Under the IEA, policies should proactively capture systems at pilot scale in industrial facilities. Governments and industry must ensure that around 964 GW of power generation capacity equipped with capture worldwide is equipped with CCS. Significantly increase efforts to improve operational and technical performance. Encourage R&D into innovative and novel processes that will reduce the cost of production equipped with CCS.

All new coal-fired power plants, one out of two gas-fired power plants, and one out of five biomass-fired power plants equipped with CCS.

2025
Transportation infrastructure capable of moving over 7 GtCO₂.

Develop national laws and regulations as necessary to ensure that CCS projects are commercial under technology-neutral climate change policies worldwide in all sectors in accordance with pre-defined policy gateways. CCS contributes 14% of cumulative emission reductions through 2030 compared to 6DS.

2030
Introduce financial support mechanisms for the next seven years to drive cost-effective CCS deployment.

Actions and milestones

**Policy**

- Promote the development of national and sub-national governance frameworks for CCS.
- Develop capacity in all applicable processes in power generation and industrial sectors.
- Establish business and technology models that encourage the direct capture of CO₂ from power plants.
- Implement governance frameworks that ensure safe and effective storage, encourage participation in the decision-making process, and help to underpin confidence in CCS.
- Streamline regulatory frameworks and enable the development of storage projects.
- Implement governance frameworks that ensure safe and effective storage, encourage participation in the decision-making process, and help to underpin confidence in CCS.
- Develop national laws as well as provisions for multilateral finance that require new, appropriate support mechanisms to encourage deployment.
- Develop national laws and regulations that enable the operation of CO₂ storage assets.
- Develop national laws and regulations that enable the operation of CO₂ storage assets.

**Storage**

- CCS contributes 14% of cumulative emissions reductions through 2030 compared to 6DS.
- All new coal-fired power plants, one out of two gas-fired power plants, and one out of five biomass-fired power plants equipped with CCS.
- One out of six new coal-fired power plants equipped with CCS.
- One out of 18 new coal-fired power plants equipped with CCS.
- CCS contributions are very low in 2013.
- CCS contributions are very low in 2015.
- CCS contributions are very low in 2020 to lay the foundation for large scale CCS deployments.
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**Transportation**

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In some regions, such as the OECD Pacific, and in some non-OECD member countries (reservoir characteristics and behaviour may influence the design and operation of the whole CCS chain; Gas processing
The experience from Weyburn in the past 12 years demonstrates that enhanced oil recovery and CO₂ capture and storage are key for sustainable development.
Other regions of the world where a substantial amount of gas-fired capacity is capture-equipped include the Middle East, Under 2DS, not all sectors deploy CCS at the same speed. Applications such as gas processing and ammonia make up much of the CO₂ capture globally between 2020 and 2050 in the 2DS:
Regions of the world vary significantly in the way CCS is deployed in power generation.

**KEY POINT:** The industrial sectors in which CCS is deployed in the 2DS scenario vary between regions.

<table>
<thead>
<tr>
<th>Carbon Capture and Storage</th>
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<tbody>
<tr>
<td><strong>CO₂ capture and stored through CCS in industrial sectors analysed in the 2DS</strong></td>
<td><strong>Refining</strong></td>
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<tr>
<td><strong>Coal, gas, and biomass-fired power generation capacity equipped with CO₂ capture globally between 2020 and 2050 in the 2DS</strong></td>
<td><strong>Coal+CCS</strong></td>
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<td><strong>Oil</strong></td>
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<td><strong>Chemicals and petrochemicals</strong></td>
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<td><strong>Other</strong></td>
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**KEY POINT: The industrial sectors in which CCS is deployed in the 2DS scenario vary between regions.**

**Coal, gas, and biomass-fired power generation capacity equipped with CO₂ capture globally between 2020 and 2050 in the 2DS:**

- In the 2DS, by 2050 all new coal-fired power plants, one out of two gas-fired power plants, and one out of five biomass-fired power plants are equipped with CCS.
- Regions of the world vary significantly in the way CCS is deployed in power generation by 2050 in the 2DS:
   - In China, over 90% of capture-equipped capacity is coal-fired;
   - In the United States, only about half of capture-equipped capacity is coal-fired, the remainder being mainly gas-fired capacity;
   - In the Middle East, over 90% of capture-equipped capacity is gas-fired.
   - In the OECD European countries, only about one third of CCS capture is in gas-fired power plants.
   - In India, more than 90% of capture-equipped capacity is coal-fired.

**Refining:**

- In the 2DS, the capacity of CO₂ capture in refining is a substantial share of the total CO₂ capture.
- Developing CO₂ capture capacity in refining is important for CCS deployment.

**Other sectors:**

- CCS are more important than applications in power generation.
- There is a significant potential to increase biogas capacities. The capital and operating costs are much lower than those for power generation.

**Carbon Capture and Storage 2015 Edition**

**Development of CO₂ storage is paramount to CCS deployment.**

Carbon Capture and Storage

2015 Edition

**KEY POINT:** Between 2015 and 2050, CO₂ capture globally under 2DS of 2015 is 7 Gt CO₂ per year will need to be transported to suitable sites and stored. It is a simplified, stylised graphic by reference to the 2015 edition of IEA's flagship publication, Global Energy Perspectives.

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