the DESK

Wednesday, August 2, 2017 Volume 19

GAS STORAGE FORECAST

TheDesk Consensus Avg: **+19.9 Bcf**
TheDesk Median: **+ 19 Bcf**
TheDesk Survey Range: **14 to 32 Bcf**
Top 6 Survey's Index Avg: **+21.2 Bcf**
Standard Deviation: 4.2
Number of Forecasts: **30**
Editor's Forecast: **+ 22 Bcf**
The Desk GWDD Model: **NA**
YTD Boxscores #1: Reza Haidari: 20 Bcf

LY REPORT & 5YR AVG

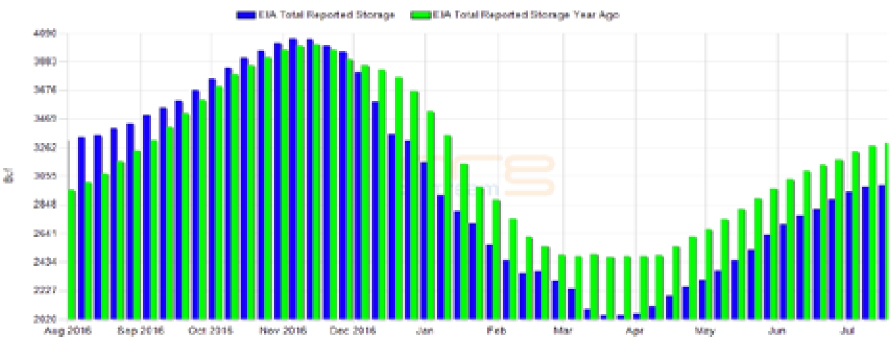
'16 Build/Same Week: **-3 Bcf** (adj)
5 Yr Avg Draw/Same Week: **44 Bcf**

LAST FRIDAY/ EARLY VIEW

Early View Avg (7/28) **23.1** *Bcf*
Early View Median: **23 Bcf**
Range: **15 to 32 Bcf**
Standard Deviation: **6.1**
Number of Forecasts: **13**

LY & 5YR STORAGE LEVELS

Current Storage Level: 2,990 Bcf
Storage 2016/Same Week: 3,292 Bcf/Delta -302 Bcf (9.2%)
5Yr Avg/Same Week: 2,879 Bcf/Delta +111 Bcf (3.9%)



weekly gas storage tealeaves

Summer of surprises … The first surprise was that the hot stuff didn't show up on schedule and when it did show, it wasn't as wide or deep as expected. Certainly, hot weather did arrive all over the CONUS this season, it just blew everybody's weather and demand models out of the water. Last week's 17-Bcf build was the lowest of the season, but folks were mostly expecting a low report, but maybe not that low. Our consensus last week was 24 Bcf, which was a wee bit lower than the previous week's record low of 28 Bcf. Already we have heard from some leading forecasters that this week may even trump last week's low-ball report. Bentek, the Big B, is showing a 15-Bcf build for this week, well below our Friday Early View average of 23.1 Bcf. This week should deliver a surprise, we reckon. The south-central region continues to upset the boat; salt and nonsalt facilities continue to confound. Sure, it's been hot in

(Continued on page 3)

AROUND THE DESK

Lots of news around the desk this week … Perhaps too much news. Health care reform is dead … Long live tax reform … Summer heat was basically a no-show, sorry natty gas and power guys … US fossil exports hit record levels; demand is up for US products all around … The US jobless rate is the lowest in like 5,000 years, GDP is up, personal spending is up, and it appears that the Hill has a new strategy to get stuff done: Ignore the WH and Twitter. As cynical as it sounds, given the president's low popularity numbers, lawmakers believe they are safe to do as they wish, and ignore the big guy. We'll see. The current, massive energy bill running the traps through Congress, S.1460, the "Energy and Natural Resources Act of 2017," is a good example of Senate lawmakers doing their thing and not bowing to WH threats, er, guidance. Many facets of the bill don't reflect the president's original budget or energy plan. The bill invests heavily in R&D and various efficiency programs, it moves hard to modernize our electric grid, enhance cybersecurity safeguards, streamline pipeline permitting, facilitate LNG exports and on and on. It's big. The bill also gives Secretary Perry a lot more discretion in decisions on a variety of projects, from exports to facility licensing. Next stop, full Senate consideration before it's shot over to the House for their adds andchanges. Watch this space … See the bill at *https://www.energy.senate.gov/public/index.cfm/bipartisan-energy-bill* … Perhaps a new approach? OK, so enough about health care. All eyes are on the new tax plan, or something. In a letter to President Trump, Senate Majority Leader Mitch McConnell, R-Ky., and Senate Finance Committee Chair Orrin Hatch, R-Utah, 45 Senate Democrats expressed a willingness to work with Republicans on "bipartisan tax reform." The Democrats asserted three "prerequisites" for a successful bipartisan tax reform plan, says Cadwalader's Mark Howe. First, a reform plan "should not increase the tax burden on the middle class." Second, any tax reform legislation must "go through regular order rather than reconciliation." Third, reform legislation should not include deficit-financed tax

(Continued on page 2)

(AROUND THE DESK from page 1)

cuts. Right ... Alas, no movement this month on agency nominees. The Senate's extended August schedule was released on Monday and unfortunately, no final floor votes on FERC or CFTC candidates. As for other candidates hoping to finally appear before the Senate Energy & Natural Resources Committee like the two final FERC candidates, one of them the likely the future chairman, no dice either. Sen. Lisa Murkowski, R-Alaska, chairwoman of the energy committee, said that due to the delays on the health care redo, everything has been postponed with no further information offered. So, what's the harm? Two big industry associations say there's plenty. Last month, INGAA, the Interstate Natural Gas Association of America, estimated about $14 billion in private capital for a variety of energy infrastructure projects is currently on hold because the agency lacks a quorum to vote on much of anything. And the Electric Reliability Coordinating Council this week wrote a letter to Senate Majority Leader Mitch McConnell and others saying that about 75,000 jobs are at stake, due to various agency delays. "Every week's delay compounds the problem as seasonal windows for pipeline analyses close and potential for energy price spikes increase," the letter to McConnel said... How many jobs? The good folks at the API released a new study this week that claims the natural gas and oil industry supported 10.3 million jobs across this great land and added $1.3 trillion to the nation's economy in 2015. The study, which was carried out by PwC, found that jobs supported by the industry increased by 500,000 since 2011 "and showed that all 50 states, whether producing or nonproducing, continued to benefit from the industry." According to the Bureau of Labor Statistics, the average wage paid by the natural gas and oil industry, excluding retail station jobs, in 2016 was $101,181 or nearly 90 percent more than the national average. The study also offers a nifty breakout feature that allows you to drill down on the details for each state. So, being that we're based in Annapolis, Md., we looked at the Old Line State specs. According to the study, "the natural gas and oil industry supports more than 72,500 jobs, provides more than $4.4 billion in wages and contributes nearly $7.9 billion to the state's economy." Recall that Maryland Gov. Hogan banned fracking a while back. We're not entirely sure what all those 72,500 jobs are tagged to, but we await a number of from the state government for guidance. Stand by … Did somebody say coal? We didn't think so. In a recent market report, the good folks at Wells Fargo said approximately 9,000 MW of coal-fired power generation capacity is expected to come off line in 2018 (per IEEFA). "If we assume that this capacity was running at a 50 percent utilization rate before it was shut down, approximately 4,500 MW of supply would need to be replaced from other sources. If we assume that low-cost, natural gas-fired generation replaces this supply, that would push the demand curve up by 0.4 Bcf/d. Based on our analysis of 2018 supply and demand (ex-power gen) we believe that 25 Bcf/d of power gen demand will be required to achieve a balanced natural gas market. As such, our natural gas price forecast is set at $3.25/MMBtu, a level in line with our price-demand curve above after adjusting for closures of coal-fired plants … " So, the Best Advice of the Day comes to us from the desk of market analyst John Kilduff. He decided to laundry list all the happenings around the quad that should matter and summed it up nicely: "Not to be maudlin, but it strikes us that there a lot of geopolitical fires brewing around the world right now: US versus North Korea; Saudi versus Iran in Syria, Yemen and Qatar; Saudi versus Qatar; US versus Russia; South China Sea island building by China; and chaos in Venezuela. And that list is in no way complete, not to mention the unsettling view that President Trump's days in office may be numbered. Despite it all, the stock market chugs higher and higher, until it doesn't. One of those distractions is sure to erupt. Be careful …" And so, there it is …

(TEALEAVES from page 1)

Texas, we all know that, but the draw strategies and flows don't seem to be following a consistent flow. This week, Bentek anticipates a 21-Bcf pull from the region (salt/nonsalt), which is nearly twice last week's draw, which was twice the week before. Hmm. The core picture looks very much like last week in most categories, though demand from power generation was a tad higher. Exports and production offset each other this week for the most part, most analysts concede. We still have a sense that last week's 17-Bcf build was about five or better Bcf too low, and expect a true-up of sorts this week. Our editor is at 22 Bcf this week, which if accurate, will shave even more off the light overhang to the five-year average. No record tallies this year, for sure – high or low. *–the editor*

weekly gas storage
tealeaves

***

PointLogic's forecast for this week is a 20-Bcf build. "Week-on-week supply and demand balances slightly tightened amid an increase in power demand. Lower 48 total demand increased 0.47 Bcf/d and total supply decreased 0.06 Bcf/d, PLE says. The largest mover on the demand side was power burn demand which picked up by 0.63 Bcf/d week-on-week. The week on week uptick was regionally driven in the Southcentral and Pacific regions. Additionally, within the Southcentral region, export demand increased by 0.13 Bcf/d week-on-week. On the supply side, dry production increased by 0.31 Bcf/d driven by gains in the Northeast which adds a small high-side risk to this week's report. Regionally, PointLogic Energy is anticipating storage activity to come in as the following: 21 Bcf East, 14 Bcf Midwest, 2 Bcf Mountain, 1 Bcf Pacific, (18) Bcf South Central.

Analyst Andy Weissman of EBW Analytics (at 24 Bcf) says that natural gas showed unmistakable signs of wanting to bottom out last week, "shrugging off losses in weather-driven demand and rebounding solidly after Thursday's bullish 17-Bcf injection," he says. This shift in market sentiment was trumped on Monday, he adds, due to more bearish weather forecasts. "Natural gas was hammered Monday. The September contract fell to its lowest level since May 18 last year, due in part to fears that expected cooler-than-normal weather over much of the country would extend further into August, bringing an abrupt end to Summer," he says.

The Wells Fargo natty gas research team noted that during the first three weeks of July the natural gas storage surplus fell by 74 Bcf, as warm temperatures and fairly weak natural

(Continued on page 7)

Free Webinar/Genscape/August 16
Key Insights into Natural Gas Demand, Production, Exports & Infrastructure in the East. **Wednesday, August 16, 2017, at 2pm ET / 1pm CT / 11am PT Join Genscape's Bark Burk and Eric Fell.** Click to Register

weather desk

Exclusive Weather Forward Views from WSI, MDA EarthSat Weather and the Commodity Weather Group

Matt Rogers of the Commodity Weather Group says that there have been no significant changes in the latest model runs. "The big picture view of a midcontinent cool pattern, Western hot weather optimized to the north, and a seasonal and mixed East Coast prevail again," Rogers says. "Changes are slightly cooler in the short term for the midcontinent while slightly hotter for the coasts," he adds. The Pacific Northwest still aims for very hot weather the balance of this week with an all-time record tie still favored for Portland on Thursday (107F). The 6- to 10-day is a bit cooler in the Midwest, but slightly hotter across the South and Pacific Northwest again. The 11- to 15-day looks more mixed overall, but still no major heat concerns for the eastern two-thirds of the US with slightly cooler East Coast changes and slightly hotter Southwest adjustments. The extended range weeklies favor some heat coming back to the Midwest and East late in the month, but efforts to advance them forward in the 11- to 15-day keep failing at least for now. *For more information, go to http://www.commoditywx.com/free-trial.*

***

Michael Shuman, a senior meteorologist with The Weather Company/WSI, says that a highly-amplified, upper-level pattern is expected to develop over North America during the next 10-plus days that will have major implications on energy usage and has already impacted the market the past few days. "A strong, upper-level ridge will build over western North America and will sponsor highly anomalous, record-breaking heat along the West Coast and Northwest. Many daily, monthly and even all-time record max temperatures will be challenged this week, including Seattle and Portland," he says. On the other hand, a downstream upper-level trough will support shots of cool weather over the eastern two-thirds of the CONUS, aided by above-average rainfall across Texas and the midcon. "This cool and wet stretch of weather will support below-average cooling demand and CDDs. This will also lead to relatively weak wind generation across the central US, including ERCOT," Shuman says. The remnants of this cool and wet pattern will linger into the middle of the month over the central and eastern US. *For more information, go to http://www.wsi.com/industries-energy.htm.*

***

Brad Harvey, a meteorologist for MDA Information Systems, says that the 6- to 10-day period leans cooler than normal across much of the midcon as troughing holds overhead, downstream of a ridge over the West Coast and western Canada. The coolest anomalies are focused across the central Plains where much-belows are seen at times. An active storm track in the East keeps temperatures generally close to normal with models highlighting cooler risks, although models have been cool-biased in the East of late and the forecast makes a correction based on this. Above-normal temperatures remain prevalent in the West, although temperatures do decline compared to the record heat anticipated in the near term, he says. "The 11- to 15-day period features a fairly similar pattern nationally with aboves in the West and belows in the Plains, but the forecast does allow the East Coast to return to the warmer side of normal. However, models remain cooler in the East, and as a result, the forecast is about six PWCDDs warmer than the Euro and GFS Ensembles. *For more information, go to http://www.mdaus.com/Weather-Services/Energy.aspx.*

EEI Generation

WEEKLY ELECTRIC OUTPUT IN PREVIOUS WEEKS--GWh

Week Ended	2017	Week Ended	2016	% Inc. (17/16)	52 Weeks Ended	2017	% Inc. (17/16)
Jul 08	87,622	Jul 09	88,147	-0.6	Jul 08	4,019,176	1.2
Jul 15	90,927	Jul 16	91,030	-0.1	Jul 15	4,019,073	1.1
Jul 22	94,541	Jul 23	95,441	-0.9	Jul 22	4,018,173	1.0
Jul 29	90,617	Jul 30	96,099	-5.7	Jul 29	4,012,690	0.8
Jul 29	**2,296,873**	**Jul 30**	**2,310,575**	**-0.6**	**YEAR TO DATE, FIRST 30 WEEKS**		

Generation Outages/Week-on-Week

IIR ENERGY

Outage data courtesy of IIR Energy, providers of real-time energy supply information. For more information please visit www.iirenergy.com or email us at iirteam@iirenergy.com

Avg GW's Offline by Fuel Group	Current Wk 8/2/2017	Last Wk 7/26/2017	% Chg	Last Yr 8/1/2016	5 Yr Avg
Coal	5.77	5.73	-1%	5.11	5.77
Natural Gas	2.35	2.25	-4%	3.92	2.35
Nuclear	3.90	4.57	15%	3.56	3.90
Fuel Oil	0.04	0.06	36%	0.02	0.04
Renewables	1.54	1.57	2%	1.20	1.54
Total	**13.60**	**14.19**	**4%**	**13.81**	**13.60**

THIS WEEK'S SURVEY TALLY

The Game: Weekly Gas Storage Boxscores
Each week we poll up to 39 professional natural gas forecasters, surveys and models for our weekly Natural Gas Storage Boxscores (see page 7). This is North America's most comprehensive natural gas storage survey. Forecasts are arranged into 3 categories:
1. Major Surveys (up to 6) + avg (Survey Index).
2. Bank/Financial Firm Analysts (up to 8) + avg.
3. Ind. Analysts/Models/Commercial Firms (up to 25)

This week, the preliminary tallies **(estimates)** are:
Survey's Polled This Week: 6
Survey's Forecast Avg: +21.2 Bcf (med. 20.5 Bcf)
Bank Analysts Polled: 4
Bank Forecast Avg: + 22 Bcf (med. 19.5 Bcf)
Independents Polled: 20
Ind Analyst Forecast Avg: 19.1 Bcf (med. 18.5 Bcf)

This week's HighBallers:
1. Tim Evans, CITI: 32 Bcf
2. Donnie Sharp, Huntsville Utils: 28 Bcf
3. Kilduff Report: 26 Bcf
4. SNL Survey: 25 Bcf
5. Andy Weissman, EBW: 24 Bcf
6. Schneider Electric: 24 Bcf

This week's LowBallers:
1. Jared Hunter: 14 Bcf
2. TFS: 15 Bcf
3. Bentek Flow: 15 Bcf
4. Robry825: 16 Bcf
5. PIRA: 16 Bcf
6. Bloomberg Energy: 16 Bcf

Metro Desk All Stars: + 17.8 Bcf
(avg of our top 5 analysts)

Tealeaves' Preliminary Forecast Range For 8/10:
28 to 40 Bcf
Last Year, Next Week: 24 Bcf (unadjusted)
5 Year Average/Next Week: + 54 Bcf (unadjusted)

ICE (EIA) Cleared Storage Futures

Weekly Storage

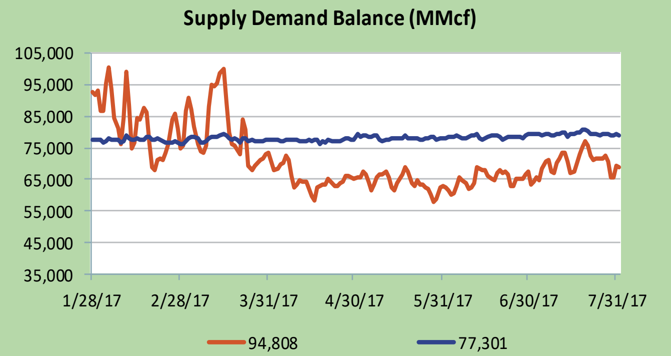
3 Aug	**10 Aug**
3@15	2@34
3 @18	2@37
11@19	
1@ 20	

End Of Fill Season (11/17)

3@3762	1@3772	2@3781
11@3763	5@3773	2@3782
1@3764	6@3774	1@3783
16@3765	27@3775	2@3785
3@3766	10@3776	12@3788
2@3768	1@3780	58@3789
12@3770		
2@3771		

End of Draw (4/18)
1@1435 1@1475

The Desk Average Forecast: +19.9 Bcf
The Desk Median: 19 Bcf
Survey Index: +21.2 Bcf*
*(*avg. of the top 6 national surveys)*
The Desk Range: +14 to 32 Bcf
Editors Forecast This Week: **+22 Bcf**
GWDD Model Forecast: NA
(see http://weather.deltixlab.com/)
Standard Deviation: 4.2



Last Four Reports: **174 Bcf**
Last Four Reports/Weekly Avg: **43.5 Bcf**
Last Four Reports/5 Yr Average: **244 Bcf**
Last Four Reports/Weekly 5 Yr Avg: **61 Bcf**

Winners of Last Week's Boxscores: For last week's reported 17 Bcf Implied Flow, we had zero winners. However, **Honorable Mentions** go out to **Gabe Harris of WoodMac**, **Jared Hunter** and **Team Tameron at Wells Fargo** for coming in 'hand grenade-close' close at 19 Bcf.

The Desk Commentary from 2016

The US posts first summertime weekly net withdrawal since 2006. Net withdrawals from storage totaled 6 Bcf, compared with the five-year (2011-15) average net injection of 54 Bcf and last year's net injections of 41 Bcf during the same week. This is only the third time ever that net withdrawals from working gas stocks were reported on a national basis during the summer months. Withdrawals from storage in the Southcentral region totaled 26 Bcf, owing to strong cooling demand for natural gas in the region. This is the largest withdrawal reported in the history of the five-region storage estimates. Despite the highly unusual Summertime withdrawal from storage, the weekly stock change fell within the range of expectations as some analysts called for the withdrawal. The expected stock change for the week generally ranged from withdrawals of 6 Bcf to net injections of 10 Bcf. Temperatures in the lower 48 states averaged 80°F, 5°F above the normal and 3°F above last year at this time.

ThomsonReuters Composite Weekly Storage Fundamental Data

This chart comes courtesy of ThomsonReuters Analytics.

http://financial.thomsonreuters.com/en/products/tools-applications/trading-investment-tools/eikon-trading-software/energy-trading.html

	Jul 07	Jul 14	Jul 21	Jul 28
Supply				
Dry Production (Avg MMcf/d)	72334	71625	72031	72435
LNG Sendouts (Avg MMcf/d)	0	0	0	0
Canadian Net Imports (Avg MMcf/d)	5467	6034	6068	5684
Demand				
Lower-48 4-Sector Consumption (Avg MMcf/d)	59415	63350	63970	63993
Dev. from Normal (Avg MMcf/d)	4310	6260	6078	5812
Gas-to-Pwr Consumption (Avg MMcf/d)	31238	34709	35377	35401
Mexican Exports (Avg MMcf/d)	4028	4031	4103	4168
Weather				
HDD Actuals + Fcst Weekly Total	1	1	1	1
Dev. from Normal Weekly Total	-1.3	-0.3	0.1	-0.3
CDD Actuals + Fcst Weekly Total	89	95	97	95
Dev. from Normal Weekly Total	9	10.4	9.5	6.3
S/D Balance Method Storage Forecast				
Adjusted Implied Storage (Bcf/week)	63	25	24	21
Pipeline Flow Method Storage Forecast				
Flow Storage Forecast (Bcf/week)	70	35	25	20
Blended Method Storage Forecast				
"Best of" Storage Forecast (Bcf/week)	65	28	25	20
EIA Storage Actuals				
EIA Storage Actuals (Bcf/week)	57	28	17 ..	
Weather Adjusted Weekly Imbalance				
Weather Adjusted Implied Storage (Bcf/week)	73	45	42	36
Prices				
Henry Hub Day-Ahead Weekly Avg ($/MMBtu)	2.91	2.94	3.05	2.96
Henry Hub Nymex Prompt Month Weekly Avg ($/MMBTU)	2.88	2.98	3.04	2.93
Henry Hub Nymex Last Year Prompt Month Weekly Avg ($/MMBTU)	2.86	2.74	2.71	2.76

Natural Gas Storage Weekly Forecast Boxscores for Q3 2017

Storage Forecasts		6-Jul	13-Jul	20-Jul	27-Jul
EIA - 2017		72	57	28	17
EIA - 2016		39	64	34	17
EIA - 2015		91	99	68	52
EIA - 2014		93	107	90	88
EIA - 2013		72	82	58	41
EIA - 2012		39	33	28	26
Storage Forecasts	**3Q Score**	**6-Jul**	**13-Jul**	**20-Jul**	**27-Jul**
Paul Belflower/Mustang Fuel	91.20	68	56	29	20
Team Tameron/Wells Fargo	89.02	66	56	29	19
C. Fenner/Macquarie Energy	80.22	66	58	31	21
PIRA	79.94	65	59	27	21
Wm. Featherston/UBS	77.22	65	55	30	n/a
Gabe Harris/WoodMac	76.90	66	54	32	19
EMD All Stars	75.46	66	60	30	22
Kyle Cooper/IAF Advisors	74.20	66	60	31	21
Bentek - Flow	73.25	65	61	30	20
Genscape	72.37	64	55	30	22
Jared Hunter, Ind. Trader	68.64	61	59	29	19
Peter Marrin/SNL Editor	66.58	66	59	34	22
Banks Index	65.97	65	58	31	25
R. Haidari, Thomson-Reuters	65.32	66	65	28	25
Bloomberg Survey Avg.	64.93	66	58	33	25
Platts Survey	64.25	63	59	31	22
Metro Desk Consensus Avg.	64.07	64.1	58.5	31.4	24.0
Robry825 (05)	63.02	65	51	30	26
SNL Energy Survey	62.65	64	57	31	27
Independants Index	62.11	64	58	32	24
Surveys Index	61.33	64	58	32	25
Bentek - S/D	60.87	62	64	28	21
Reuters Survey	60.31	64	59	32	24
PointLogic Energy (PLE)	59.30	64	60	28	28
A. Weissman/EBW Analytics	54.87	58	53	27	24
Tony Yuen/CITI Group	54.71	60	57	32	24
Schneider Electric	54.16	65	59	35	25
Norse Gas Marketing	54.09	66	58	34	30
TFS/Tradition Energy	53.72	61	59	30	25
Tim Evans/CITI Futures	52.35	68	55	36	30
Bloomberg (Flow)	51.20	62	63	n/a	20
Dow Jones Survey	49.56	60	56	32	25
Metro Desk Editor Forecast	49.28	62	55	35	23
"APDM"	42.95	58	65	28	26
ARM Energy	41.54	62	59	36	25
M. Adkins/Raymond James	39.67	62	65	29	32
Donnie Sharp/Huntsville Utils	36.33	60	58	41	n/a
John Kilduff, Kilduff Report	20.05	60	61	39	36

(TEALEAVES from page 3)

gas prices drove power burn demand to levels well above the five-year average. Supply continued to climb (+0.6 Bcf/d month on month), but despite the increase, fundamentals remained solid, driven by robust LNG, Mexican and industrial demand. Demand for July averaged 74 Bcf/d, 0.5 Bcf/d above July 2016 levels. Power demand for the month came in just 1.2 Bcf/d below 2016 levels, much better than our forecast of a 3 Bcf/d shortfall, as warm temperatures and weak natural gas prices buoyed demand, Wells Fargo says. "Given the relatively strong power demand seen thus far, we move our power demand forecast up by 0.6 Bcf/d, offset by modestly lower industrial (lowered by 0.2 Bcf/d), res/comm (lowered by 0.3 Bcf/d) and Mexican demand (lowered by 0.3 Bcf/d). Net-net, our 2017 demand forecast moves to 78.6 Bcf/d from 78.8 Bcf/d. Regarding coal-gas switching, Wells Fargo notes that "our analysis indicates that approximately 2.2 Bcf/d of demand is destroyed when prices move from $2.50/MMBtu to $3, while an additional 1.1 Bcf/d of demand destruction takes place from $3 to $3.50. Based on our 2018 macro model and using price elasticity of power generation demand as the toggle, we see 25 Bcf/d in power generation demand required to balance the market in 2018. Based on the demand-versus-price relationship established within, this corresponds to a natural gas price of $3.25 per million British thermal units (MMBtu)."

Bentek says that its Flow Model came in at 15 Bcf and its S/D Model was slightly higher at 16 Bcf. "US fundamentals were largely in line with the previous week, and the total injection is likely to end up close to last week's announced 17-Bcf build," Bentek says. "Power burn demand increased by a modest 0.3 Bcf/d from the previous week, which was largely offset by a 0.2 Bcf/d increase in production. Exports were the major contributor to some tightness in the market compared to the previous week, with both LNG feedgas demand and exports to Mexico hitting at or near all-time highs, adding 0.1 Bcf/d of additional demand each compared to the previous week. Even with sustained heat across much of the US, total storage activity fell largely in line with the previous week," Bentek says. Bentek also noted that the surplus to the 5-year average has dwindled "and at the current pace of erosion, could turn to a storage deficit by mid-September. This could lead to inventories entering the Winter close to 3.7 Tcf, which would be more than 100 Bcf below five-year average levels and roughly 300 Bcf below last year."

The Kilduff report says that the extended weather outlook remains a problem for the gas bulls, with below-normal temperature readings expected through at least the middle of the August. "To highlight how hot it can be this time of year (and demand intensive), last year for this reporting week, there was a net withdrawal of 4 Bcf! Tomorrow, we expect a net addition of gas to storage of 26 Bcf, which is still smallish and below the five-year average of 44 Bcf. Beware, however, we are on the high side of estimates, again. As a result, tomorrow's report may save the bulls' bacon, with surplus of gas in storage relative to the five-year in the process of evaporating. Traders also have their eye on the intense heat enveloping the Pacific Northwest. Any sign of that heat dome shifting East will also revive the price outlook. For now, however, the cool days ahead in the East are and will continue to weigh."

environment desk

California made good last week on claims it would redouble its emission control efforts following the White House's withdrawal from the Paris climate accord. On Tuesday, Gov. Jerry Brown signed a bill into law that extends California's cap-and-trade program through 2030.

The bill authorizing the cap-and-trade extension, AB 398, passed both houses of the state legislature last week with limited bipartisan support – a single Republican voted yea in the state Senate; seven in the Assembly – and significant endorsements from the state's utility, clean tech, agriculture, food processing and other business sectors. Many business sectors favor the extension because it ensures costs can be contained under a market-based approach to emissions reduction, rather than reverting to a purely regulatory approach that could lead to more stringent and expensive restrictions.

Brown signed the bill into law on Treasure Island, the location of then-Gov. Arnold Schwarzenegger's 2006 signing of the law it will replace. Schwarzenegger was there to witness the event – and castigate politicians to "stop lying to the people" about economic risks of climate policies. The original cap-and-trade law he signed during his term, AB 32, did not cost California large numbers of jobs or hurt the state economy as opponents had prophesied, he said.

Saying "only one man dropped out" of the Paris climate agreement, the former governor said the bipartisan effort by Californian politicians to "protect our environment and preserve our nation-leading economic growth" should be an example for lawmakers around the country. "Gov. Brown and legislative leaders from both parties came together to ensure that California continues to march toward a clean, prosperous future," he said, comparing the Republicans who supported the bill to Teddy Roosevelt and Ronald Reagan.

AB 32 created the state's cap-and-trade program at a time when neither the Bush administration or Congress were taking action on climate change at the federal level. The 10-year extension of the emissions trading scheme under the new AB 398 is seen as the next step, taken at a time of similar federal intransigence. The extension keeps California on course to reduce its greenhouse gas emissions 40 percent below 1990 levels by 2030, but phases out 60 percent of the free carbon allowances available over the next decade and limits the use of out-of-state carbon offsets. It also requires large industrial facilities to invest in lower-emission equipment within the next five years and sets priorities for allocation of the capital generated by the state's emissions auctions.

A separate bill, AB 617, is expected to be signed into law later this week. It establishes an annual emissions reporting system for large, stationary sources such as oil refineries.

The state's lawmakers clearly see the two-bill environmental package as just the beginning. The new legislation will "move us forward into the future and we plan to take the rest of the world with us," said Senate President pro Tempore Kevin de León. Cristina Garcia, one of the authors of AB 617, noted: "This package, though historic, is only a strong down-payment."

But not everyone is so gung-ho. In a *Los Angeles Times* op-ed, Bjørn Lomborg, author of The Skeptical Environmentalist, says the lawmakers are doing it all wrong. It's a familiar lament from Lomborg, whose well-known book asserted that government policies commit resources to the wrong climate change responses. "California is embracing huge costs while doing virtually nothing for the environment," he said. "A smarter approach to climate policy – and one befitting California's role as one of the most innovative states in the country – would be to focus on making green energy cheaper."

While agreements like the Paris accord are intended to stimulate new clean technology development, "most of the investment is absorbed by existing inefficient technologies, leaving little for actual innovation," according to Lomborg, who is director of the Copenhagen Consensus Center, an economic think tank. If the state could develop clean energy technologies that outcompete fossil fuels, "the whole world would switch to them," he said.

***

Speaking of Copenhagen, Denmark's largest pension fund announced this week it will begin tracking companies' carbon emissions. Exceed Paris accord levels and you're out of the investment portfolio, says PFA, which manages $95 billion in assets.

The fund's CFO, Anders Damgaard, told Reuters that a handful of sectors – energy, utilities, industrial manufacturing, chemicals and mining – account for 80 percent of the carbon emissions in its portfolio. PFA is analyzing its ability to match the yield from those carbon-intensive sectors through "alternative investments."

PFA is only the latest in a string of big pension funds beginning to factor corporate climate risk into their portfolios. In fact, the trend has picked up considerable steam in the last few years. A 2014 report from the Asset Owners Disclosure Project (AODP) found that nearly one-third of the world's largest retirement funds, insurance companies and sovereign wealth funds offered no public information about climate risk – and those that made public claims were in reality doing little to deviate from their traditional investment strategy.

But this year's AODP report found that 60 percent of the world's 500 largest asset owners, with funds worth $27 trillion, now factor climate risk into their portfolios and are actively seeking out investment opportunities in the "low-carbon transition," up 18 percent over last year.

"The Paris agreement sent a clear message of global commitment to tackle climate change. Institutional investors are responding by rapidly scaling up action to tackle climate risk and seize opportunities in financing the low-carbon economy," according to AODP. Those funds still ignoring climate risks face "significantly higher" exposure to market repricing grows as the number of laggard funds falls, and "a time may be approaching when it is too late to avoid portfolio losses." European and Australian funds are leading the field; North America and Asia are the laggards. In the US, 63 percent of institutional investors are still not factoring in climate risk.