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EXPRESSION OF INTEREST (EOI)

ONGC Energy Centre (OEC), New Delhi is looking for competent and capable Indigenous Industries with requisite technical expertise and financial strength for commercialization of the technology/product/design developed in collaboration with leading R&D institutes related to alternate/renewable energy generation for which the joint patents have been filed along with collaborator.

Interested and potential Indian industries need to submit their feedback within 15 days of publishing this EOI in any of the following modes.

- a. In a sealed envelope to the following office:

ONGC Energy Centre Trust, 8th Floor, Core - 3&4, SCOPE Minar, Laxmi Nagar, New Delhi - 110 092.

- b. By mail at ongcenergycentre@ongc.co.in

Details of EOI are as under:

EOI No.: OEC/IPR Commercialization/EOI 2022-23

Category wise brief description of invention as listed

Category A: Green Hydrogen production process and support materials

1. ICT-OECT Process of hydrogen (H_2) production by multi-step Cu-Cl thermochemical cycle through water splitting operating in the range 530-550°C.
2. Electrochemical cell used in Cu-Cl thermochemical cycle for the production of H_2 . Recovers Copper and may be used for recovery of other metals from their solutions in the metal processing industries. Developed by ICT Mumbai & OECT.
3. Process parameters used in electrolysis for copper production in Cu-Cl thermochemical cycle during hydrogen production process. Developed by ICT Mumbai & OECT.
4. Process for catalytic decomposition of SO_3 in I-S cycle for H_2 production, operates at 900-1000°C. Developed by IIT Delhi & OECT.
5. Composition and process of preparing catalyst used in SO_3 decomposition in I-S cycle for H_2 production. Developed by IIT Delhi & OECT.
6. Bimetallic catalyst for producing H_2 by catalytic decomposition of hydrogen-iodide in closed loop I-S cycle operated at about 450-550°C. Developed by IIT Delhi and OECT.
7. Catalyst for producing H_2 by catalytic decomposition of hydrogen-iodide in open loop I-S cycle operated at about 450-550°C. Developed by IIT Delhi and OECT.
8. Molten salt composition stable at about 650°C, with a wide range of applications like high-temperature process heating, heat treating and annealing of steel, and thermal storage in solar

thermal power plants. Developed by ICT Mumbai and OECT.

9. SnowPure equivalent anion exchange membrane has applications in electrodialysis for water desalination, separation of inorganics from organic molecules, separation of specific inorganic ion, alkaline fuel cell and other electrochemical applications (validated in Cu-Cl cycle for H₂ generation). Developed by CSMCRI Bhavnagar and OECT.

Category B: Biological process for alternate energy generation

1. Process of bio-stimulation for promoting the production of methane gas from underground coal bed methane (CBM) wells. Developed by TERI and OECT.
2. Bioprocess for harnessing energy from unrecovered oil left in the reservoir. Developed by OECT.
3. Bioprocess for enhanced bioconversion of low-grade Lignite into biomethane by fungus treatment. Developed by IIT Kharagpur and OECT.
4. Bioprocess for enhanced bioconversion of low-grade Lignite into biomethane by anaerobic bacterial consortia treatment. Developed by IIT Kharagpur and OECT.
5. Bioprocess for depolymerization of low-grade Lignite to Humic acid (fertilizer). Developed by IIT Kharagpur and OECT

Category C: Helium recovery process

1. Cryogenic process for the recovery of crude Helium from natural gas reserves in India. Developed by IIP Dehradun & OECT

Category D: Superhydrophobic Coatings for solar and other applications

1. Method for preparing efficient, reliable anti-reflective and scalable self-cleaning durable coatings for solar panel cover glass applications. Developed by PSGIAS & OECT.
2. A self-cleaning coating solution and confocal dual-spray coating process, to create scalable and durable self-cleaning coating on glass or other substrates (wood, textile, aluminium, steel, polymer films etc. Developed by PSGIAS & OECT.

Category E: Kinetic Hydro energy generation

1. Optimized design of a Trapezoidal Float with fin of Point Absorber Wave Energy Convertor, obtained from numerical simulation sufficient for power production of up to 2MW. Developed by IIT Roorkee & OECT.

Category F: CO₂ to methanol and hydrocarbons technology.

1. Novel catalyst-support system applicable for CO₂ methanation (Product: Synthetic Natural Gas) process having high activity, selectivity, high thermal stability (250-350°C) for longer time (more than 1000 hrs), without coke formation, resistant to metal sintering. Developed by ICT Mumbai & OECT.

The EOI process will move forward from those showing interest as above.