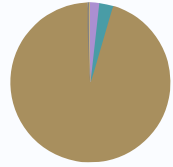


United States of America • Fossil fuels • Unconventional oil

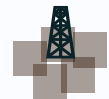
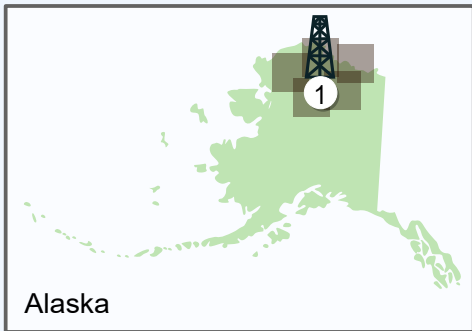
Unconventional reserves by fuels, Billion tonnes of oil equivalent (%):



Shale oil (tight light)	10.30 (1.7)
Shale gas	15.88 (2.7)
Oil sands and Heavy oil	0.00 (0.0)
Oil shale (kerogen)	553.26 (95.1)
Coalbed methane	0.30 (0.1)
Associated petroleum gas	2.54 (0.4)

Total: 582.28 (100)

Sources: Based on the U.S. EIA 2015/2017/2019 data (Shale oil/gas, CBM, APG) (Sep 2023); Used by permission of the WEC 2010 (Sep 2023); U.S. Geological Survey SIR 2005-5294 (Sep 2023).



Major heavy oil extraction fields, bpd:

- 1 BP & Hilcorp Milne Point (Ugnu), AK, 350
- 2 Aera Energy South Belridge (Tulare), CA, 80 000
- 3 Chevron Kern River, CA, 80 000
- 4 Aera Energy San Ardo, CA, 10 000
- 5 Aera Energy Coalinga, CA, 7000
- 6 Aera Energy Midway Sunset, CA, 7000
- 7 Baxterville, MS, 1300
- 8 Sunniland, FL, 1200
- 9 Hawkins, TX, 1000
- 10 Sho-Vel-Tum, OK, 1000
- 11 Bellevue, LA, 220



Largest shale oil (tight light) fields



Largest oil shale (kerogen) fields (Green River, Eastern Devonian, Phosphoria and Heath)



Key U.S. tight oil extraction basins:

- 1 Eagle Ford, TX
- 2 Bakken, ND
- 3 Spraberry, TX
- 4 Wolfcamp, TX / NM
- 5 Bonespring, TX / NM
- 6 Niobrara-Codell, CO / WY
- 7 Woodford, OK
- 8 Austin Chalk, TX / LA



Vertical oil shale retorting plants:

- 1 STIS Rifle, Colorado
- 2 Ambre Energy NA Utah



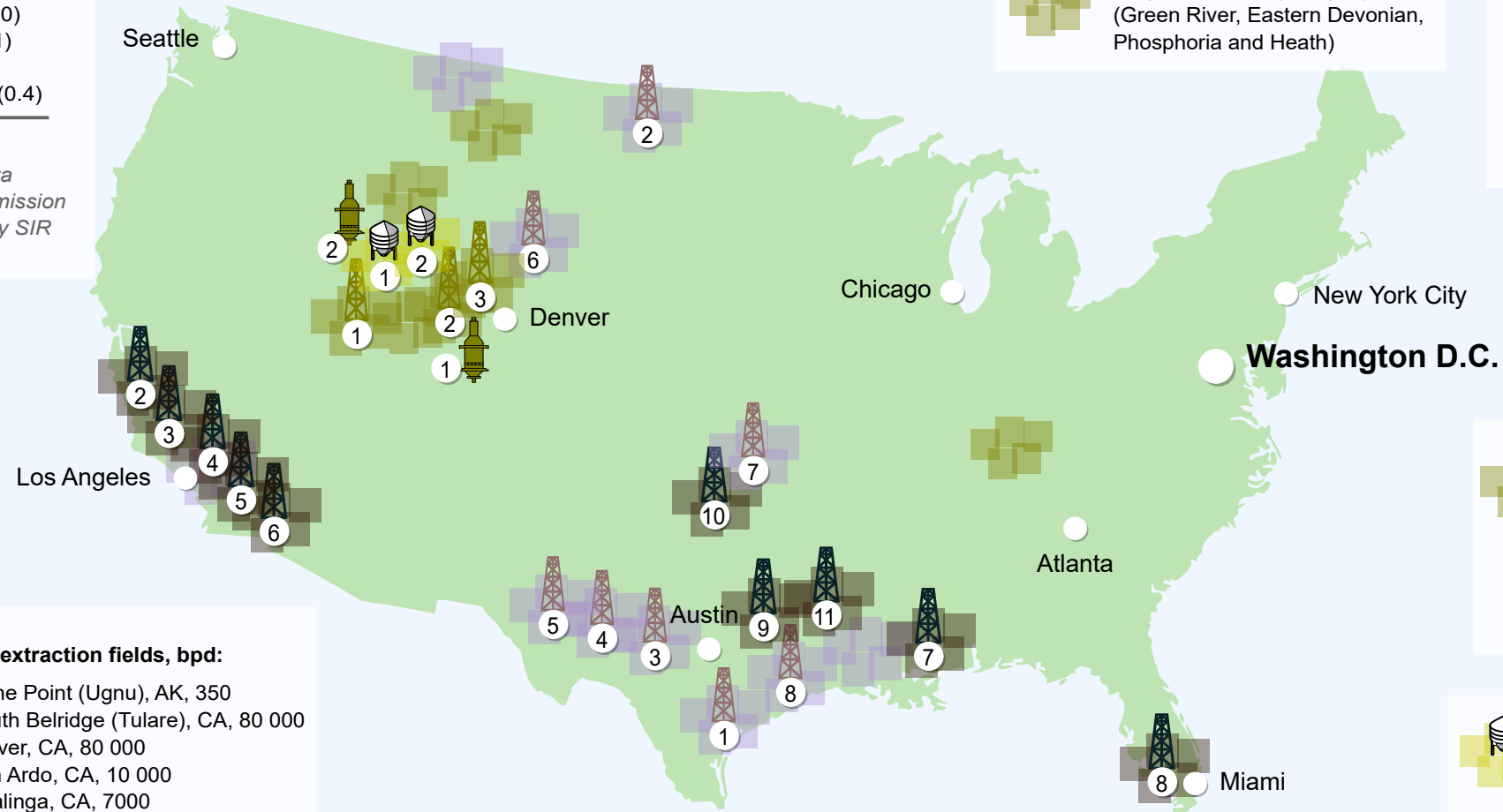
Major oil shale (kerogen) in-situ extraction projects:

- 1 Red Leaf Resources Seep Ridge, Utah
- 2 ExxonMobil Rio Blanco, Colorado
- 3 IEP Rio Blanco, Colorado



Surface oil sands extraction projects:

- 1 US Oil Sands PS Spring, Utah
- 2 Petroteq Asphalt Ridge, Utah



According to U.S. EIA and U.S. Geological Survey data, the United States has about 78.2 billion barrels of unproved technically recoverable tight oil. The potential shale basins are spread across the country. At present, major tight oil active production is located in the Eagle Ford, Bakken and Niobrara basins.

Source: Based on the U.S. Energy Information Administration data (Dec 2021).

