Chart of the Week #27:
Natural Gas Prices are Signaling
Tight Energy Markets Ahead of Winter

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Regional Natural Gas Benchmarks Have Risen Considerably In 2021, Signaling Concern Ahead Of Winter (8/22/2016 to 8/31/2021)

Analysis based on Barchart, EIA, IMF, and World Bank Data
There are multiple causes of the current situation:

- Lower global natural gas production, in part due to lower associated gas supplies in the U.S.
- Natural gas inventories that are below the five-year trend in both Europe and the U.S.
- Higher demand, especially in European power generation sectors, utilizing higher amounts of natural gas due in part to environmental policies requiring the displacement of coal.
- European natural gas imports have been lower since 2020, mostly from Russia, but also from North Africa, despite ample pipeline capacity, especially 10+ BCF/d of a total of 15 BCF/d through Ukraine.
- Decreasing natural gas production from Norway, a key source of European supply.
- Higher LNG demand in northeast Asia, especially China, requiring a larger portion of U.S. LNG exports.
- More U.S. LNG cargos are headed to Brazil as the country experiences its largest drought in the last ninety years, thereby limiting hydroelectric production.
- In addition, thermal coal inventories in both Europe and the U.S. are at five-to-ten-year lows.
- The expanded version of this slide deck is available at: https://eprinc.org/chart-of-the-week/
- For more information on this chart, please contact Max Pyziur (maxp@eprinc.org)
Additional Slides

- U.S. Natural Gas Production
- Natural Gas Inventories in three Regions
- European Natural Gas Demand: UK, Spain, Italy
- U.S. Natural Gas Trade and LNG Exports
- Coal Inventories: Europe, U.S.
While off by ~5 BCF/d in 2021, at the margin, U.S. natural gas production trends significantly affect global natural gas prices.
Natural Gas Inventories in Three Key Regions: U.S., Europe, Ukraine
Total European NG storage is Significantly Below Trend ...

European Union: Weekly Natural Gas Inventories trailing twelve months through 09/03/2021

Analysis based on Eurostat Data
U.S. NG Storage is at Trend ...
Ukraine’s NG storage is Strongly Below Trend ...

Ukraine: Weekly Natural Gas Inventories trailing twelve months through 09/03/2021

Analysis based on Eurostat and JODI Data

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Increased Natural Gas Consumption in European Power Generation: United Kingdom, Spain, Italy
Lower utilization and retirements of coal and nuclear capacity has led to greater reliance on natural gas generation.
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Lower utilization and retirements of petroleum liquids and nuclear capacity has led to greater reliance on natural gas generation.
European natural gas imports have been lower since 2020, mostly from Russia, but also from North Africa, despite ample pipeline capacity, especially 10 BCF/d of a total of 15 BCF/d through Ukraine.

Norway's production has been declining, a key source of European NG supplies.
U.S. LNG Exports in Three Regions: Asia, Europe, Latin America
U.S. Natural Gas Trade 08/30/2006 to 06/30/2021

Analysis based on Monthly EIA Data
U.S. Natural Gas Exports-LNG by Destination Country - 09/04/2016 to 06/30/2021

Analysis based on Monthly EIA Data
U.S. Natural Gas Exports-LNG by Destination Country - 09/04/2016 to 06/30/2021

Analysis based on Monthly EIA Data
U.S. Natural Gas Exports-LNG by Destination Country - 09/04/2016 to 06/30/2021

Analysis based on Monthly EIA Data
Thermal Coal Inventories: Europe, U.S.
Thermal Coal Stocks at European Harbors

Analysis Based on Monthly Argus Data
End of year U.S. Coal Inventory for Electricity