

# Realization of a low carbon society through game changing technologies

Development of mixed matrix porous membrane endowed with high performance in CO<sub>2</sub> selectivity and anti-aging

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## Summary :

- CCS is hindered by the cost of gas separation that can be about \$40 yen per tonne of CO<sub>2</sub> removed.
- Current carbon taxes or cap-and-trade are of the order of \$10-15 per tonne of CO<sub>2</sub>. Currently the cost of CO<sub>2</sub> capture is more than 4 times this. It is important to reduce CCS costs to less than carbon taxes in order to incentivise energy companies and polluters to adapt CCS technologies.
- Membrane technology offers a possible solution, if only the membranes can be developed and demonstrated. This proposal uses latest polymer and MOF membrane composites, to generate high performance membranes.
- This performance will be improved with further innovative chemistry and will demonstrated within a 5MW power facility, to offer significant cost savings in future CCS technology.

