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Technology Roadmap

Carbon Capture and Storage in Industrial Applications



International
Energy Agency



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Technology Roadmap

Carbon Capture and Storage in Industrial Applications

Carbon capture and storage (CCS) can provide a cost-effective CO₂ abatement option for industry; in some sectors, it is the only means of achieving necessary deep emission reductions.

This roadmap undertakes a much-needed assessment of the potential for CCS in five industries that offer the most promise for early and/or large-scale application: high-purity CO₂ sources, iron and steel, cement, refineries and biomass conversion. Discussion on matching sources and reservoirs and on CCS for enhanced oil recovery is included, since these two areas represent stepping stones in the development of a business model for industrial CCS.

The roadmap then sets out a vision of CCS in industrial applications up to 2050, including milestones that need to be achieved for technology, financing, policy and international collaboration. Recognising the interplay of policy and stakeholder action, the roadmap evaluates the benefits of CCS so policy makers can take informed decisions and includes a special focus on business opportunities for industrial CCS.

While the developed world must pave the way for CCS deployment efforts in the next decade, the technology must also spread rapidly in the developing world. The growth needed will require expanded international collaboration, supporting policies and financing for CCS demonstration in developing countries.

Development of this roadmap was made possible through the financial support of the Norwegian Ministry of Petroleum and Energy and the Global CCS Institute.

For more information, please visit our websites: www.iea.org/roadmaps and www.unido.org/ccs

International Energy Agency

9, rue de la Fédération
75739 Paris Cedex 15, France
Tel +33 1 40 57 66 90

The Paris-based International Energy Agency is an intergovernmental body committed to advancing security of energy supply, economic growth and environmental sustainability through energy policy and technology co-operation. It was founded after the oil supply disruptions in 1973-1974 and consists of 28 industrialised countries, all members of the Organisation for Economic Co-operation and Development.

United Nations Industrial Development Organization

Vienna International Centre
P.O. Box 300, 1400 Vienna, Austria
Tel + 43 1 26026 0, Fax + 43 1 26926 69

The United Nations Industrial Development Organization (UNIDO) is a specialised agency of the United Nations. Its mandate is to promote and accelerate sustainable industrial development in developing countries and economies in transition, and work towards improving living conditions in the world's poorest countries.