"INDIA'S DECARBONISATION: LEADING THE WAY WITH AI AND EMISSION REDUCTIONS" – PAPER III

India has been making significant strides in reducing its carbon emissions, as highlighted by a global survey conducted by the Boston Consulting Group (BCG) in collaboration with sustainability platform CO2 AI. The findings place India among the top three countries in reporting emissions, setting targets, and actively working towards emission reduction. India ranks just behind China and Brazil in these efforts. However, despite such advancements, global progress in tackling climate change remains slow, indicating the need for enhanced measures.

Paris Summit and National Commitments

The Paris Agreement, adopted in 2015, is a landmark international accord that seeks to combat climate change by limiting global temperature rises to below 2°C and, ideally, to 1.5°C above pre-industrial levels. Each participating country, including India, has pledged voluntary commitments known as Nationally Determined Contributions (NDCs) to achieve these goals.

India, in line with its commitment to the Paris Agreement, has made several pledges to lower its carbon footprint, primarily through increasing its use of renewable energy, enhancing energy efficiency, and improving forest cover. These national commitments reflect India's proactive role in global climate action and underscore its ambition to be a key player in addressing climate change.

India's National Voluntary Commitment to Emission Reduction

India's NDCs are focused on three key targets:

1. **Reducing the emissions intensity of its GDP by 33-35% by 2030** (from 2005 levels).
2. **Achieving 40% of its installed power capacity from non-fossil fuel sources by 2030**.
3. **Creating an additional carbon sink of 2.5 to 3 billion tonnes of CO2 equivalent by 2030** through afforestation and sustainable forest management.

These commitments highlight India's long-term dedication to mitigating climate change, while balancing the need for economic growth.

India's Performance in Emission Reduction

The BCG-CO2 AI survey reveals that India is outperforming many global counterparts in setting and meeting emission reduction targets:

- **12% of Indian companies report their emissions**, compared to the global average of 9%.
- **24% of Indian companies have set emission reduction targets**, surpassing the global average of 16%.
- **15% of Indian companies are actively reducing emissions**, compared to 11% worldwide.

These statistics underline India's remarkable progress in addressing climate change, particularly through corporate action. Indian companies, motivated by both regulatory frameworks and voluntary initiatives, are increasingly integrating sustainability into their business models.

The Significance of India's Achievements

India's leadership in carbon reduction is particularly significant given its status as a developing economy with substantial energy demands. By exceeding global averages in reporting, target-setting,

and actual reductions, India is demonstrating that economic growth and environmental sustainability can coexist. This progress also positions India as a potential role model for other developing nations, proving that ambitious climate action is achievable.

Moreover, the positive outcomes of decarbonisation efforts, as identified in the BCG report, indicate that Indian businesses are reaping financial benefits as well. Companies involved in decarbonisation report up to **7% of their annual revenues** coming from improved efficiency, reduced waste, and the adoption of renewable energy. This translates into an **average net benefit of $200 million per year** for some businesses, showing that climate action is not only an ethical responsibility but also a financial opportunity.

Leveraging AI for Emission Reductions

A key finding of the BCG-CO2 AI survey is the role of artificial intelligence (AI) in emission reduction. Companies that utilise AI are **4.5 times more likely to succeed** in achieving their sustainability goals. AI helps automate processes, streamline operations, and identify new opportunities for reducing emissions, enabling businesses to focus on strategic, high-impact climate initiatives.

Suggestions for Further Action

1. **Expand AI and Technology Integration**: More companies should adopt AI and other advanced technologies to enhance the efficiency and impact of their emission reduction efforts.
2. **Strengthen National Policies**: The Indian government can provide more incentives for businesses to report and reduce emissions, ensuring that the country's NDCs are met.
3. **Collaborate Globally**: India should continue to work with other countries, sharing its success stories and learning from others to accelerate global progress.
4. **Increase Awareness**: Educating businesses and the public about the financial and environmental benefits of decarbonisation can drive more widespread action.

Conclusion

India's achievements in emission reduction, highlighted by the BCG-CO2 AI survey, show that the country is moving in the right direction. By leveraging AI, adopting renewable energy, and setting ambitious emission targets, India is not only fulfilling its national commitments under the Paris Agreement but also reaping significant economic rewards. As the global window for action narrows, India's continued leadership in this space is essential for global climate progress.

With sustained effort, technology integration, and global collaboration, India can continue to be a trailblazer in the fight against climate change, setting an example for the rest of the world to follow.

Main Practice questions

Discuss India's achievements in decarbonisation in light of the BCG-CO2 AI survey, and explain how AI has played a pivotal role in India's emission reduction efforts. Also, suggest measures to further enhance these efforts.

Answer Guidelines:

- **Introduction**:
  - ➤ Briefly introduce the context of global climate change efforts, referencing the Paris Agreement and India's role in addressing emissions.
  - ➤ Mention the BCG-CO2 AI survey and its relevance to India's decarbonisation achievements.
- **India's Achievements in Emission Reductions**:
  - ➤ Highlight India's leadership in reporting, setting targets, and reducing emissions as compared to the global average:
    - ▪ 12% of Indian companies report emissions (global average: 9%).
    - ▪ 24% of Indian companies set emission targets (global average: 16%).
    - ▪ 15% of Indian companies are actively reducing emissions (global average: 11%).
- **Role of AI in Emission Reduction**:
  - ➤ Explain the survey's finding that companies using AI are 4.5 times more successful in reducing emissions.

➢ Emphasize how AI helps automate routine tasks, streamline operations, and allow companies to focus on strategic climate initiatives.

- **Suggestions for Enhancing Decarbonisation Efforts**:
  - ➢ **Expand AI usage**: Encourage more companies to adopt AI for emissions management.
  - ➢ **Strengthen policy support**: Recommend that the government introduce stronger incentives for decarbonisation.
  - ➢ **Public awareness and collaboration**: Advocate for increased awareness among businesses and global collaboration for shared climate solutions.

- **Conclusion**:
  - ➢ Summarize India's progress and potential to lead global decarbonisation efforts.