**Problem Statement 4:**

**Emission Reduction in coal gasification:**

Carbon Capture and Storage (CCS) technologies are designed to lower greenhouse gas emissions by removing carbon dioxide (CO2) from emission sources. Despite being existing for many years; CCS technology is still not being applied in an encouraging way. The market has not embraced the technology to its full potential for a variety of reasons, including low capture efficiency, cost, and energy efficiency.

Furthermore, it is fortunate that the cost of CO2 capture during the gasification process is the lowest since carbon capture is already a part of the process and falls under the category of pre-combustion carbon capture. Nevertheless, very little of the captured CO2 gets utilised, and it isn't explored in a way that would make this market appear profitable. Little areas are known where the capture CO2 can be gainfully utilised like in the production of urea, where carbon capture is a necessary step in the process.

Hence, Solutions or Proposals are requested for all-inclusive methods to reduce emissions while gasifying coal which incorporate capturing and utilizing CO2 and also dealing with other pollutants like sulphur and nitrogen etc. in such a way that it may be utilised in self-consumption or act as raw material for vast sectors.

Solutions should be compliant with environmental regulations and facilitate a cleaner energy production process.