MacroVoices
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Labyrinth Consulting Services, Inc.
WTI was correctly priced at $59.33 weekly average for week ending Sept 20.

Current front-month price of $55.91 is ~$4 under-valued.

**Graph:**
- **C.I. is current crude + products stock level minus 5-yr avg**
- **Early 2014 Market Optimism**
  - May 4 MIN $71.25
  - Oct 5 MAX Price 2015-19 $75.34
  - Mar-Jun 2015 False Optimism
  - Dec '16 - Apr '17 Production-Cut Optimism
  - Late 2015-Early 2016 Market Pessimism
- **Min Price Dec 28 $45.26**
- **Max Price 2015-19 Oct 5 $75.34**

**Weekly Avg Price:**
- Week ending September 20:
  - C.I.: 14.02
  - WTI: 59.33
- Week ending September 13:
  - C.I.: 12.71
  - WTI: 56.16
- Change:
  - C.I.: 1.30
  - WTI: 3.17

**Source:** EIA, HSMO & Labyrinth Consulting Services, Inc. - Aperio Energy Research
Markets never valued WTI at more than $65/barrel
Share prices failed to out-perform WTI after prices reached $70 in May 2018
Many analysts focused on lack of price response to Saudi refinery attacks. Forward curves tell a somewhat different story.

- All crude futures in “super-backwardation.”
- Brent 12-month spreads are -$5.42.
- WTI are -$4.88.
- HCL are -$6.48.
• Consumption of all world energy sources expected to increase by 2050.
• Renewables and natural gas increase the most.
• Coal and liquids increase the least.
• Renewables to increase from 15% to 28% of world energy consumption by 2050.
• Coal decreases from 26% to 20% and liquids decrease from 32% to 27%.
• Natural gas will remain at 22% & nuclear will decrease from 5% to 4%.
Concerns about Permian “Tier 1” production

- Bone Spring evaluation indicates that weighted-average well for Concho, EOG & Mewbourne are more than commercial limit of 380 kboe.
- Anadarko average well is sub-commercial but 2017 & 2018 well performance has been excellent.
- Bone Spring commercial area is 1.2 mm acres with 3,807 wells = ~300 acre/well spacing—lots of room for “Tier 1” infill.
World liquids demand has increased 1.25 mmb/d last 49 years
2019 estimate is 1.1 - 1.3 mmb/d

World demand growth has been remarkably consistent
at average of 1.25 mmb/d annually since 1970
Only 7 out of 49 years of negative demand growth (1980-83, 1985, 2008-09)