Introduction to Natural Gas

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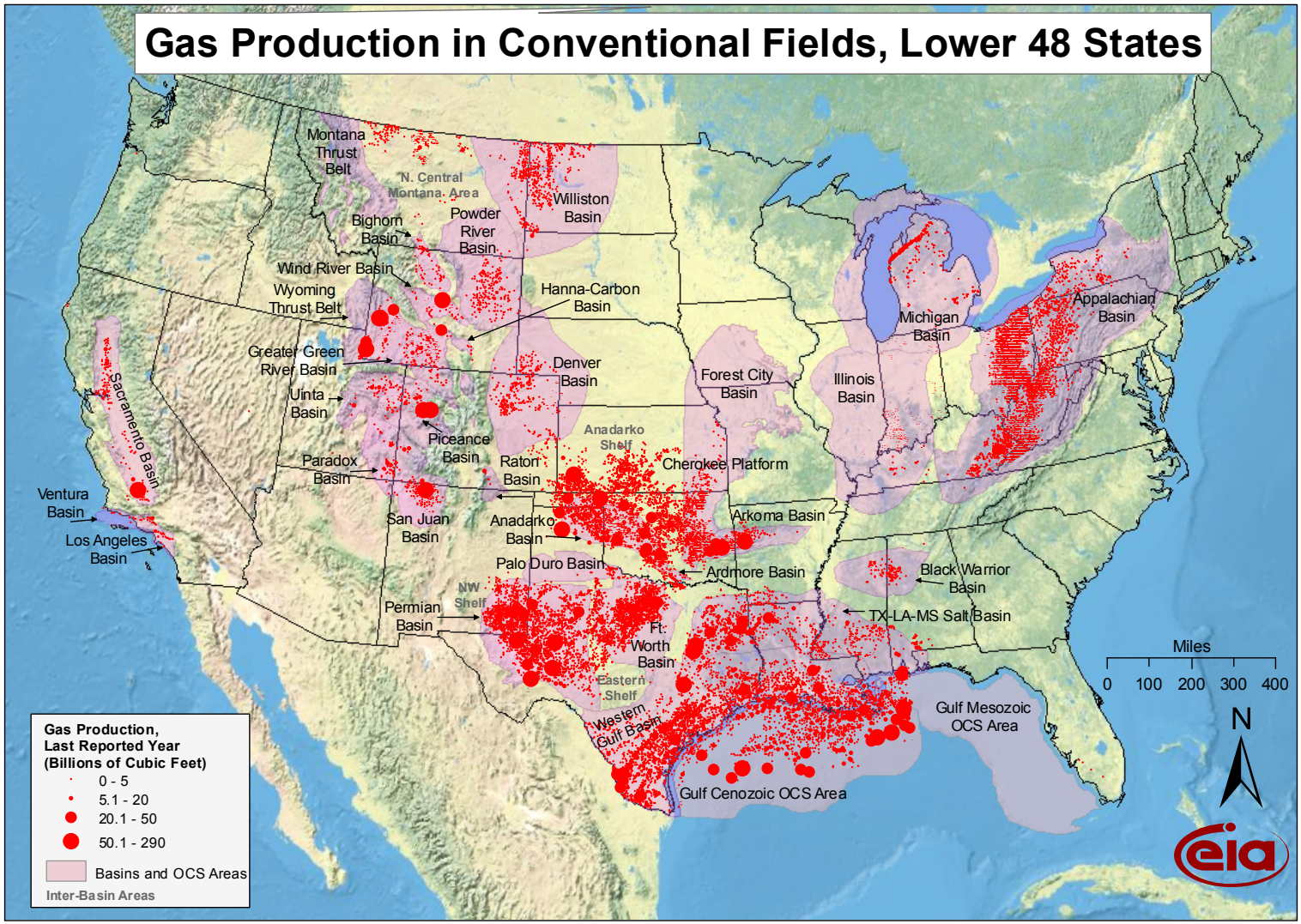
Where is it produced? Just conventional



Source: Energy Information Administration based on data from HPDI, IN Geological Survey, USGS
Updated: April 8, 2009

Figure 1:

More in the shale areas.

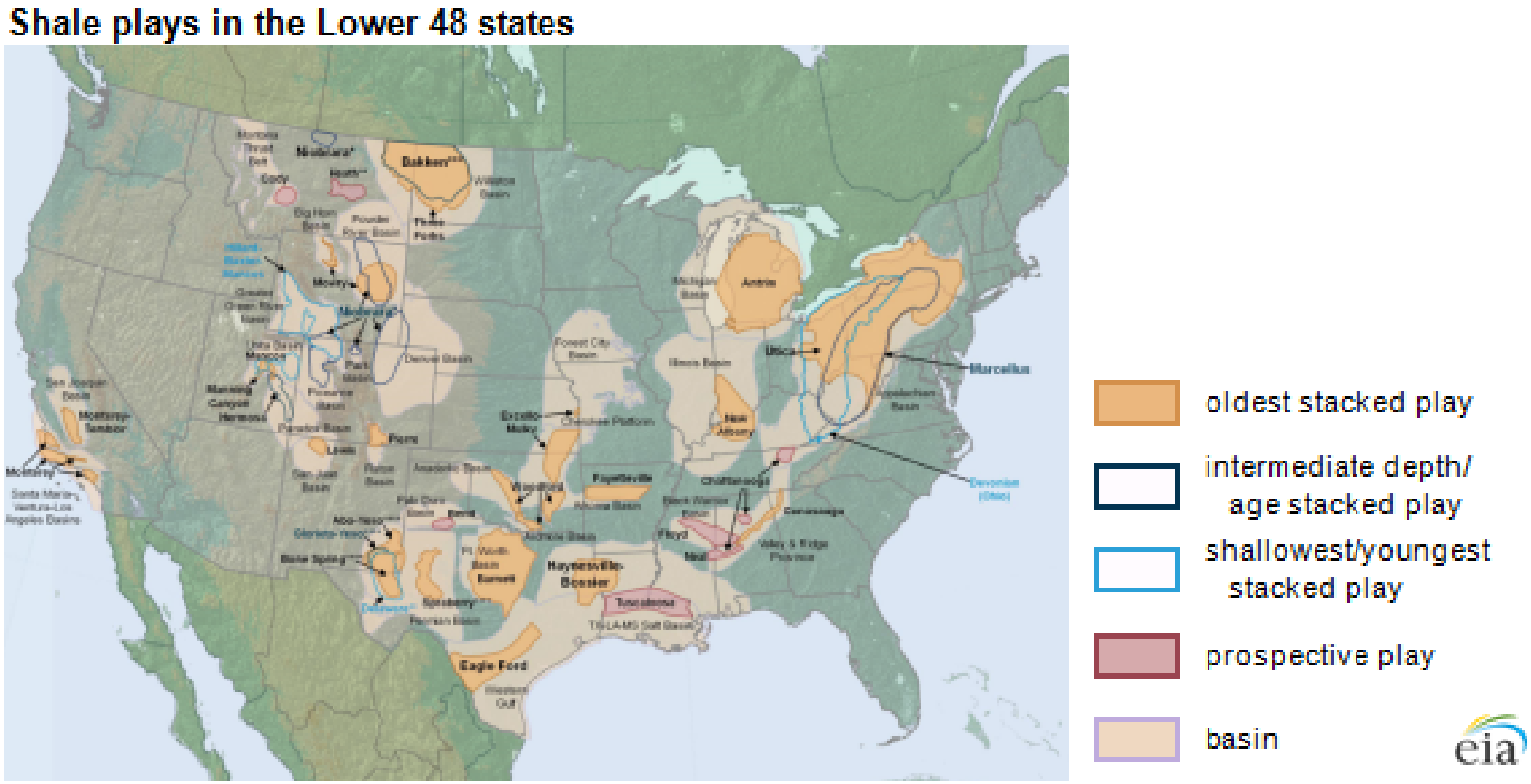


Figure 2:

Fracking Well. Will see with oil well with associated gas

Figure 3:

How do you move it within the US? Pipelines (Interstate only).

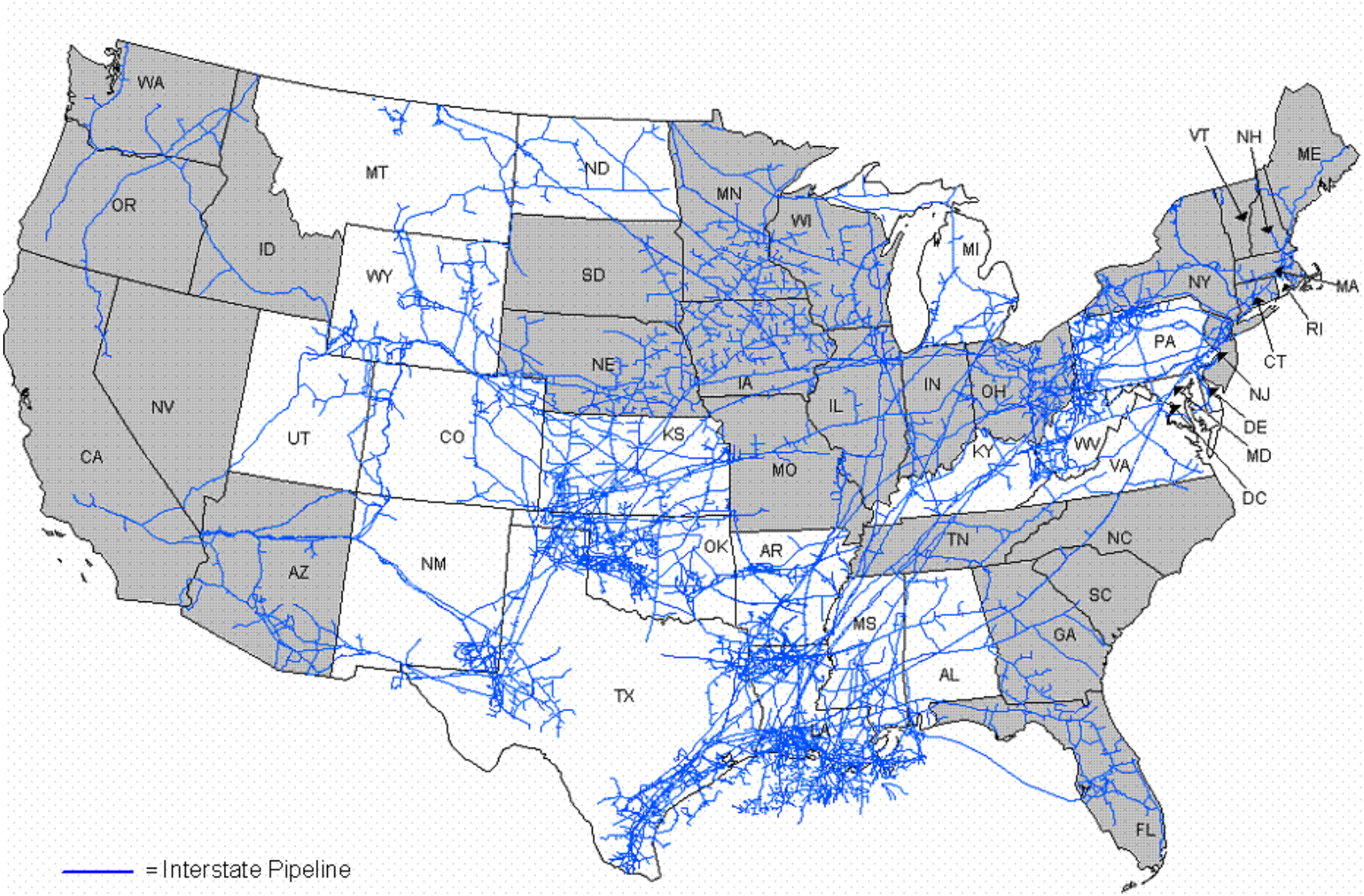


Figure 4:

What about those pipelines?

- There are more intrastate pipelines than shown, plenty in TX and CA but also other states
- Read more here `https://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/transcorr.html`
  - Picture pipes ranging from a foot to three+ feet for trunk lines.
  - Compressor stations every 50-100 miles, ~1,500 total
  - 200 psi to 1,500 depending
- They are privatly owned `https://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/MajorInterstatesTable.html`
  - Open access, posted prices, is a thing.
  - For intrastate, withing, state PUC regulate
  - For interstate, FERC regulates (You can find current Tarrifs at `http://etariff.ferc.gov/TariffList.aspx`)

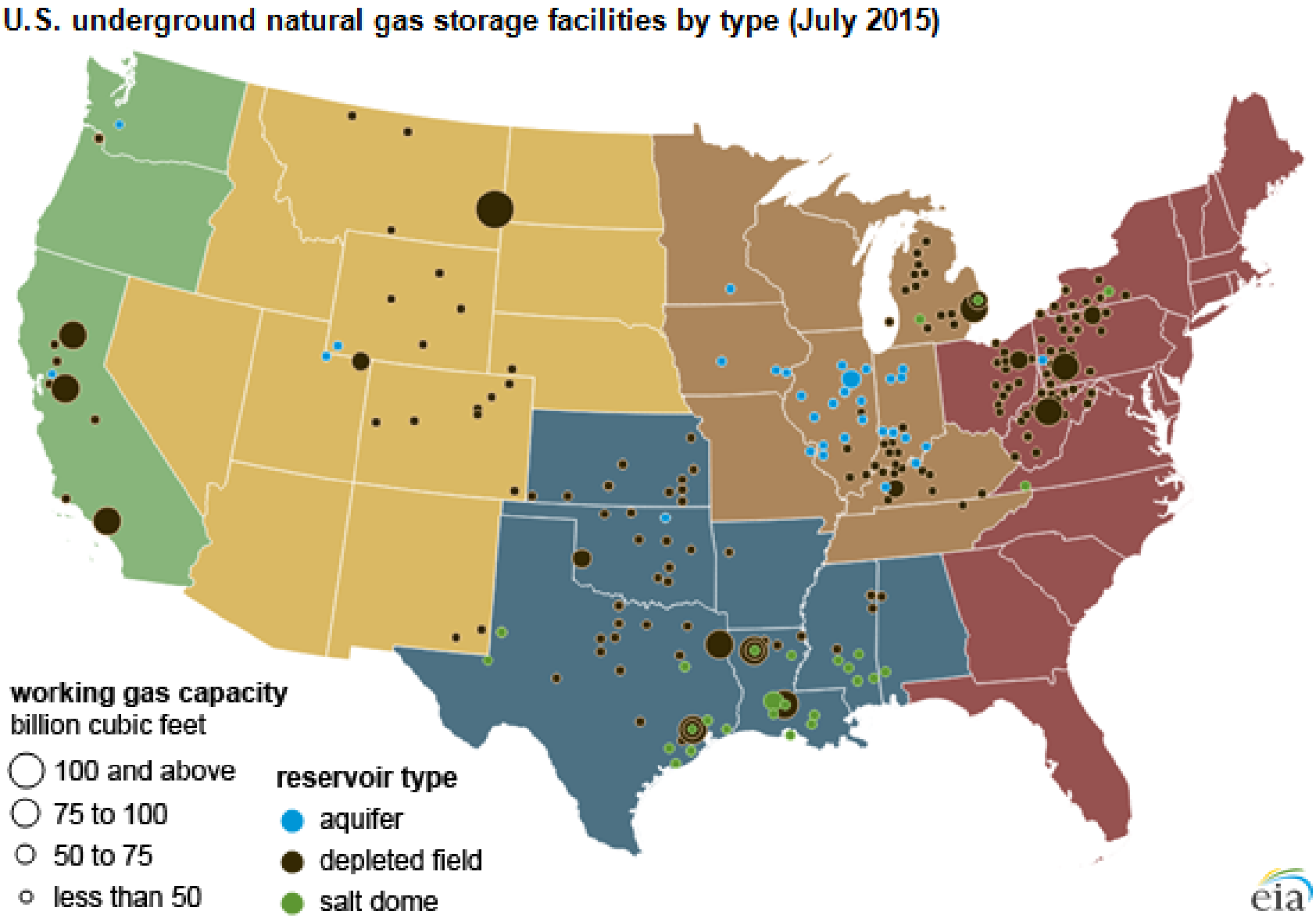
Compressors

Figure 5:

Compressor Station

Figure 6:

Storage is important



Most Storage is just old gas wells

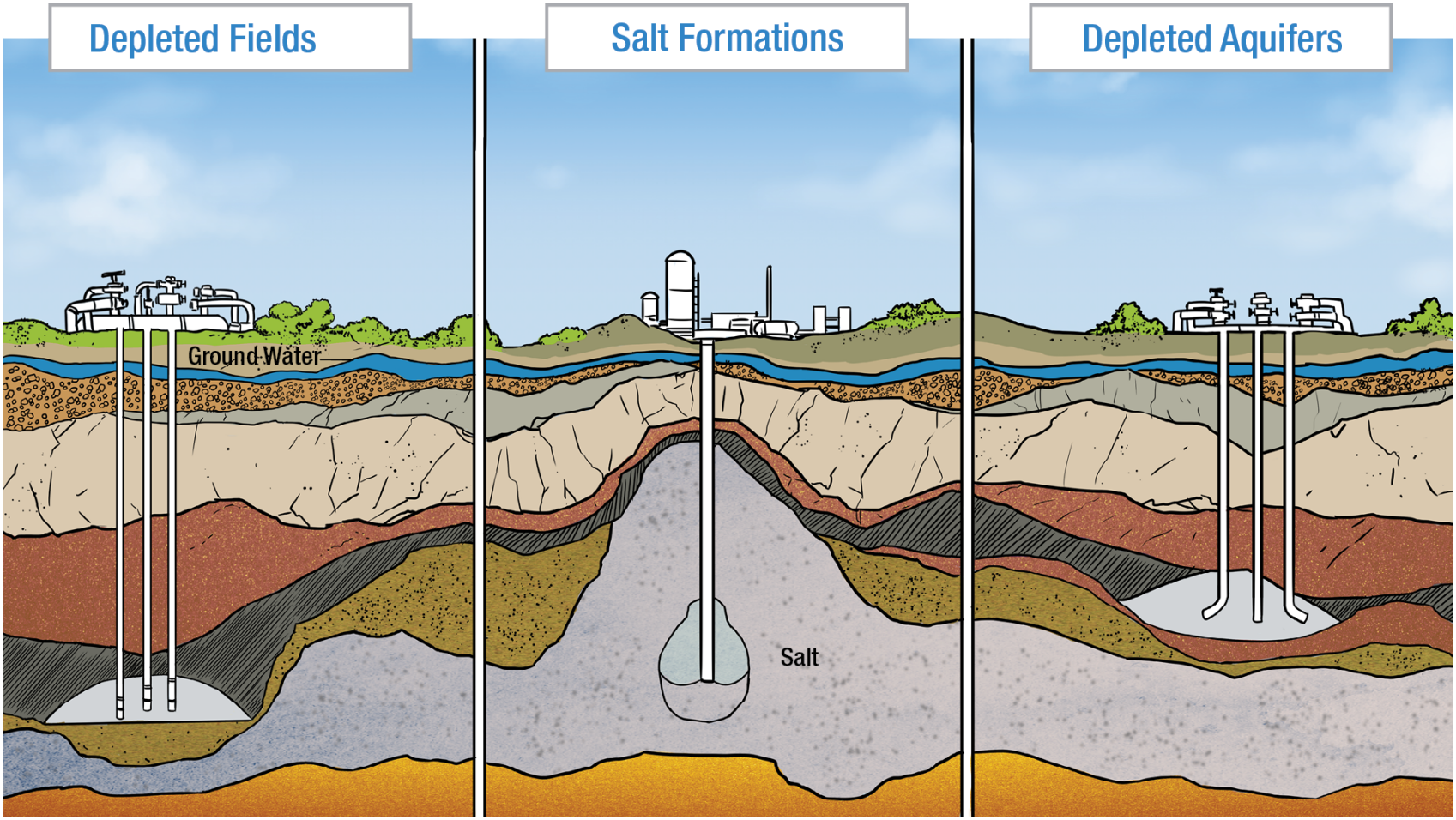


Figure 8:

Hubs, where transactions are made

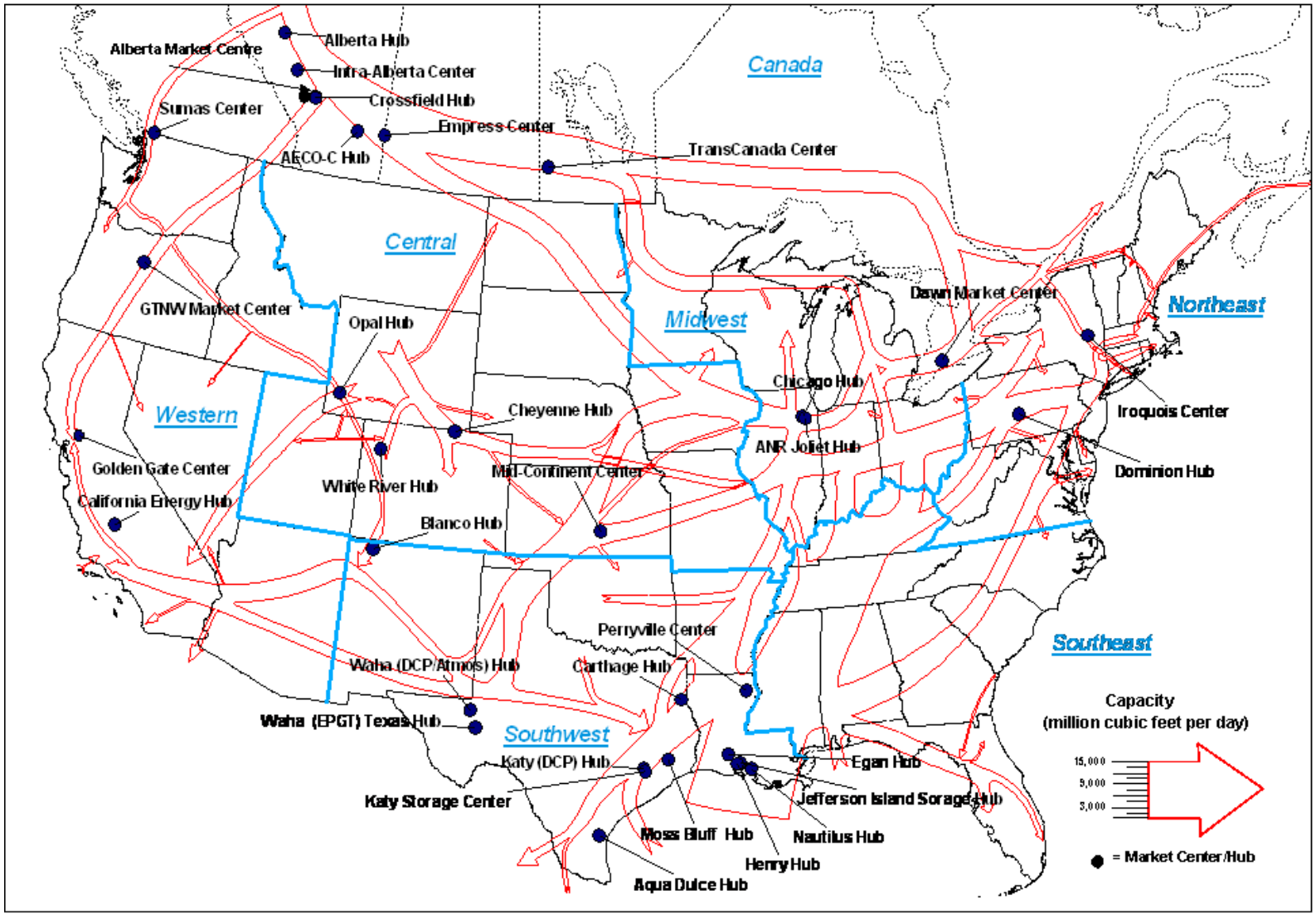


Figure 9:

Part of Henry Hub LA

Figure 10:

Getting to Prices

- You will see wellhead prices, but
- Most references prices are at the hubs.
  - Henry Hub in LA is the most common reference hub for prices
  - There are fairly firm relationships between other hubs and HH except when there is congestion.
  - Changes in the usual difference are usually called basis blowout. Term is not specific to energy.