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Coal Gasification Plant for Urea Project

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The Minister of Chemicals & Fertilizers has signed a contract for the coal gasification plant for the urea project at Talchar, Odisha.

Background

- Currently, the production of urea in the country is done by using pooled natural gas which comprises **domestic** Natural Gas and **imported** Liquefied Natural Gas(LNG).
- Import of LNG is **costly** and leads to **spending** valuable **foreign exchange**.
- Hence it is preferred that an indigenous raw material is used for the production of urea and other fertilizers in the country.

Production of Urea with Coal Gasification

- The project will **improve India's self-sufficiency in Urea**, promote agriculture growth in India.
- It will promote the use of abundantly available domestic coal in an **environment-friendly** manner.
- Also, the success of this technology shall also propel the usage of coal for the production of other products like syngas, diesel, methanol, petrochemicals, etc.

Coal Gasification

- The process of Coal Gasification **chemically transforms the fossil fuel into Synthetic Natural Gas (SNG)**, instead of burning fossil fuel.
- It produces **Syngas** which is a **mixture consisting primarily of methane (CH₄), carbon monoxide (CO), hydrogen (H₂), carbon dioxide (CO₂) and water vapour (H₂O).**

Syngas can be used to produce a wide range of fertilizers, fuels, solvent and synthetic materials.

- It is primarily used for electricity generation, for the production of chemical feedstocks.
- The hydrogen obtained from coal gasification can be used for various purposes such as making ammonia, powering a hydrogen economy.
- In-situ gasification of coal – or **Underground Coal Gasification (UCG)** – is the technique of converting coal into gas while it is still in the seam and then extracting it through wells.

Source:TH