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Mapping geological storage prospectivity of CO_2 for the world's sedimentary basins and regional source to sink matching

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Identification of major hydrocarbon provinces from existing world assessments for hydrocarbon potential can be used to identify those sedimentary basins at a global level that will be highly prospective for CO_2 storage. Most sedimentary basins which are minor petroleum provinces and many non-petroliferous sedimentary basins will also be prospective for CO_2 storage. Accurate storage potential estimates will require that each basin be assessed individually, but many of the prospective basins will have ranges from high to low prospectivity.

The degree to which geological storage of CO_2 will be implemented in the future will depend on the geographical and technical relationships between emission sites and storage locations, and the economic drivers that affect the implementation for each source to sink match. CO_2 storage potential is a naturally occurring resource, and like any other natural resource there will be a need to provide regional access to the better sites if the full potential of the technology is to be realized. Whilst some regions of the world have a paucity of opportunities in their immediate geographic confines, others are well endowed. Some areas whilst having good storage potential in their local region may be challenged by the enormous volume of CO_2 emissions that are locally generated. Hubs which centralize the collection and transport of CO_2 in a region could encourage the building of longer and larger pipelines to larger and technically more viable storage sites and so reduce costs due to economies of scale.