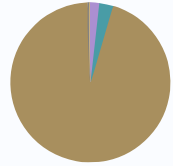


United States of America • Fossil fuels • Unconventional gas

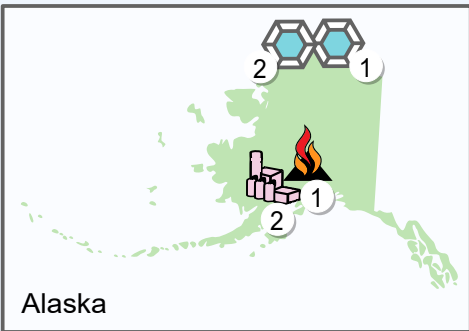
Unconventional reserves by fuels, Billion tonnes of oil equivalent (%):



- 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).



Natural gas hydrates occurrences:

- 1 Mount Elbert, AK
- 2 Igñik Sikumi (Alaska North Slope), AK
- 3 ODP Leg 204: Oregon Hydrate Ridge
- 4 Santa Monica Basin, CA
- 5 JIP Leg I-II Offshore: Gulf of Mexico
- 6 ODP Leg 164: Blake Ridge



Underground coal gasification projects:

- 1 CIRI Stone Horn Ridge, AK



Gas-to-liquids plant (GTL), bpd:

- 1 ConocoPhillips Ponca City, OK, 300
- 2 BP Nikiski, AK, 300
- 3 Syntroleum Catoosa, OK, 70



Key U.S. coalbed methane extraction basins:

- 1 Powder River Basin, WY
- 2 Uinta Basin, UT
- 3 San Juan Basin, CO / NM
- 4 Raton Basin, CO / NM
- 5 Black Warrior Basin, AL
- 6 Appalachian Basin, AL/PA/WV



Key U.S. shale gas extraction basins:

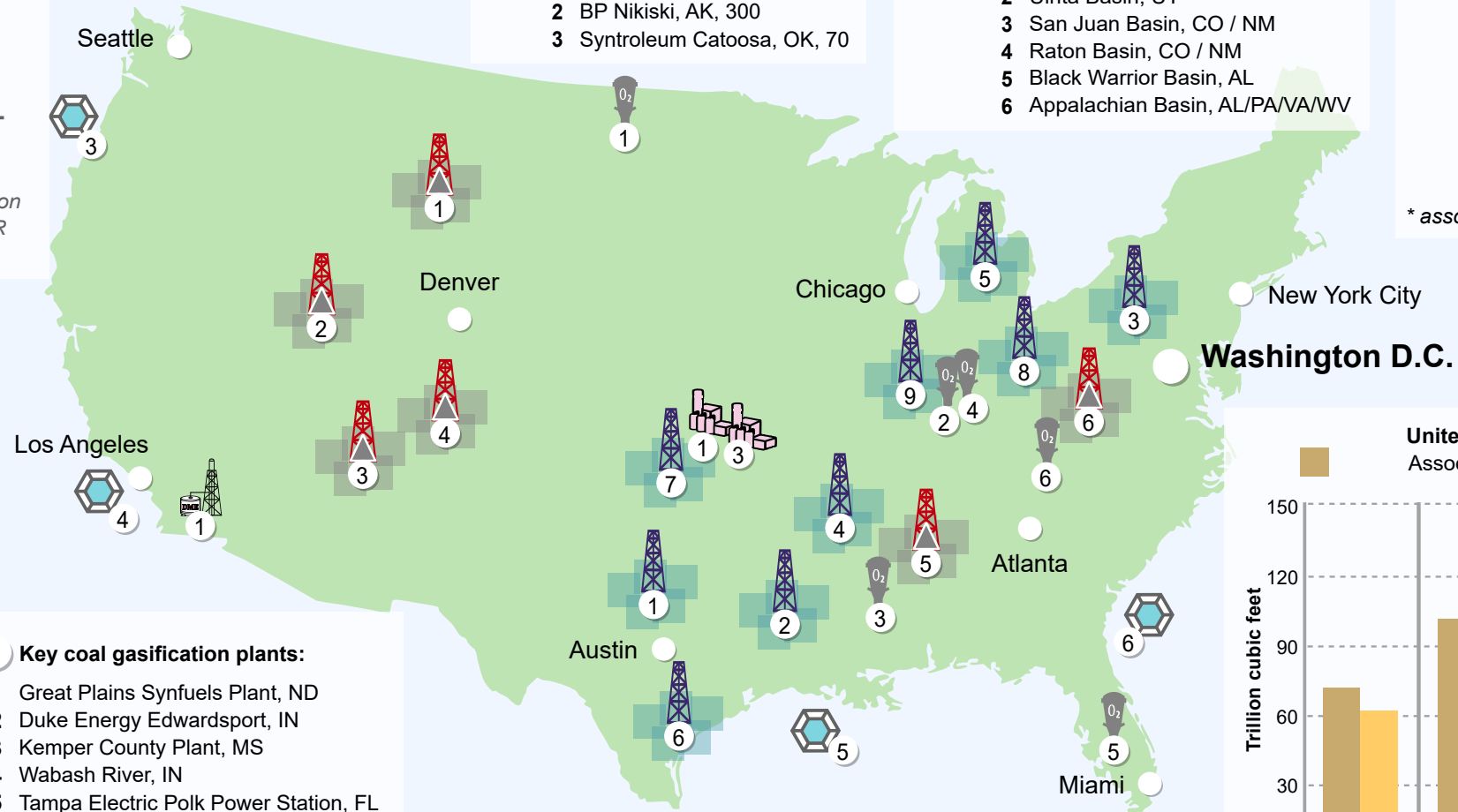
- 1 Barnett, TX
- 2 Haynesville-Bossier, LA / TX
- 3 Marcellus, PA
- 4 Fayetteville, AR
- 5 Antrim, MI
- 6 Eagle Ford, TX*
- 7 Woodford, OK
- 8 Utica, OH
- 9 New Albany, IL

* associated gas

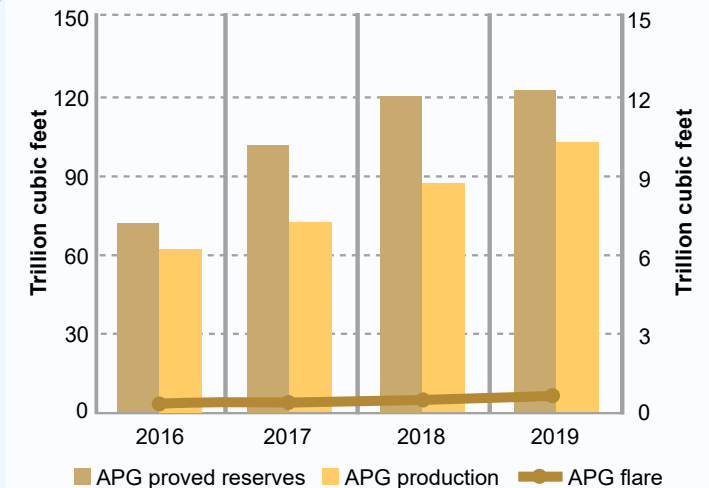


Dimethyl Ether (DME) plants:

- 1 Oberon Fuels Brawley, CA



United States of America Associated Petroleum Gas



Sources: Based on the U.S. Energy Information Administration 2019 data (Dec 2021); NOAA/GGFR.

According to U.S. EIA and U.S. Geological Survey data, the United States has about 622.5 trillion cubic feet of unproved technically recoverable shale gas. The potential shale basins are spread across the country. At present, major shale gas production activity is occurring in the 8 largest shale basins.

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

