69TH AMEU CONVENTION

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CSIR International Convention Centre

Confronting South Africa's Electricity Crisis in the context of a 'Balanced Just Energy Transition' (BJET) and the need for a reliable and resilient national electricity grid

Benefits and Limitations of Integrating Green Hydrogen into the South African Grid System

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Overview

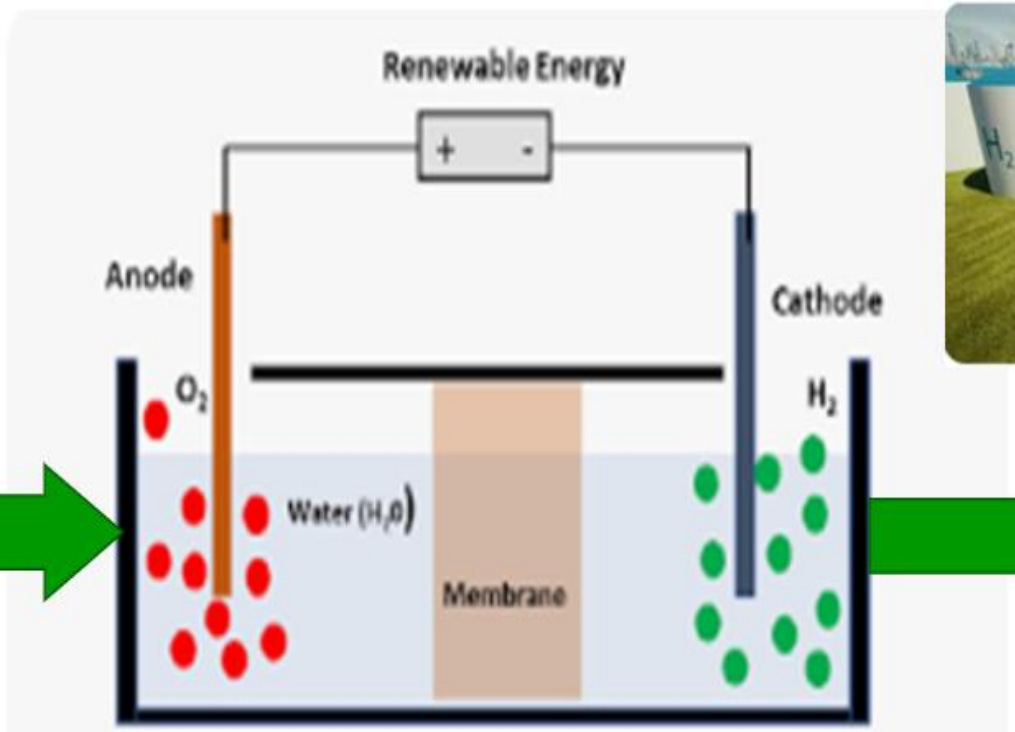
- Introduction
- Green Hydrogen Production and Technology
- Integrating Green Hydrogen in the South African Energy Ecosystem: Benefits & Challenges
- Conclusion

Introduction

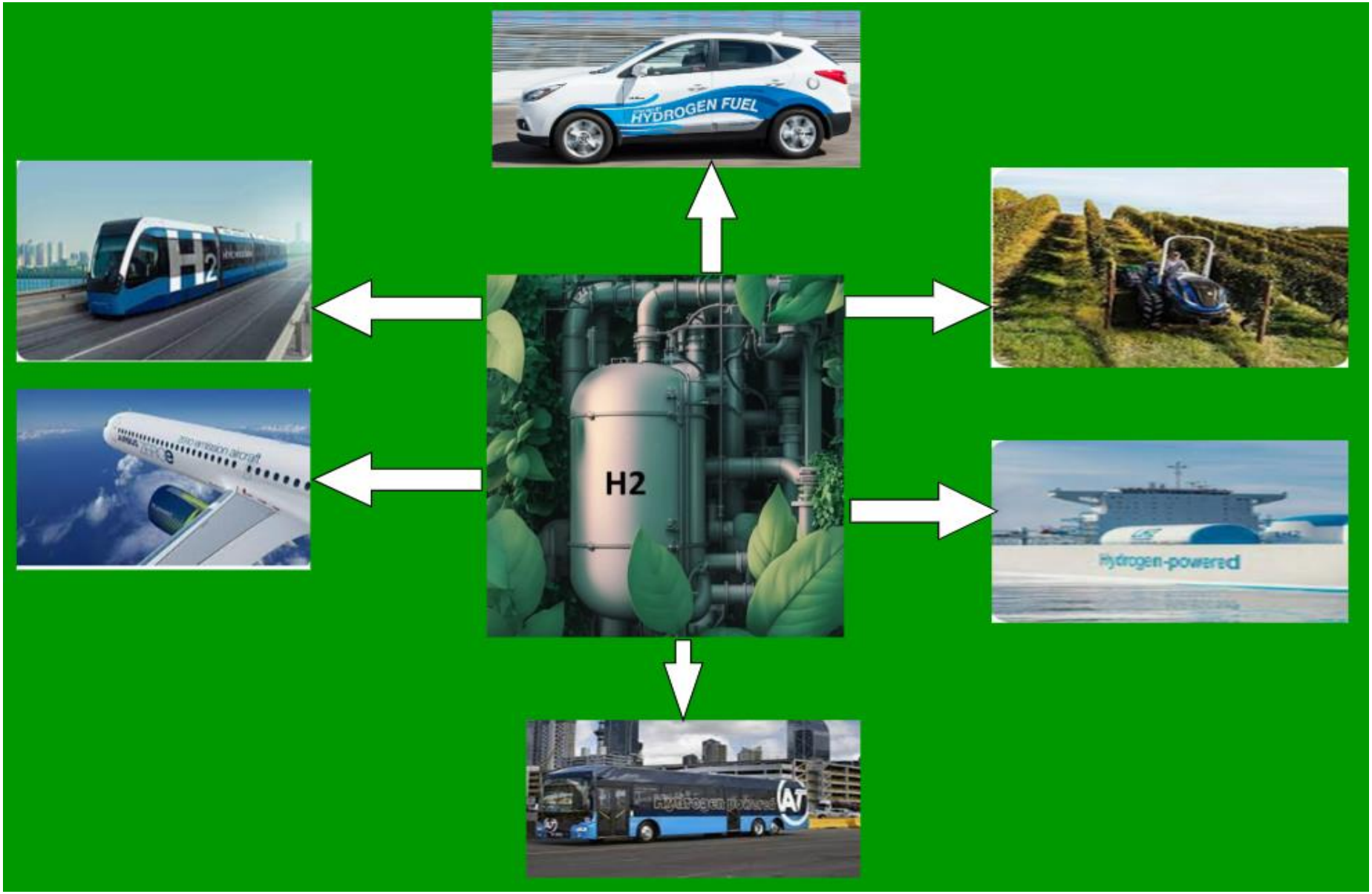
- Sustainable and environmentally responsible energy sources
- Green hydrogen
- Decarbonize various sectors of the economy
- Climate change
- Integration of green hydrogen
- Energy security and environmental concerns
- Green hydrogen-Grid: Potentials and Limitations

Green Hydrogen Production and Technology

- Electrolysis . Water Supply and Purification
- Electrolyser Operation . Hydrogen Purification
- Storage and Transportation

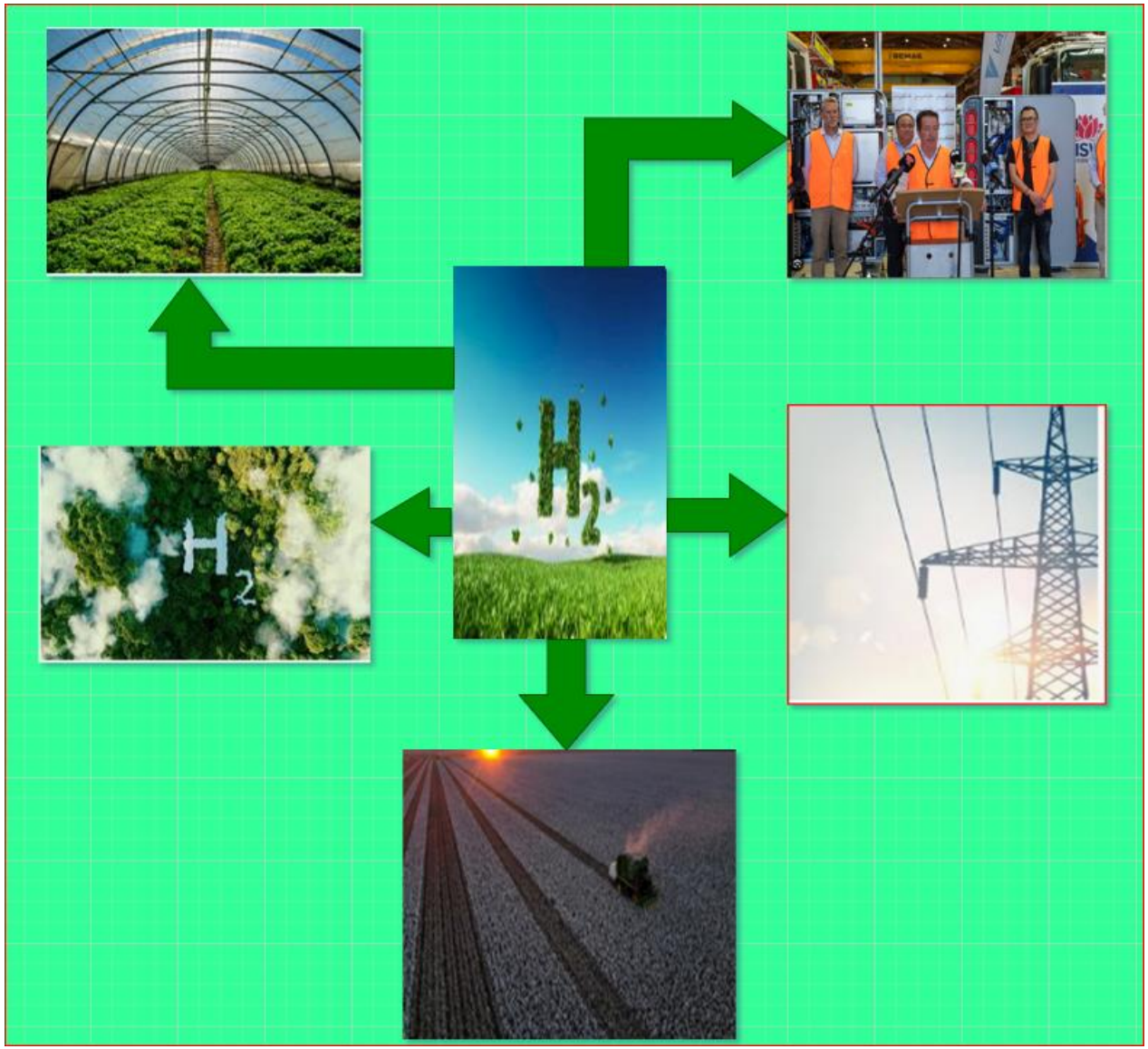


Benefits of Integrating Green Hydrogen in the South African Energy Ecosystem



Benefits of Integrating Green Hydrogen in the South African Energy Ecosystem

- Human Capital Development
- Industrial Transition for Economic Growth
- Emission Mitigation and Air Quality Enhancement



Challenges of integrating green hydrogen in the South African Energy Ecosystem

- Electrolyser Scaling for Enhanced Hydrogen Production: Increasing the capacity and scalability of electrolysis systems.
- Robust Hydrogen Infrastructure Development: The creation of a resilient and reliable infrastructure hydrogen production, storage, and distribution
- Complex Grid Management : Grid control measures to stabilize the utility grid
- Private Sector Investment in Green Hydrogen: Greater involvement and financial support from private investors highly needed
- Lack of clear-cut Government policy/framework

Conclusion

Advantages

- Environmental benefits
- Energy Storage
- Energy Independence
- Job Creation
- Export Opportunities

Challenges

- Costs
- Infrastructure Development
- Regulatory Framework
- Technological Advancements

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Thank you!

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