

Presentation on

Sustainable and ESG Practices Indian Specialty Chemical Industry

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“Sustainability”

Comes from the Latin word “Sustenerere”

Sus “Up”

Tenere “To hold”

Literally this means “Uphold”

“Definition”

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

- US\$ 178 billion in 2019 and 304 billion in 2025.
- 9% growth per annum contributes 300 billion to India's GDP by 2025.
- Investment of US\$ 108 billion by 2025.
- Specialty chemical industry is 22% of total chemicals in India.
- Demand @12% CAGR.
- Global share increases from 3% to 4 %.
- 50% increase year on year in CAPEX.
- Revenue growth 19-20% in 2022 v/s 9 -10% in 2021.

We see ESG drive 6 major transitions for our overall economy

1 Energy and carbon



2 Resources and circular



3 Mobility and cities



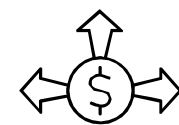
4 Food and health



5 Social and community



6 Finance and value



Different Strokes for Different Folks



Inorganics			Petrochemicals		Specialty, fine, and ag chemicals								
Industrial Gases	Chlor-Alkali	Other inorganics	Organic base chemicals	Polymers & plastics	Specialty polymers	Care and cleaning chemicals	Coatings, pigments, adhesives, sealants	Electronic chemicals	Construction chemicals	Lubricants	Catalysts	Food and feed additives, nutrition, API	Agrichemicals

1 Energy and carbon

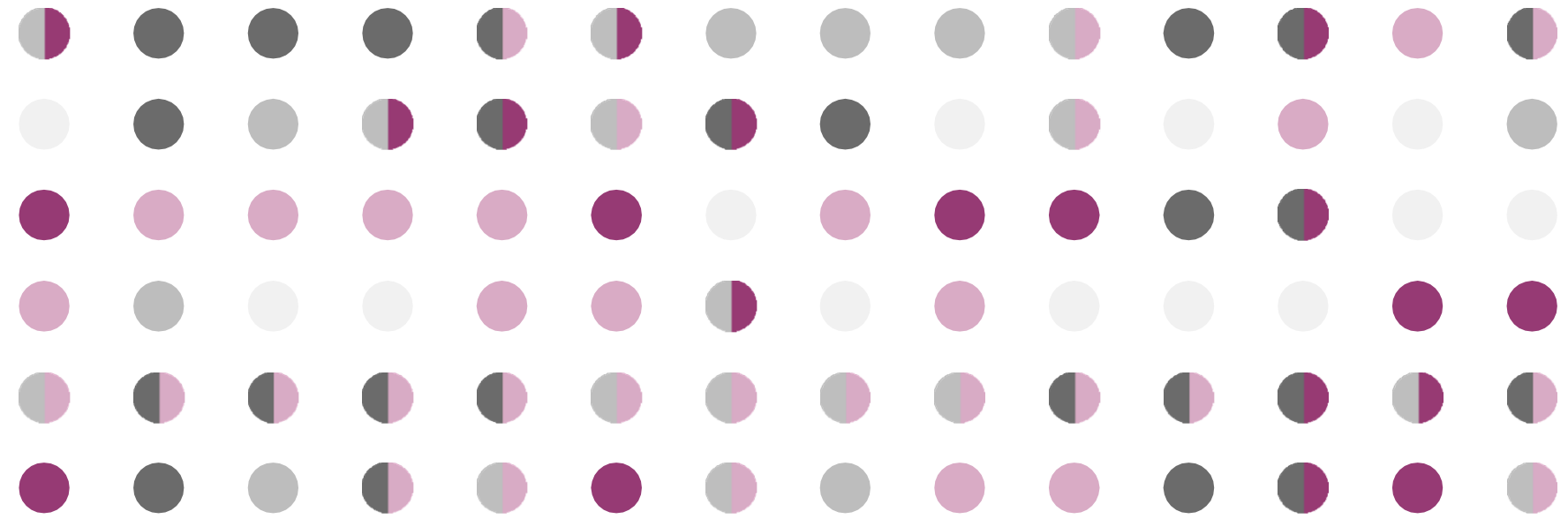
2 Resources and circular

3 Mobility and cities

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High downside risk
 Moderate risk
 Limited disruption
 Some upside
 Significant value creation opportunity

E Environment

<p>Waste Safe disposal, recycling, reuse or recovery of materials</p>	<p>GHG Emissions Reducing & offsetting emissions contributing to the greenhouse effect</p>	<p>Air & water quality Lowering emissions & effluents impacting air and water quality</p>	<p>Water management Responsible water use throughout operations</p>	<p>Biodiversity & animal welfare Protecting and enhancing natural ecosystems and wildlife; ensuring animal welfare</p>	<p>Land use Ensuring long-term productive potential of land, stewardship of forests and other habitats</p>	<p>Material use Responsible use and re-use of natural resources, from extraction to end use</p>
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S Social

<p>Product & service safety Safe products & services for customers; responsible/ fair sales & advertising</p>	<p>Health & wellness Positive health impact of products and services on customers; responsible formulations</p>	<p>Digital privacy & security Trustworthy management and use of customer & other stakeholder data</p>	<p>Employee health & safety Work environment safety for direct (employees) and indirect (supply chain) workers</p>	<p>Decent work Correct labor standards for both direct & suppliers' workforce; human rights; fair wages</p>	<p>Community relations Equitable interactions with communities and society beyond the workforce</p>	<p>Diversity & inclusion Practices and culture promoting diversity and inclusion, inside company and beyond</p>
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G Governance

<p>Fair sourcing Fair practices for suppliers and throughout supply chain</p>	<p>Anti-competitive behavior Non-predatory practices related to market position</p>	<p>Indirect economic impacts Sensitivity to indirect impacts on external populations of firm's economic activity</p>	<p>Transparency & risk management Responsible disclosure and management of risks</p>	<p>Governance & corruption Norms and practices relating to good governance and ethics, e.g. bribery, board diversity</p>	<p>Tax Fair tax payment and practice</p>	<p>Geopolitics Sensitively navigating complex geopolitical issues and dynamics</p>
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/EXAMPLE

Hypothesis on priority issues

There are a few pillars of sustainability

- 1) Economic demand
- 2) Environmental friendly chemical engineering
- 3) Environmental resource management
- 5) Environment protection
- 6) Societal requirements
- 7) Responsible Care

- Economic sustainability is the key
- Better use of raw material and utilities will reduce cost.
- Process optimization and intensification will reduce cost.
- Product development and R&D will open new and profitable segments.
- Globally sized capacities will ensure optimized costs.

- Focus on R&D and development of optimized **processes which also result in optimized recourse management**
- Put in the resources required for environment protection and waste management

- Heubach ,India was incorporated in 1993 having three manufacturing sites at Ankleshwar and one site is under construction at Dahej .
- State of art manufacturing facilities .
- We are the only company in world implemented **Integrated Waste Management** system in phthalocyanine chemistry.
- **Integrated Management system** implemented since 2005.
- Started first dioxin testing facility in India since 2002 .
- Aluminium Hydroxide (Pharma grade) and Hydrotalcite are manufactured from by-product.
- Focus on waste minimization and green chemistry.

- 25% of total energy consumed sourced from Renewable sources.
- We have installed two wind turbines each having capacity of 2.1 MW.
- Pressure reduction turbine is used in place of pressure reduction valve for Steam.
- Many programmes are undertaken regularly under various CSR schemes.
- Legal and Regulatory compliance are implemented and monitored regularly by various management teams.

**Source
Reduction**

**Procedural Changes
Technology Changes
Input Material Changes
Product Changes**

**Most Preferred
Approach**

**Recycling
Reuse**

Solvents Recovery System

**Waste
Separation**

**Dedicated Treatment for
Ammonical Nitrogen Contained
stream**

**Waste
Concentration**

**Generation of 24%
Ammonia Liquor**

**Waste
Exchange**

Separation of Copper Sludge

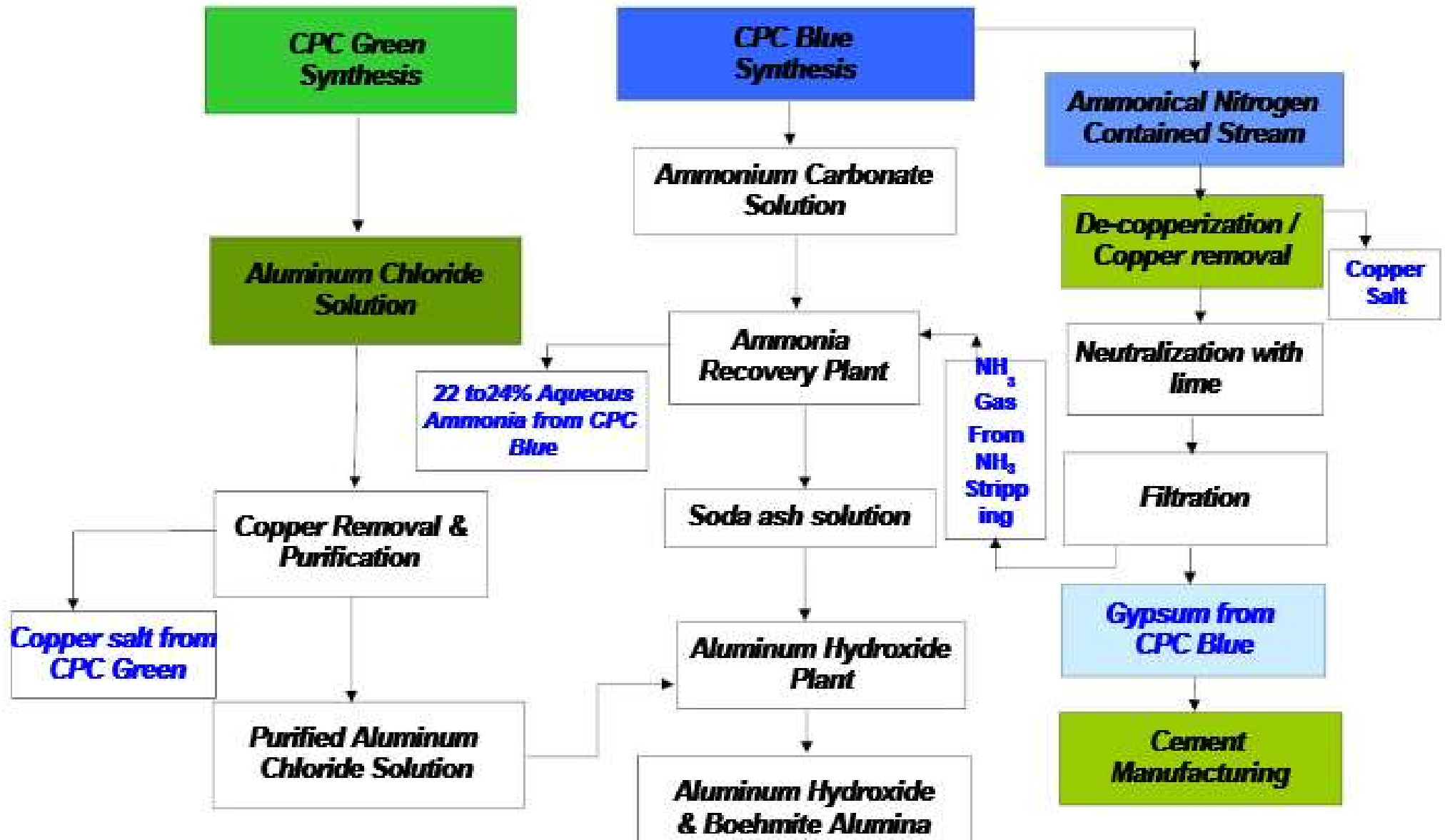
**Waste
Treatment**

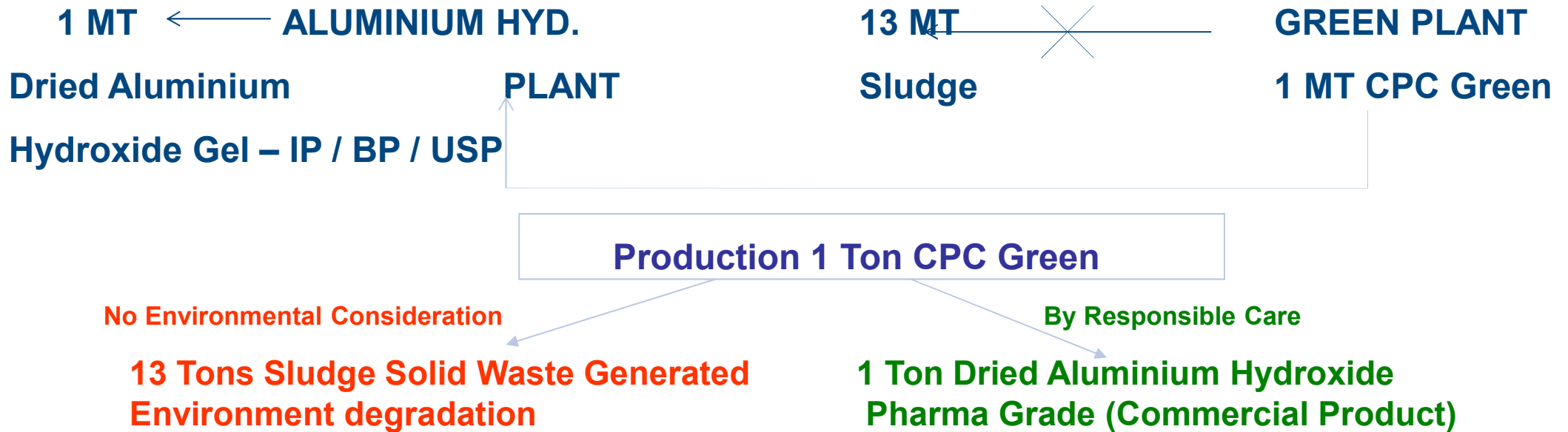
**Comprehensive Treatment
Plan**

**Ultimate
Disposal**

**Least Preferred
Approach**

- Process optimization for waste minimization**
- Process improvement to yield better conversion**
- State of the art technology for solvent recovery**
- Ammonia Recovery Plant**
- Ammonia Stripping Plant**
- Aluminium Hydroxide Plant**
- Copper Recovery Facility**
- Waste Management :**
 - Granular Activated Carbon Treatment Facility**
 - Plastic and Hazardous waste recycling**





- Key product produced is copper phthalocyanine blue
- Key raw material is urea
- Generation of ammonical nitrogen in waste water is a serious issue
- Typically 1 ton of CPC uses 1.4 tons of urea
- Heubach set up a new CPC plant reducing use of urea to 1:1 or about 1/3
- Win-win situation with reduction in cost of raw material, reduction in ammonical nitrogen towards sustainability.

You cannot escape the responsibility of tomorrow by evading it today.

[Abraham Lincoln](#)

It is easy to dodge our responsibilities, but we cannot dodge the consequences of dodging our responsibilities.

Thank You