



talk about upgrading and refining

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Production

- In 2010, Alberta produced about 1.6 million barrels per day (bbl/d) of crude bitumen from three oil sands regions – Athabasca, Cold Lake and Peace River, with surface mining accounting for 53% and in-situ for 47% of the production.

Upgrading

- There are currently five operating upgraders in Alberta with the capacity to handle approximately 1.3 million bbl/d of bitumen.

Project Name	Location	Capacity (bbl/d) Bitumen
Athabasca Oil Sands Project (AOSP) - Shell Scotford	Fort Saskatchewan	245,000
Suncor Base and Millennium	Fort McMurray	440,000
Syncrude Mildred Lake	Fort McMurray	407,000
Nexen Long Lake	Fort McMurray	72,000
Canadian Natural Resources Ltd (CNRL) Horizon	Fort McMurray	135,000
Total		1,299,000

- In 2010, about 58% of oil sands production was sent for upgrading to synthetic crude oil within Alberta.
- Most upgraders produce synthetic crude oil, but some also produce products such as diesel.
- Upgraders (and refineries) also produce off-gases, gaseous mixtures rich in alkanes and alkenes, which are potential feedstocks for Alberta's petrochemical industry.

- Alberta has two new upgrader projects which are scheduled to start operations in 2014 and 2017 and five proposed projects which are currently on hold. If all the projects were to proceed, it would bring additional upgrading capacity of over 0.5 million bbl/d of products.

Project Name	Scheduled Start-up	Capacity (bbl/d) Products
CNRL Horizon (Expansion)	On Hold	140,000
BA Energy Heartland	On Hold	46,300
North West Upgrading/CNRL Redwater	2014	77,000
Suncor/Total Voyageur	2017	127,000
Suncor Fort Hills	On Hold	145,000
Value Creation Terre de Grace and Tristar Pilots	On Hold	9,240
Total		544,540

Refining

- There are three operating refineries in Alberta with a combined crude processing capacity of over 430,000 bbl/d.

Company	Location	Capacity (bbl/d)
Suncor	Edmonton	135,000
*Imperial Oil	Edmonton	187,200
Shell Canada	Scotford	110,000
Total		432,200

*Refining feedstock is conventional oil. The other two refineries are configured to handle feedstock from oil sands.