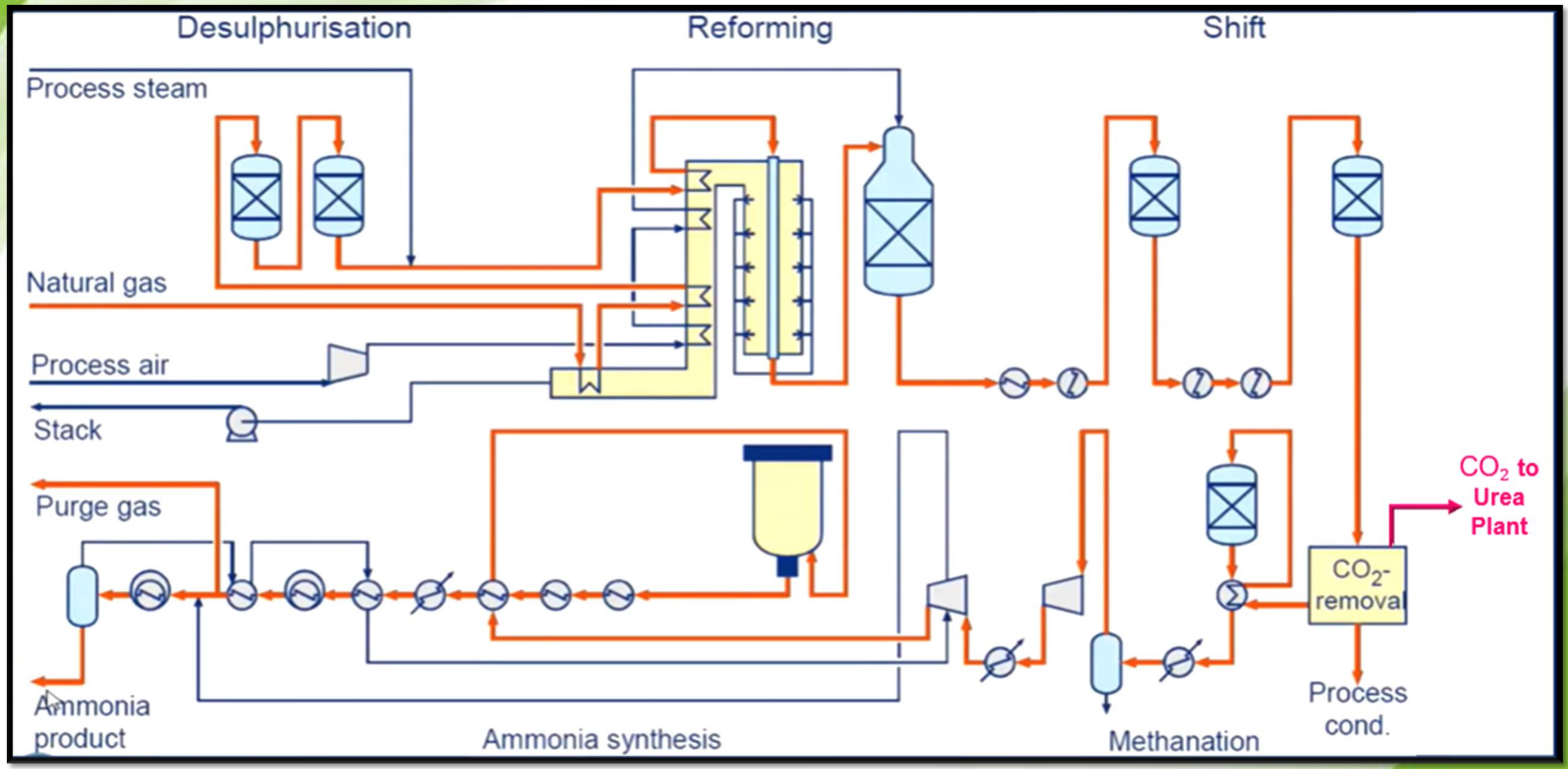

UREA PLANT PROCESS FLOW DIAGRAM

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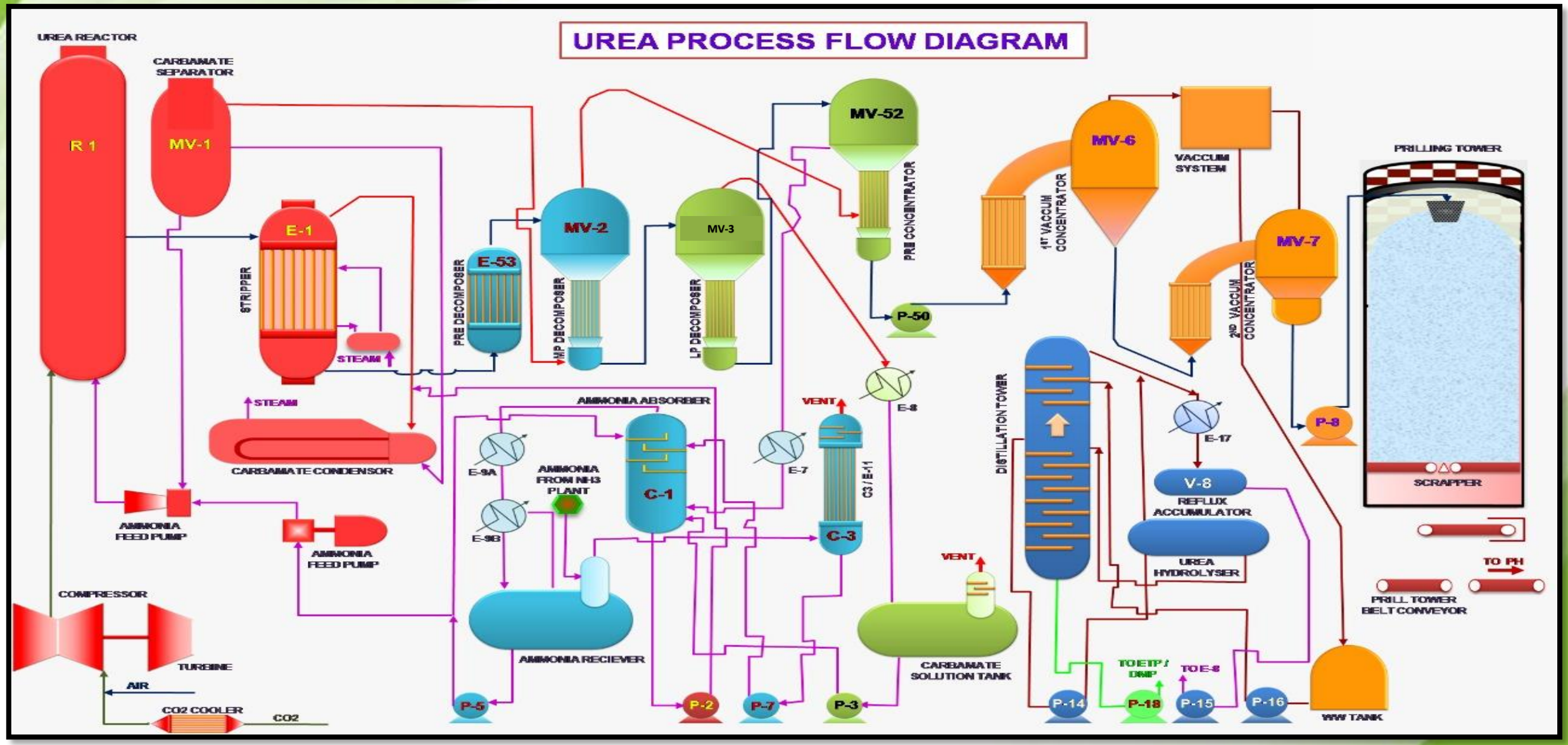

SPECIFIC ENERGY CONSUMPTION

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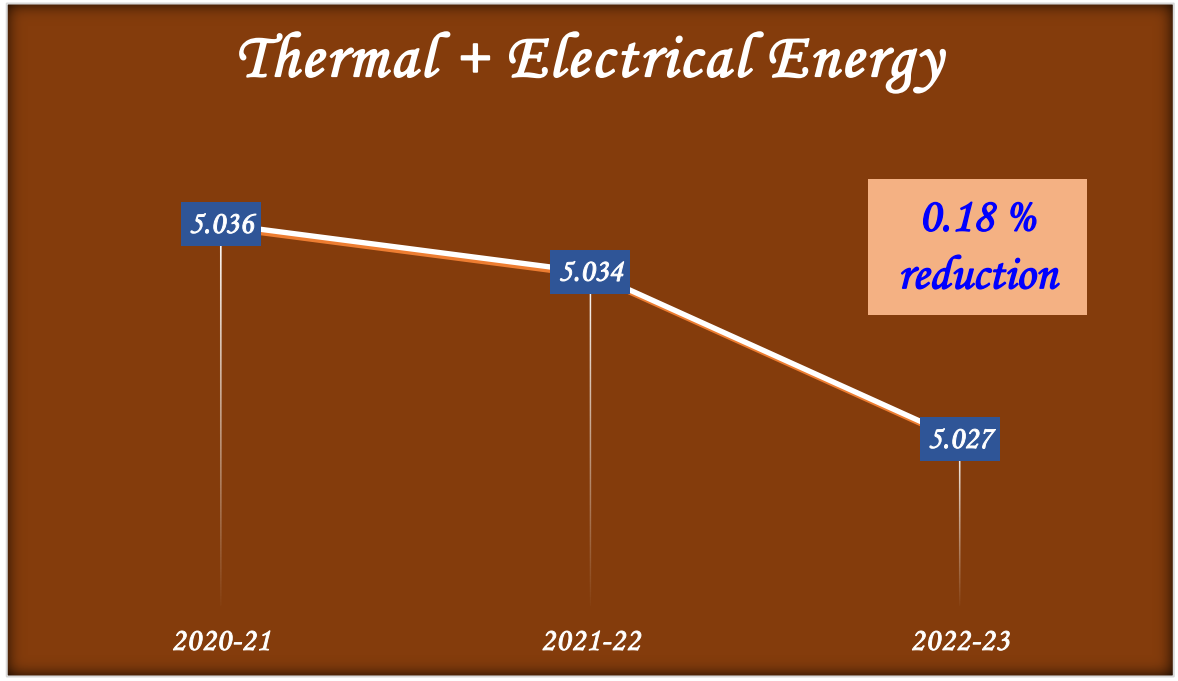
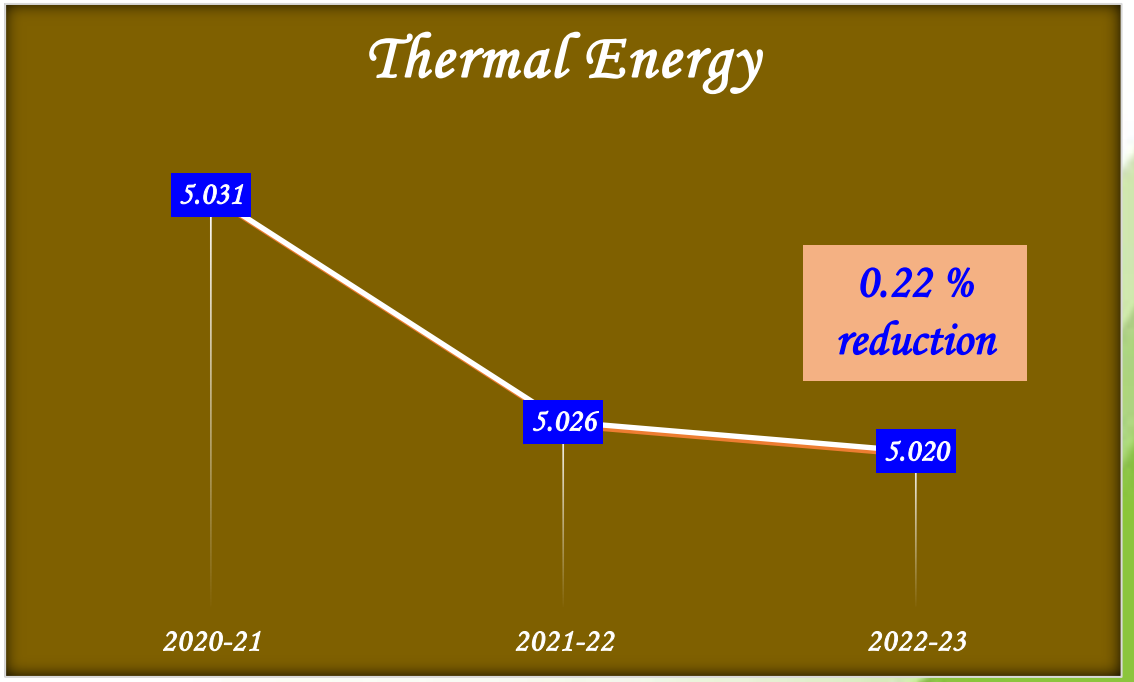
Particulars	Urea Production (Lakh MT)	Thermal + Electrical Energy		Thermal Energy	
		Gcal/MT Urea	% Reduction	Gcal/MT Urea	% Reduction
FY 2020-21	11.77	5.036	-	5.031	-
FY 2021-22	11.31	5.034	0.04 %	5.026	0.10 %
FY 2022-23	11.92	5.027	**0.18 %**	5.020	**0.22 %**





BENCHMARK & ROADMAP FOR ENERGY EFFICIENCY

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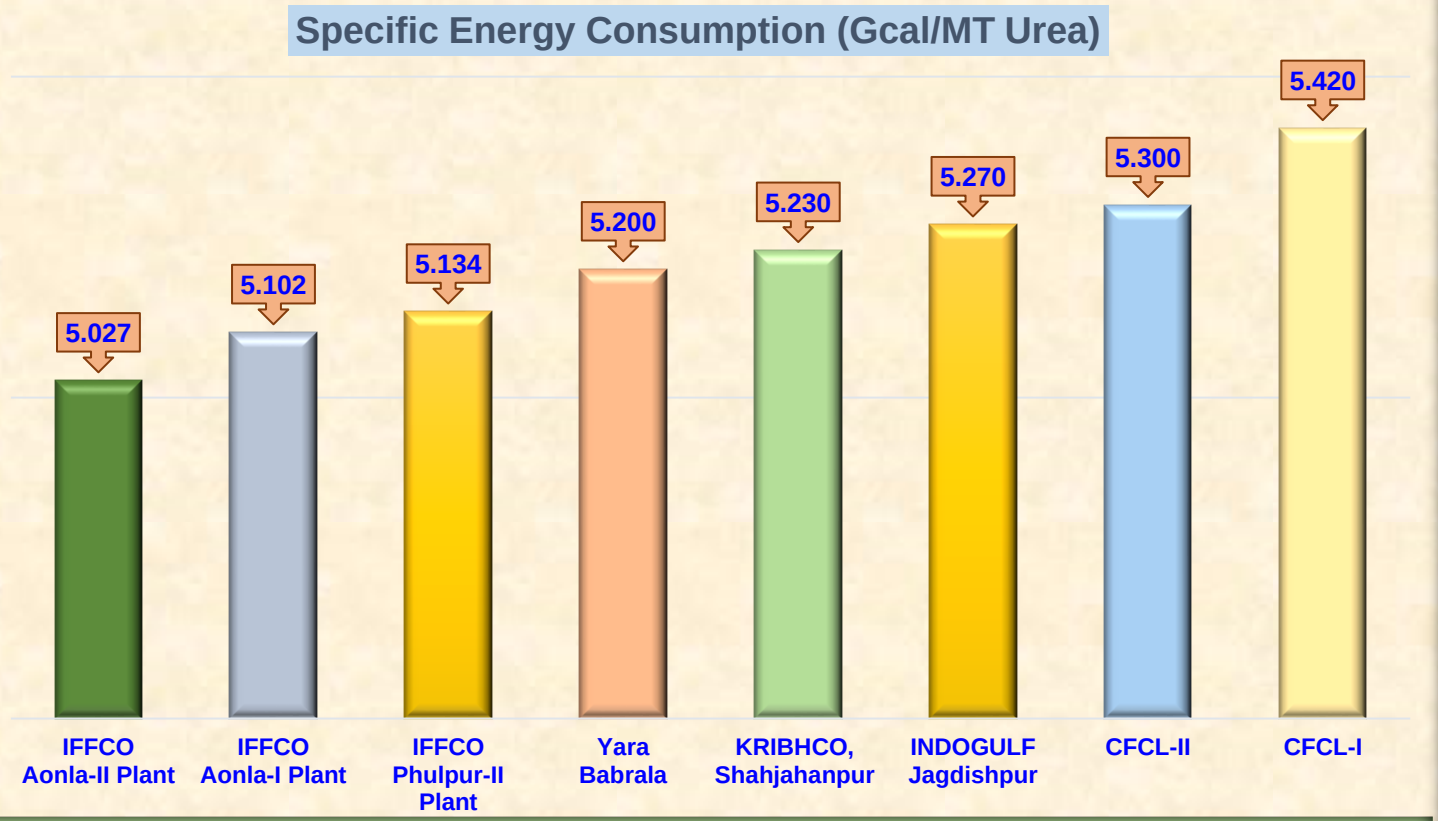
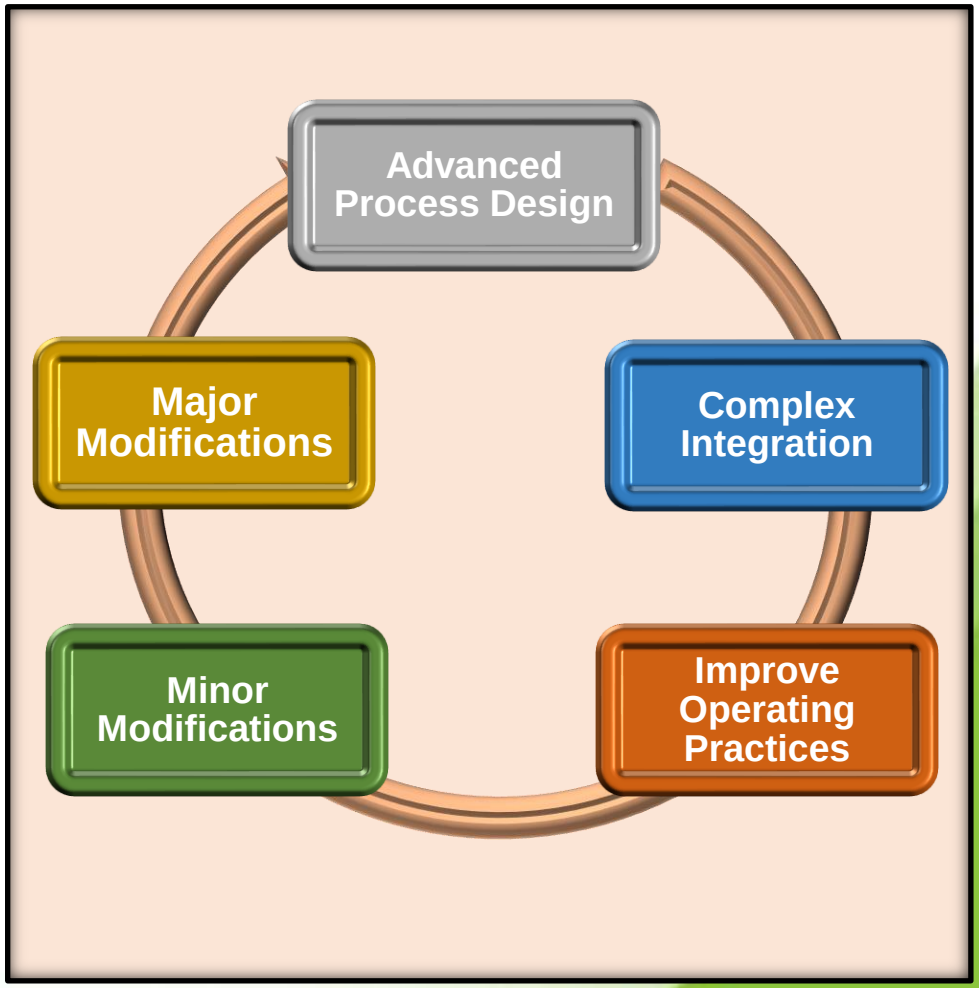
National Benchmark (Source: FAI data)



- Lowest sp. energy consumption among Plants of similar age at National Level.
- One of lowest specific energy consuming plants at International level.
- Sp. energy consumption is competitive to the energy consumption level of new generation plants (like CFCL-III: 4.97 Gcal/MT Urea).

  Our target is to nullify this close gap.

Roadmap Adopted to achieve National & International Benchmark



MAJOR ENCON PROJECT PLANNED IN FY 2023-24

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Schemes	Energy Saving (Gcal/hr)
Replacement of By-cast type Combustion Air Preheater with new Plate Type Combustion Air Preheater in Primary Reformer convection section in Ammonia-II Plant	2.44 (Implemented)
Use of C-3/E-11 offgas of Urea-II Plant as fuel in HRU burners of Ammonia-II Plant	2.25
Provision of VAM chilled water line in Compressor House AC System in Ammonia-II Plant	0.32
Replacement of fans of Urea-II Cooling Towers by Encon Make Hollow Type FRP Fans (5 nos. fans)	0.32 (Implemented)
To provide an interconnection line between 31 and 41 unit P-21 discharge	0.03
Use of C-3/E-11 offgas of Urea-I Plant as fuel in Power Plant (Common for Aonla-I and Aonla-II Units)	2.25 (Implemented)
Provision for using chilled water of VAM for Central AC system of SGPG Plant (Common for Aonla-I and Aonla-II Units)	0.20
Installation of VFD for DM Water Pump, Service Water Pump, Cooling Tower Make-up Pump & Drinking Water Pump in Raw Water Pump House Area (Common for Aonla-I and Aonla-II Units)	0.10
Total Expected Energy Saving in Aonla-II Unit	**6.64 (0.025 Gcal/MT Urea)**

ENCON PROJECTS IMPLEMENTED IN LAST 3 YEARS

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Year	Energy Saving Projects	No of ENCON Projects	Investment (Rs. Million)	Electrical Savings (MWH)	Thermal Savings (Million Kcal)	Savings (INR Million)	Impact on SEC
FY 2020-21	Thermal Saving	-	-	-	-	-	-
	Electrical Saving	8	2.81	486	-	3.65	0.001
FY 2021-22	Thermal Saving	3	10.92	-	34225	201.3	**0.030**
	Electrical Saving	11	8.03	1726.9	-	12.95	0.003
FY 2022-23	Thermal Saving	8	16.54	-	30697	231.3	**0.026**
	Electrical Saving	5	1.5	120	-	0.96	0.0002

MAJOR ENCON PROJECTS IN LAST 3 YEARS

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Schemes	Implemented in FY	Annual Energy Saving	Annual Saving (Rs Lakhs)	Investment (Rs Lakhs)	Payback Period (Years)
Energy Efficient Lighting fixtures	2020-21	486 MWH	36.5	28.1	10 months
Replacement of existing 52” size molecular seal and flare tip assembly with 36” size molecular seal and flare tip assembly for Flare Stack in Ammonia-II Plant	2021-22	6270 Gcal	280	100	4 months
Reduction of IGV opening of GTG-II from 84 deg to 75 deg in Power Plant	2021-22	27245 Gcal	1748	Nil	-
Replacement of existing solid FRP Fans with Encon Make High Efficiency Hollow FRP Fans (6 nos.) for Cooling Tower Cells of Ammonia-II Plant	2021-22	1497 MWH	112	51	5 months
Installation of Motors in place Turbines TP-3322B, T-3323B & TP-3303B in Ammonia-II Plant	2021-22	710 Gcal	33	9.2	3 months

MAJOR ENCON PROJECTS IN LAST 3 YEARS

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Schemes	Implemented in FY	Annual Energy Saving	Annual Saving (Rs Lakhs)	Investment (Rs Lakhs)	Payback Period (Years)
Energy Efficient Lighting fixtures	2021-22	230 MWH	17.2	29.3	1 year 9 months
Increasing Ammonia Preheater heat duty by mixing wastewater recycle to LP Decomposer Separator (MV-3) offgas at the downstream of Ammonia Preheater	2022-23	2376 Gcal	179	Nil	Nil
Installation of new Plate Type Heat Exchangers (E2110 & E-2109) and standby E-2101(N) for E-2101 and E-2102 in CDR Unit to increase CO2 generation and to reduce KS-1 solvent loss	2022-23	9900 Gcal	746	120	2 months
Recovery of fire water used in Compressor house during annual shutdown of Ammonia-II Cooling Tower	2022-23	145 Gcal	11	27	2 year 6 months

MAJOR ENCON PROJECTS IN LAST 3 YEARS

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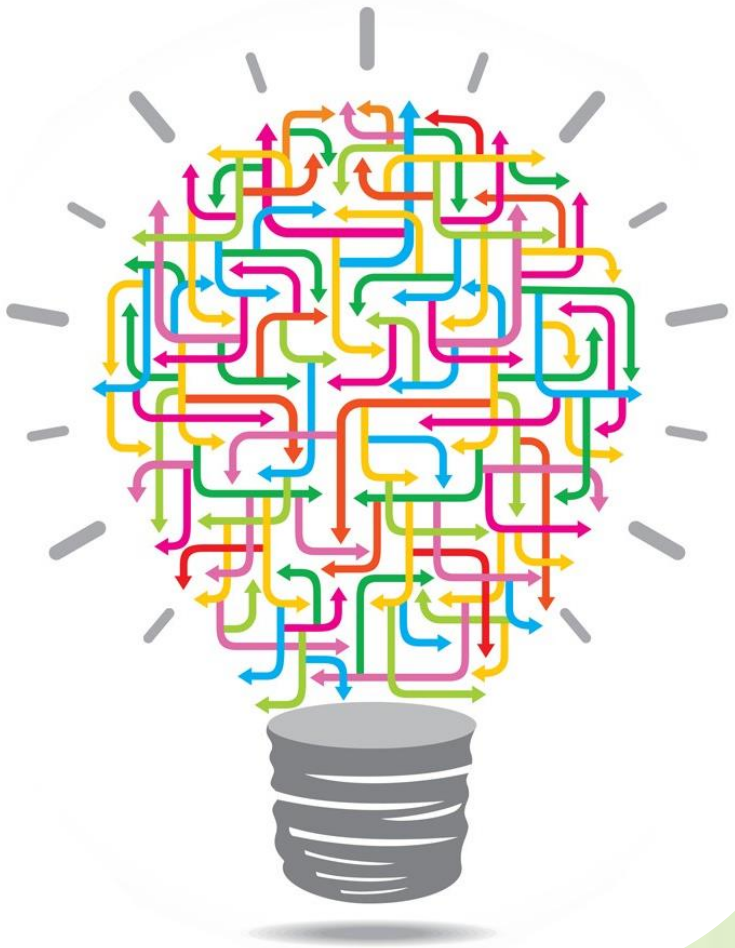
Schemes	Implemented in FY	Annual Energy Saving	Annual Saving (Rs Lakhs)	Investment (Rs Lakhs)	Payback Period (Years)
Heating of Methanator Catalyst with hot Nitrogen in Ammonia-II Plant to reduce energy loss during cold start-up of Plant	2022-23	900 Gcal	68	19	4 months
Minimizing the use of VAM Machines in Power Plant for suction air cooling of Gas Turbines in following chronological order: a) Stoppage of VAM Machines of GT operating at Low Load b) Opening of interconnection i/v of VAM Chilled Water of both GTGs c) Running of only one VAM Machine in Power Plant and stopping other VAM Machines	2022-23	12038 Gcal	907	Nil	-
Running Inlet Guide Vane of GTGs in Auto Mode in place of Manual Mode to reduce margin between TTRX and TTXM	2022-23	5337 Gcal	402	Nil	-
Energy Efficient Lighting fixtures	2022-23	120 MWH	9.6	15	1 year 7 months

Innovative Projects



INSTALLATION OF E-2109 & E-2110 AND E-2101(N)

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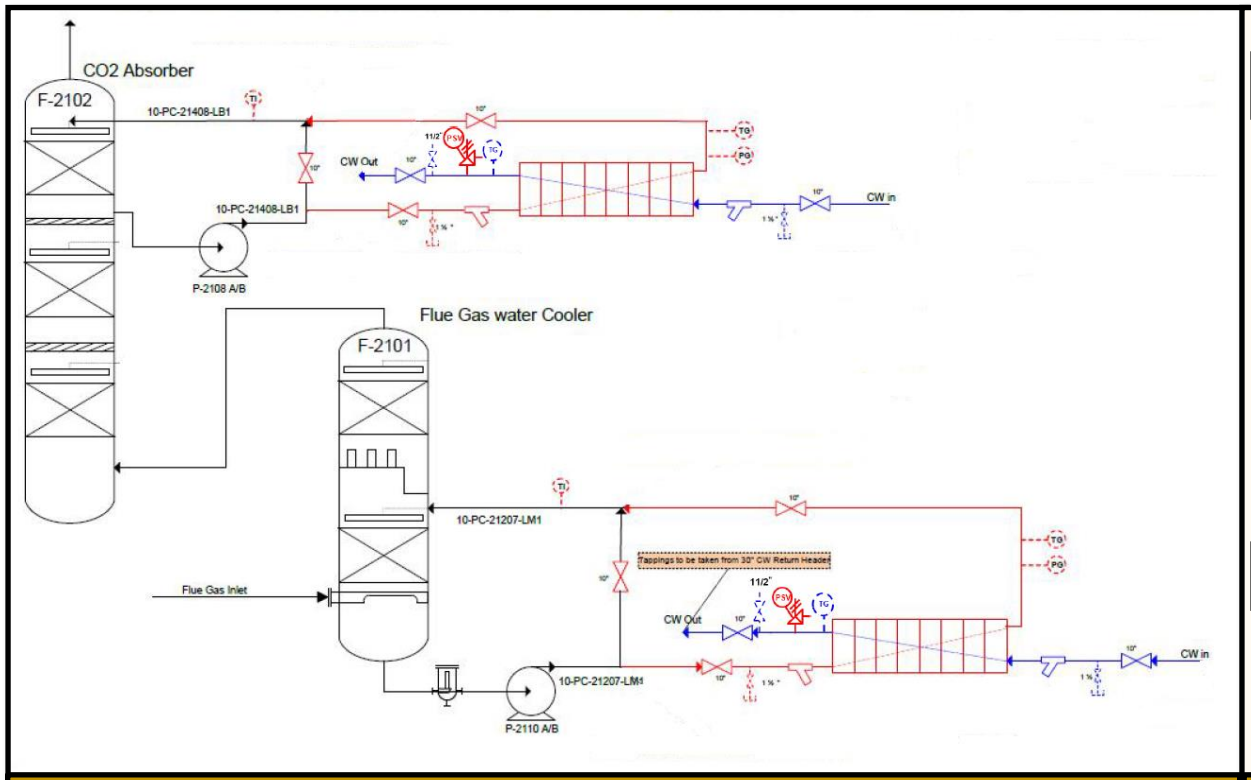
Problem Faced in CDR Unit: Limitation in CO2 generation, High KS-1 loss from CO2 Absorber

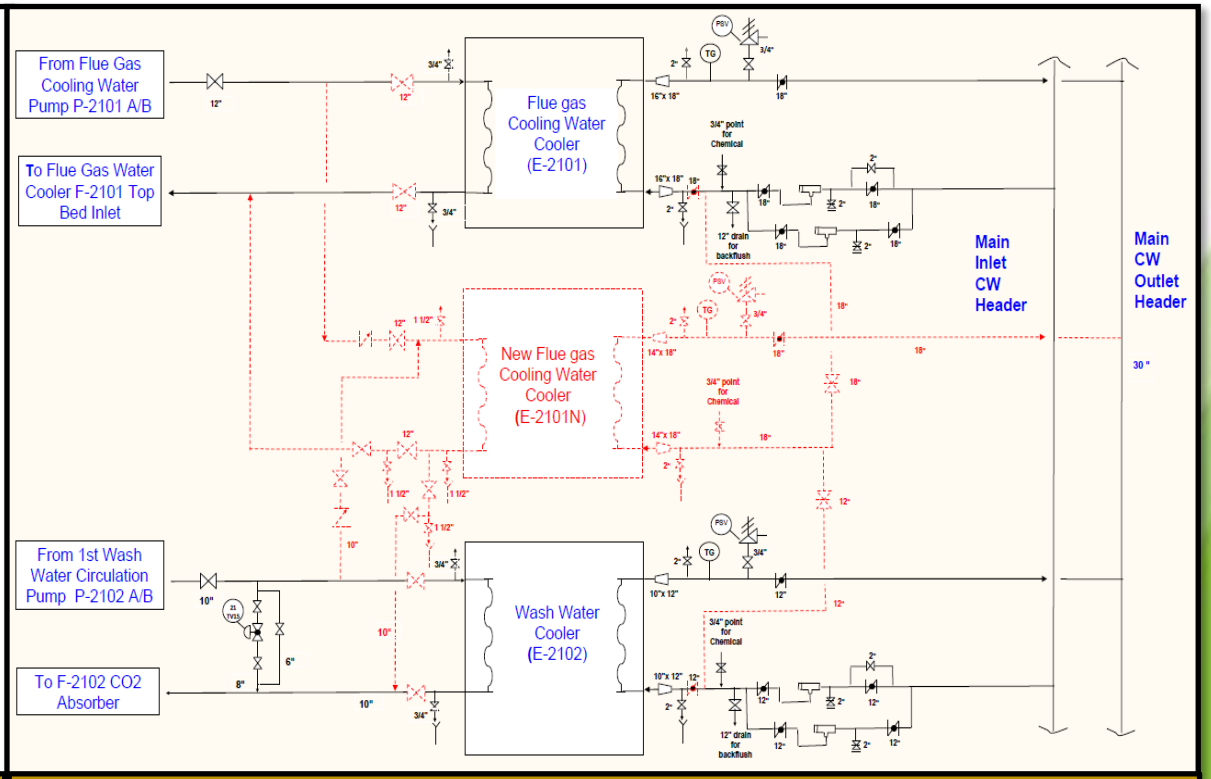
Root Cause Analysis: Heat removal from flue gas in Flue Gas Cooler (F-2101) & CO2 Absorber (F-2102) was low. This was due to design limitation at higher load and also due to frequent fouling of E-2101 & E-2102.

Modification:

- E-2110 installed for cooling of circulating water of bottom bed of Flue Gas Cooler (F-2101)
- E-2109 installed for cooling of circulating water of top bed of CO2 Absorber (F-2102)
- E-2101(N) installed as standby for E-2101 and E-2102



Installation of additional PHEs (E-2110 & E-2109) in CDR Unit



Installation of E-2101(N) as standby for E-2101 & E-2102

INSTALLATION OF E-2109 & E-2110 AND E-2101(N)

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Benefits Achieved

Particulars	Benefits
F-2101 top temp.	Decreased from 52 degC to 39 degC
F-2102 top temp.	Decreased from 54 degC to 40 degC
Increase in CO2 generation capacity in CDR Unit	Increased by **1000 NM3/hr**. Now, CO2 generation of 12500 NM3/hr can be achieved (design capacity 9952 NM3/hr).
Margin in Flue Gas Blower	Due to reduction of F-2101 flue gas top temperature, there is no limitation upto 12500 NM3/hr CO2 generation.
KS-1 loss from CO2 Absorber	KS-1 loss reduced by **0.07 kg/MT pure CO2**
Energy saving	**1.25 Gcal/hr** (Total energy saving is **2.5 Gcal/hr** for Aonla-I & Aonla-II Units)
Monetary Benefit	**Rs 7.46 Crores**
Payback period	2 months (Investment Rs 2.39 Crores)

Innovativeness of Scheme

- Fouling of E-2101 & E-2102 is faced in all CDR Units. The irony is that no standby is provided. Here, the innovativeness is the provision of common standby PHE for E-2101 & E-2102. By this way, throughout the year E-2101 & E-2102 will remain in cleaned condition.
- Due to design limitation, further CO2 generation was not possible without major revamp in CDR Unit. However, the root cause analysis indicated that the capacity can be increased only by installing E-2110 for cooling of recirculating water of bottom bed of F-2101 and E-2109 for cooling of top bed of F-2102.

Replication Potential

- Plants based on MHI technology face similar issues. They can be benefited by imitating the innovating schemes implemented in IFFCO Aonla Unit.

OPERATIONAL CHANGES IN POWER PLANT

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Original Philosophy:

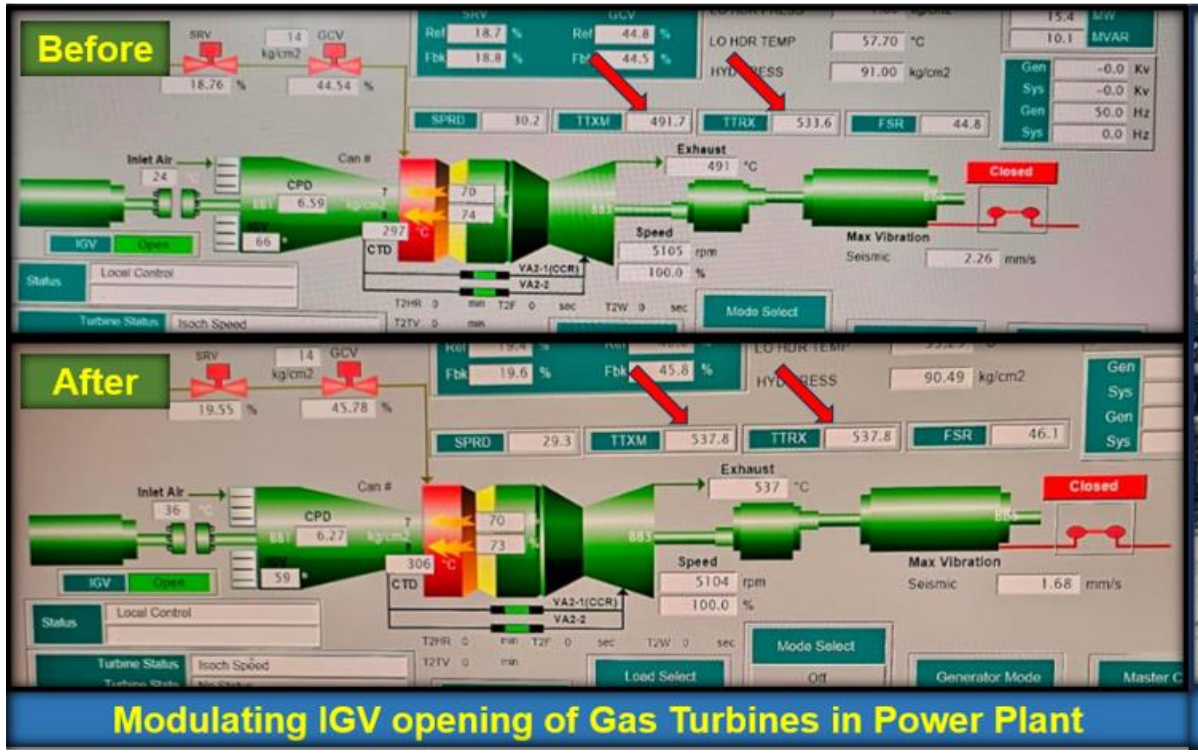
- IGV opening kept at manual mode keeping difference of TTRX and TTXM around 30 degC. (Energy loss due to excess air)
- All VAM Machines (4 nos.) kept in operation for suction air cooling of GTs (Energy loss to CW)

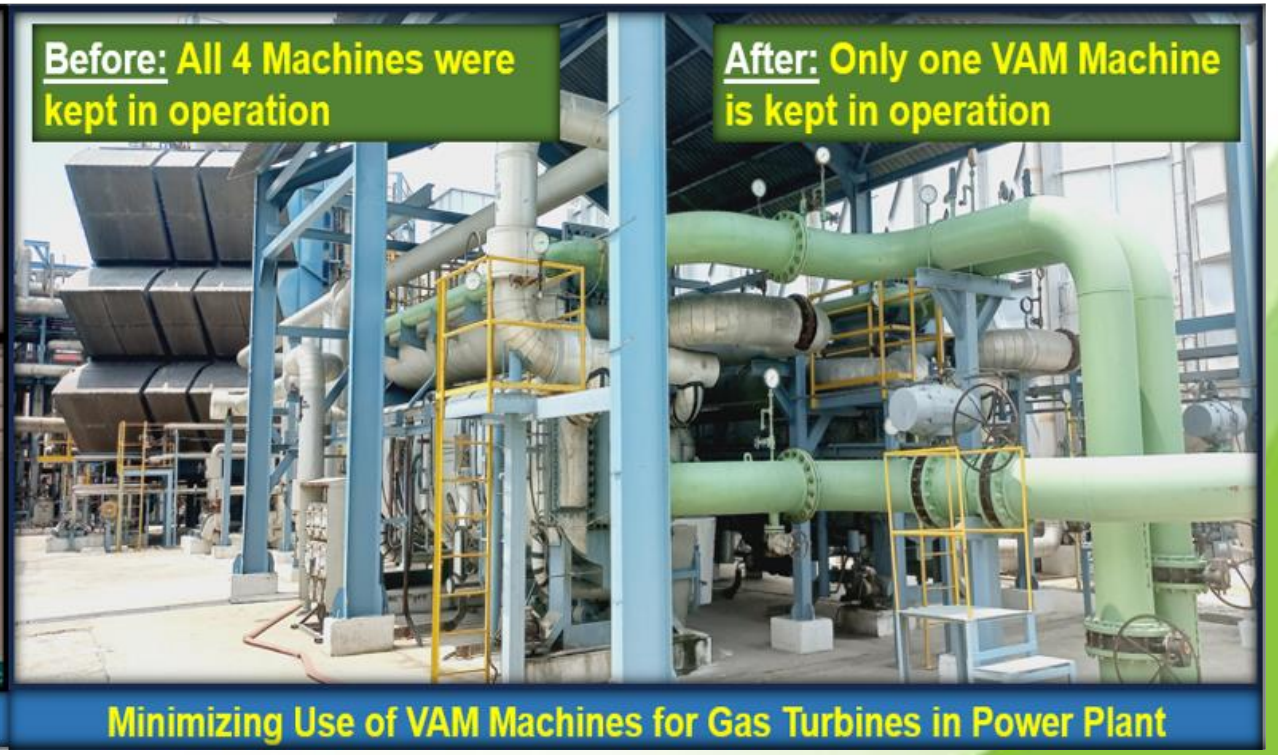
Review of Original Philosophy:

- Philosophy of keeping IGV opening at manual mode and maintaining temperature difference of 30 degC between TTRX and TTXM was causing energy loss due to excess air.
- Post ESP-III implementation (Period 2016-18), all VAM Machines were run due to high load of GTGs. Later, attempts have been done to reduce power load by various modifications. With this, now, there is no need to run VAM Machine for GTGs. However, for sudden requirement of load increase, one VAM is required to be kept in operation.

New Philosophy:

- IGV opening is kept at Auto Mode with no temperature difference between TTRX and TTXM.
- One VAM Machine is kept in operation and chilled water is used in Urea-I Plant to avoid energy loss due to use in Gas Turbine.





OPERATIONAL CHANGES IN POWER PLANT

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Benefits Achieved

Particulars	Benefits
Running IGV of GTGs at Auto Mode in place of Manual Mode	Energy saving: 0.67 Gcal/hr
Minimizing use of VAM Machines	
✓ Running of one VAM Machine in place of two VAM Machines of GTG operating at low load	Energy saving: 0.04 Gcal/hr
✓ Stopping of VAM Machines of GTG operating at Low Load	Energy saving: 0.85 Gcal/hr
✓ Opening of interconnection i/vs of VAM chilled water of both GTGs and running only one VAM Machine	Energy saving: 0.63 Gcal/hr
Total Energy Saving & Annual monetary Saving	**2.19 Gcal/hr Rs 13.1 Crores**
Further energy saving of 0.84 Gcal/hr (Annual monetary saving Rs 5.0 Crores) has been achieved by diverting the use of chilled water to CO2 Cooler in Urea-I Plant.	

Innovativeness of Scheme

- After ESP-III, stack temperature of HRSGs increased from 170 degC to 190 degC due to high load of GTGs and low steam generation in HRSGs. Also, IGV opening was kept in manual mode and all VAM Machines were kept in operation to have margin for any sudden requirement of power. To address the issue of high stack temperature of HRSGs, various modifications were done to reduce power load which in turn lowered down stack temperature back to 160-170 degC.
- With these changes, GTGs are now run at normal load and there is now sufficient margin available even without running VAM Machines. Identifying this as the opportunity for further energy saving, the option of keeping IGV opening at Auto Mode and running only one VAM Machine for emergency requirement was studied and found feasible.

Replication Potential

- Any gap between TTRX and TTXM is the loss of energy. So, it should be avoided in GTGs.
- VAM Machine should be run only if there is capacity limitation with Gas Turbine, otherwise it should be run as the heat of air is dumped to cooling water which in turn increases fuel consumption in Gas Turbine.

INCREASING AMMONIA PREHEATER HEAT DUTY

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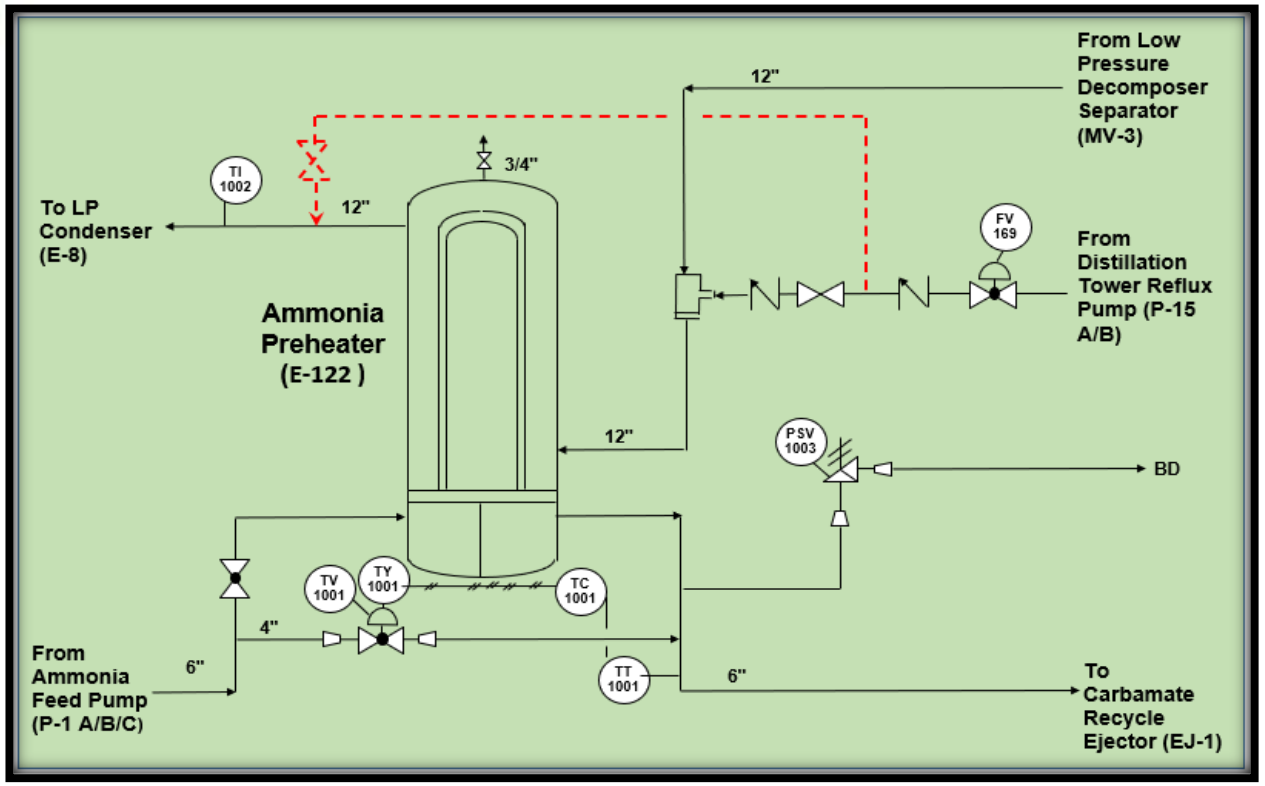
Original System:

- Ammonia Preheater (E-122) was designed considering mixing of cold stream with hot gas at the upstream of the exchanger.
- With this approach, hot gas (121 degC) is mixed up with cold condensate (40 degC) at upstream of E-122. Ammonia temperature increases from 17 degC to 67 degC.
- It was intended to recover more heat from the hot gas to reduce heat loss to cooling water through d/s LP Condenser (E-8).



Suggestion:

By mixing cold stream to hot gas at the downstream in place of upstream of Ammonia Preheater, the inlet temperature of hot gas to the exchanger will increase which will increase LMTD and result in increase in heat duty of the exchanger.

Benefits:

- Energy saving of **0.15 Gcal/hr** achieved for one unit of Urea-II plant. So, total energy saving for both units of Urea-II plant is **0.3 Gcal/hr**.
- Annual monetary benefit: **Rs 1.8 Crores**.

Innovativeness:

For an exchanger, once the surface area of the exchanger is decided through designing, the capability of the exchanger to transfer heat gets decided. However, there are some factors which affect heat transfer in the exchanger even though its surface area is fixed, In our case, we could get more heat transfer from the same exchanger by increasing LMTD across exchanger.

Replication Potential:

Such type of innovation may be applicable in any industry where there is limitation with the exchanger. The heat duty can be increased by making changes in process parameters if possible.

UTILISATION OF RENEWABLE ENERGY SOURCES

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Year	Technology (Electrical)	Type of Energy	Onsite/ Offsite	Installed Capacity (MW)	Generation (million kWh)	% of purchased Electrical Energy	% of total Electrical power requirement
2020-21	Roof Top Solar panel	Solar Energy	Onsite	0.916	1.228	53.1	0.86
2021-22	Roof Top Solar panel	Solar Energy	Onsite	0.916	1.315	39.4	0.98
2022-23	Roof Top Solar panel	Solar Energy	Onsite	**0.941**	1.307	41.5	**0.81**

Year	Capacity addition, MW	Investment made, Rs. Lakhs
2020-21	-	-
2021-22	-	-
2022-23	0.025	15.59

GHG INVENTORISATION

CO2 Emission from Aonla-II Unit

Year	CO2 Emission, MT	Emission Intensity, MT/MT Urea
2020-21	468621	0.40
2021-22	445998	0.39
2022-23	478523	**0.40**

The calculated CO2 emission is based on NG fuel consumption in Primary Reformer, Heat Recovery Unit (HRU) and Captive Power Plant. It also considers the emission due to consumption of Purchased Power from UPPCL.

Steps taken for GHG Emission Reduction

- ✓ CO2 Recovery Unit (CDR) (Capacity: 450 MTPD) installed in year 2006, contributes significantly to reduce GHG emission. For FY 2022-23, GHG reduction due to CDR Unit is 164977 MTPA. Recently, commendable and unique modifications have been carried out in CDR Unit to increase CO2 removal from flue gas by 1000 NM3/hr.
- ✓ Continual energy saving efforts are taken to reduce energy consumption of Unit which in turn reduces GHG emissions from Stacks. This include brainstorming sessions to identify and target energy loss area for improving energy efficiency of the Unit.

GHG EMISSION REDUCTION: WASTE HEAT UTILIZATION

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➢ Purge Gas Recovery (PGR) Unit

Purge gas from Ammonia-II plant is sent to PGR Unit to recover hydrogen from it and to send back to 1st suction of Syn Gas Compressor. The tail gas is used as fuel in Primary Reformer Burners which in turn saves NG fuel resulting in the reduction of GHG emission.

Year	Energy Saving with PGR unit operation, Million Kcal
2020-21	122638
2021-22	114336
2022-23	91740

Common PGR Unit for both Ammonia Plants

➢ Recovery of waste heat of C-3 offgas

Recently, a scheme has been implemented to use waste gas (C-3 offgas) of Urea-I Plant as fuel in HRSGs of Power Plant. The scheme has potential of GHG reduction of 4500 MTPA.

Similarly, a scheme is under study for using C-3 offgas of Urea-II plant for using as fuel in HRU burners of Ammonia-II plant which will also contribute in GHG reduction by 4500 MTPA.

ENERGY MANAGEMENT SYSTEM

- **Daily Monitoring System:** Plants key process parameters, production & specific consumption of various inputs are reviewed in Daily Production Meeting on daily basis to monitor the energy performance of the Unit. Plant problems are identified on daily basis and brainstorming activities are carried out to mitigate those problems.

  The meeting is chaired by Unit Head.

- **Energy Conservation Cell:** A Core Energy Conservation Cell and plant wise Energy Conservation Sub-cells are already existing with representatives from different departments/sections related to the plant. The role of the energy conservation cells include monitoring of energy consumption, identification of areas and coordination of various activities for energy conservation.

- **Budget Allocation:** Knowing the importance of energy saving in the profitability of Unit, the top management is very supportive for energy conservation schemes. Schemes are assessed based on their cost benefit analysis and accordingly budget is allocated for these schemes under Energy Conservation head.

  Investment on energy saving schemes for FY 2022-23 : Rs 22.1 Crores. (0.42% of Annual Turnover) of the Unit)

- **Energy efficiency awareness training program :** Periodically classes are being conducted for plant personnel to aware them about efficient use of energy as well as to reduce the energy losses.

ENERGY MANAGEMENT SYSTEM

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➢ Employees Involvement through "Employees Suggestion Schemes":

- ✓ Energy saving ideas are received through involvement of Workmen and Officers category. Schemes are assessed for the economical and operational feasibility.
- ✓ Best Suggestions are adjudged for awards on Award Ceremony during 15th August and 26th January Celebration each year.
- ✓ Best Suggestions are selected for National Level Summit organised by INSSAN.
- ✓ Inter-Unit Creativity Meet is organised to share the values suggestions which resulted in remarkable tangible & intangible benefits.

➢ Learning from Award Programs: Award Program is a knowledge sharing platform:

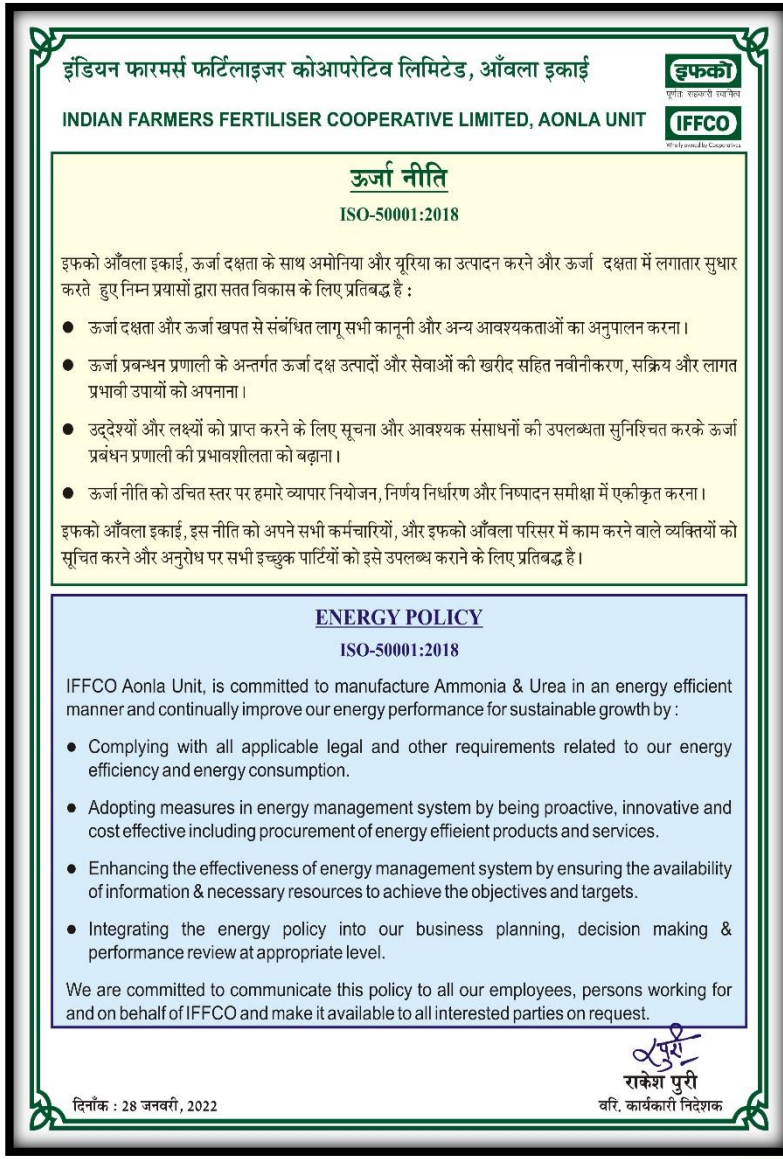
- ✓ To know about the ideas adopted by other companies
- ✓ Gives a thrust for more energy conservation as well as improved plant operation.

IMPLEMENTATION OF EMS: ISO 50001

- In Aonla Unit, Energy Management System ISO 50001:2011 was implemented from November 2014.
- Now IFFCO Aonla is certified with ISO 50001:2018.

  18th January 2022 is effective date of implementation.

  Validity: 3 years
- Other than EMS, the Unit is certified for Integrated Management System (IMS) including ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018.



इंडियन फारमर्स फर्टिलाइजर कोआपरेटिव लिमिटेड, आँवला इकाई

INDIAN FARMERS FERTILISER COOPERATIVE LIMITED, AONLA UNIT

ऊर्जा नीति

ISO-50001:2018

इफको आँवला इकाई, ऊर्जा दक्षता के साथ अमोनिया और यूरिया का उत्पादन करने और ऊर्जा दक्षता में लगातार सुधार करते हुए निम्न प्रयासों द्वारा सतत विकास के लिए प्रतिबद्ध है :

- ऊर्जा दक्षता और ऊर्जा खपत से संबंधित लागू सभी कानूनी और अन्य आवश्यकताओं का अनुपालन करना।
- ऊर्जा प्रबन्धन प्रणाली के अन्तर्गत ऊर्जा दक्ष उत्पादों और सेवाओं की खरीद सहित नवीनीकरण, सक्रिय और लागत प्रभावी उपायों को अपनाना।
- उद्देश्यों और लक्ष्यों को प्राप्त करने के लिए सूचना और आवश्यक संसाधनों की उपलब्धता सुनिश्चित करके ऊर्जा प्रबंधन प्रणाली की प्रभावशीलता को बढ़ाना।
- ऊर्जा नीति को उचित स्तर पर हमारे व्यापार नियोजन, निर्णय निर्धारण और निष्पादन समीक्षा में एकीकृत करना।

इफको आँवला इकाई, इस नीति को अपने सभी कर्मचारियों, और इफको आँवला परिसर में काम करने वाले व्यक्तियों को सूचित करने और अनुरोध पर सभी इच्छुक पार्टियों को इसे उपलब्ध कराने के लिए प्रतिबद्ध है।

ENERGY POLICY

ISO-50001:2018

IFFCO Aonla Unit, is committed to manufacture Ammonia & Urea in an energy efficient manner and continually improve our energy performance for sustainable growth by :

- Complying with all applicable legal and other requirements related to our energy efficiency and energy consumption.
- Adopting measures in energy management system by being proactive, innovative and cost effective including procurement of energy effieient products and services.
- Enhancing the effectiveness of energy management system by ensuring the availability of information & necessary resources to achieve the objectives and targets.
- Integrating the energy policy into our business planning, decision making & performance review at appropriate level.

We are committed to communicate this policy to all our employees, persons working for and on behalf of IFFCO and make it available to all interested parties on request.

दिनाँक : 28 जनवरी, 2022

राकेश पुरी
वरि. कार्यकारी निदेशक

bsi.

Certificate of Registration

ENERGY MANAGEMENT SYSTEM - ISO 50001:2018

This is to certify that:

Indian Farmers Fertiliser Cooperative Ltd.
Aonla Unit:
Paul Pothen Nagar
P.O.: IFFCO Aonla Township
Bareilly 243 403
Uttar Pradesh
India

Holds Certificate No: **ENMS 751679**

and operates an Energy Management System which complies with the requirements of ISO 50001:2018 for the following scope:

The Manufacture of Urea and Generation of Power.

For and on behalf of BSI:

Michael Lam - Managing Director Assurance, APAC

Original Registration Date: 2022-01-18
Latest Revision Date: 2022-01-18

Effective Date: 2022-01-18
Expiry Date: 2025-01-17

Page: 1 of 1

...making excellence a habit.

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.
An electronic certificate can be authenticated online.
Printed copies can be validated at www.bsi-global.com/ClientDirectory or telephone +91 11 2692 9000.
Further clarifications regarding the scope of this certificate and the applicability of ISO 50001:2018 requirements may be obtained by consulting the organization.
This certificate is valid only if provided original copies are in complete set.

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.
A Member of the BSI Group of Companies.

AWARDS RECEIVED IN RECENT YEARS

IFFCO
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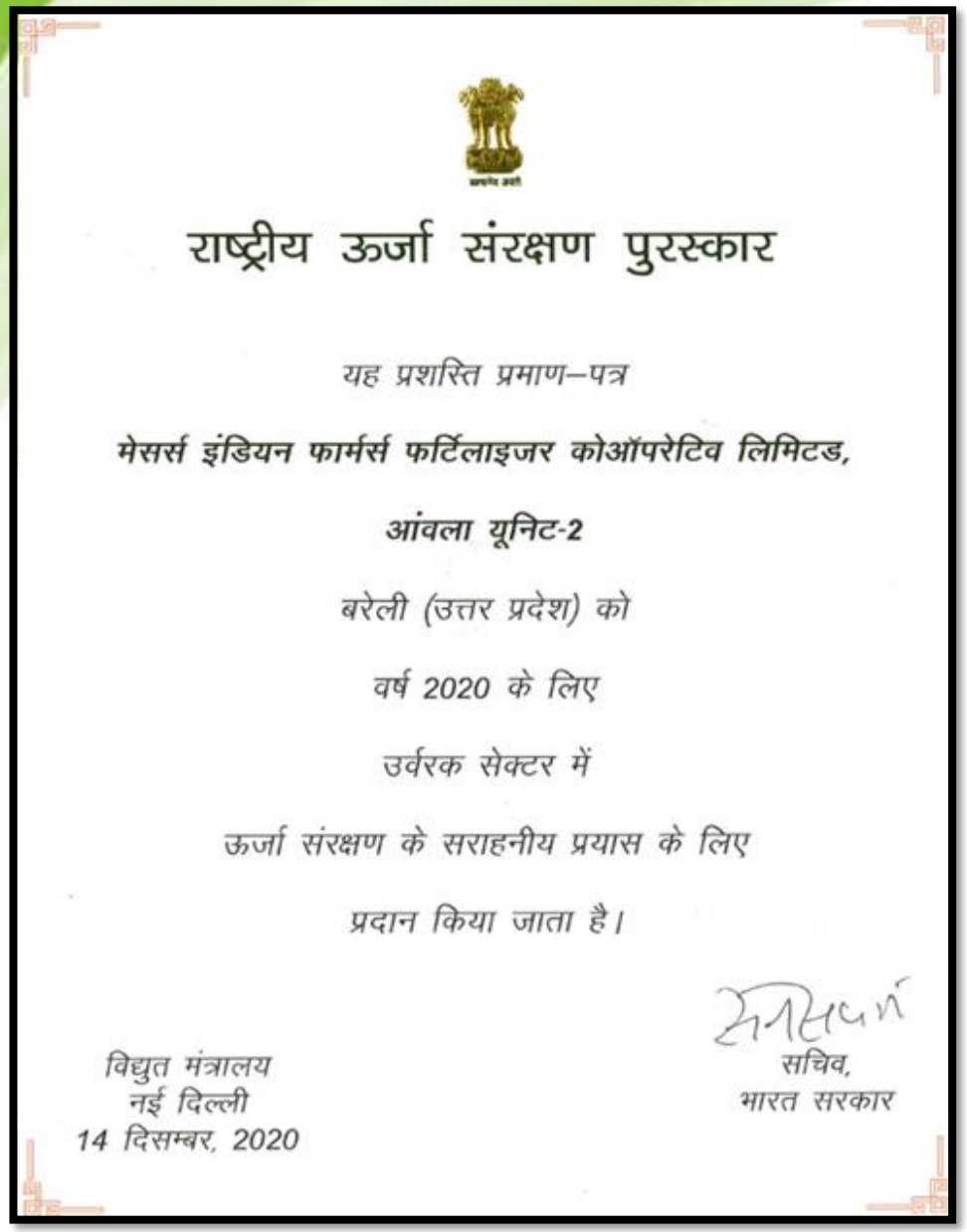


राष्ट्रीय ऊर्जा संरक्षण पुरस्कार

यह प्रशस्ति प्रमाण–पत्र

मेसर्स इंडियन फार्मर्स फर्टिलाइजर कोऑपरेटिव लिमिटेड,

आंवला यूनिट-2

बरेली (उत्तर प्रदेश) को

वर्ष 2020 के लिए

उर्वरक सेक्टर में

ऊर्जा संरक्षण के सराहनीय प्रयास के लिए

प्रदान किया जाता है।

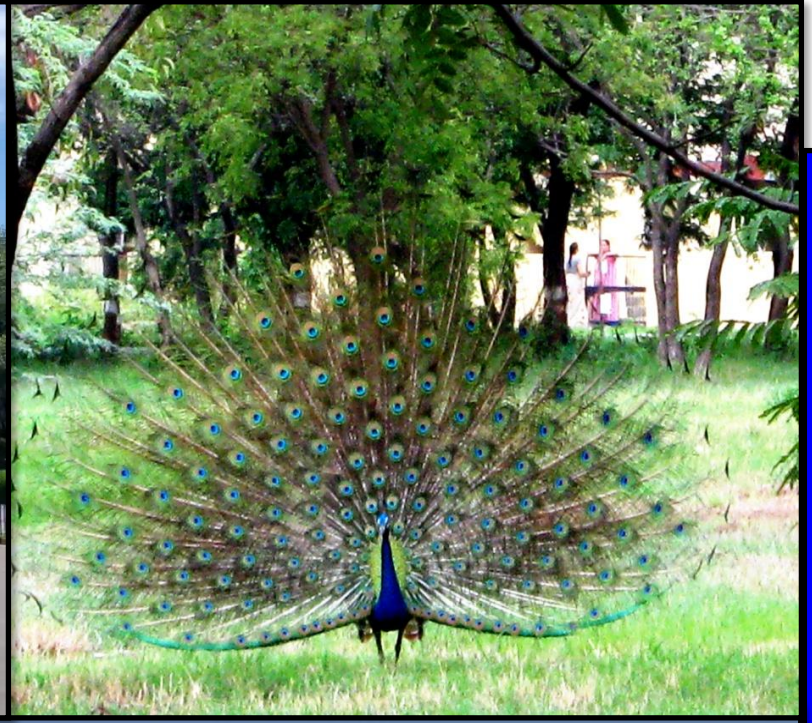
सचिव,
भारत सरकार

विद्युत मंत्रालय
नई दिल्ली
14 दिसम्बर, 2020

Winner of Best Production Performance Award in Year 2021 & Year 2022

Excellent Energy Efficient Unit-2022

State Energy Conservation Award-2021 (Winner)



IFFCO
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THANK YOU

Lead Presenter Details:-

Mr. Chandan Mishra, Chief Manager (Process)
Mobile No: 7456043479
Email: chandankumarmishra@iffco.in