



## Office of Energy Projects Energy Infrastructure Update *For December 2015*

### Natural Gas Highlights

- Transco received authorization to place into service the remaining facilities of its Leidy Southeast Expansion Project which will provide an additional 395 MMcf/d of capacity (totalling 525 MMcf/d) from receipt points in Clinton County, PA to Transco's Station 85 Pooling Point in Choctaw County, AL.
- Transwestern received authorization to place into service compression facilities which will provide 22 MMcf/d of capacity in a westerly direction on its Panhandle Lateral beginning in Chaves County, NM and terminating in Hemphill County, TX.
- American Midstream received authorization to construct and operate its Natchez Pipeline Project which will provide 48.3 MMcf/d of capacity in portions of LA and MS as approved under a settlement in Docket Nos. RP14-638, et al.
- Texas Eastern received authorization to construct and operate its Gulf Markets Expansion Project which will provide 650 MMcf/d of bi-directional and mainline capacity on its system from the Northeast to the Gulf Coast region of LA and TX.
- Texas Gas received authorization to construct and operate its Southern Indiana Market Lateral Project which will provide 53.5 MMcf/d of capacity to serve SABIC Innovative Plastics's existing chemical manufacturing plant and planned co-generation plant in Mt. Vernon, IN.
- Equitrans received authorization to construct and operate its Ohio Valley Connector Project which will provide 850 MMcf/d of capacity to Rockies Express Pipeline and Texas Eastern for delivery to mid-continent and Gulf Coast Markets.
- Dominion received authorization to construct and operate its Monroe to Cornwell Project which will provide 205 MMcf/d of capacity on its mainline system from Monroe County, OH to Kanasha County, WV.
- Columbia Gas received authorization to construct and operate its Utica Access Project which will provide 205 MMcf/d of capacity from a new interconnection with Dominion to an interconnection with Columbia Gas's existing Line X-52-M1 located in Kanawha and Clay Counties, WV.
- Lake Charles LNG Export and Lake Charles LNG received authorization to construct and operate a liquefaction and export facility at Lake Charles LNG's existing import terminal near Lake Charles in Calcasieu Parish, LA.. The export terminal will provide 2,200 MMcf/d of deliverability from three trains.
- Trunkline received authorization to construct, and operate its Pipeline Modifications Project which will provide 3,100 MMcf/d of capacity for delivery (2,600 MMcf/d) to the Lake Charles Export facility near Lake Charles, LA and to provide bi-directional flow (north-south) on its system in LA.
- Kern River received authorization to abandon and replace a long segment of its 6-inch diameter A-line with thicker walled pipe in Clark County, NV to comply with a class location change by DOT and PHMSA.
- National Fuel received authorization to expand the reservoir and buffer boundaries of its Beech Hill, East Independence, and West Independence storage fields located in Allegany and Steuben Counties, NY. The Commission denied National Fuels request to convert Well 7451 from observation to withdrawal-only status.
- The Commission vacated a portion of the certificate issued to Mississippi Hub to construct and operate salt dome storage caverns and compressor facilities at its existing storage terminal in Simpson County, MS. The facilities would have provided 7.5 Bcf of working gas capacity.
- Columbia Gas requests authorization to construct and operate its WB XPress Project which would provide 1,300 MMcf/d of bi-directional capacity to markets in western WV and northern VA.
- Paulsboro Pipeline requests authorization to construct and operate its 45-Foot Project which would provide an additional 20 MMcf/d of capacity to Paulsboro Refining Company located in Paulsboro, NJ.
- National Fuel requests authorization to construct and operate its Line QP Project and to abandon by sale its Queen Storage Field and facilities located in Forest and Warren Counties, PA. Line QP would maintain existing service to National Fuel Distribution and its customers.
- First ECA Midstream requests authorization to own, operate, and maintain an existing pipeline (the Existing Pipeline Project) located in Clearfield and Elk Counties, PA as an interstate pipeline. The Existing Pipeline would provide 152 MMcf/d of capacity to Dominion Transmission and National Fuel with deliveries to a power plant in Shawville, PA.
- National Fuel requests authorization to construct and operate its Line D Expansion Project which would provide 77.5 MMcf/d of capacity on its existing Line D system to serve markets in Erie and Warren, PA and maintain existing storage withdrawals.
- G2 LNG commenced the Commission's pre-filing process to construct and operate an LNG export terminal (Calcasieu River LNG Project) in Cameron Parish, LA, and pipeline facilities which would provide capacity to the proposed terminal. The export terminal would provide 1,840 MMcf/d of deliverability.



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### Natural Gas Activities in December 2015

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
<b>Pipeline</b>						
Placed in Service	4			471.0	17.8	49,600
Certificated	9			5,133.8	144.4	185,407
Proposed	6			1,549.5	96.5	186,383
<b>Storage</b>						
Placed in Service	0	0.0	0.0			0
Certificated	0	0.0	0.0			0
Proposed	0	0.0	0.0			0
<b>LNG (Import &amp; Export)</b>						
Placed in Service	0	0	0			0
Certificated (Import/Export)	1	0	2,200			0
Proposed (Export)	1	11.79	1,840			0

Source: Staff Database

### Natural Gas Activities through December 31, 2015 January through December 31, 2014

Status	No. of Projects	Storage Capacity (Bcf)	Deliverability (MMcf/d)	Capacity (MMcf/d)	Miles of Pipeline	Compression (HP)
<b>Pipeline</b>						
Placed in Service through December 31, 2014	31 32			7,475.4 7,273.8	394.2 312.7	291,397 270,689
Certificated through December 31, 2014	47 35			15,748.0 12,119.2	578.0 534.2	522,580 513,802
<b>Storage</b>						
Placed in Service through December 31, 2014	6 9	11.4 29.75	53 1,546			6,800 8,755
Certificated through December 31, 2014	2 5	2.7 1.9	0 103			0 2,500
<b>LNG (Import &amp; Export)</b>						
Placed in Service through December 31, 2014	0 0	0 0	0 0			0 0
Certificated (Import/Export) through December 31, 2014	2 5	0 13.54	3,600 400/7,025*			0 0

\* Import/Export

Source: Staff Database



## Office of Energy Projects Energy Infrastructure Update *For December 2015*

### Hydropower Highlights (nonfederal)

- Lock 14 Hydro Partners, LLC was issued an original license for the proposed 2.64 MW Heidelberg Hydroelectric Project No. 13213. The project will be located at the Kentucky River Authority's Lock and Dam No. 14 on the Kentucky River, near the Town of Heidelberg, Lee County, KY.
- Lock 12 Hydro Partners, LLC was issued an original license for the proposed 2.64 MW Ravenna Hydroelectric Project No. 13214. The project will be located at the Kentucky River Authority's Lock and Dam No. 12 on the Kentucky River, near the Town of Ravenna, Estill County, KY.
- Clean River Power MR-3, LLC was issued an original license for the proposed 3.0 MW Beverly Lock and Dam Water Power Project No. 13404. The project will be located at the Ohio Department of Natural Resources' Beverly Dam on the Muskingum River, near the Village of Beverly, Washington and Morgan Counties, OH.
- Clean River Power MR-5, LLC was issued an original license for the proposed 4.0 MW Malta/McConnelsville Lock and Dam Water Power Project No. 13406. The project will be located at the Ohio Department of Natural Resources' Malta Dam on the Muskingum River, in Morgan County, OH.
- Clean River Power MR-7, LLC was issued an original license for the proposed 3.0 MW Philo Lock and Dam Water Power Project No. 13408. The project will be located at the Ohio Department of Natural Resources' Philo Dam on the Muskingum River, near the Village of Philo, Muskingum County, OH.
- Clean River Power MR-6, LLC was issued an original license for the proposed 4.0 MW Rokeby Lock and Dam Water Power Project No. 13411. The project will be located at the Ohio Department of Natural Resources' Rokeby Dam on the Muskingum River, near Bloom Township, Muskingum and Morgan Counties, OH.
- FFP Missouri 2, LLC was issued an original license for the proposed 14.6 MW Sardis Lake Hydroelectric Project No. 13701. The project will be located at the U.S. Army Corps of Engineers' Sardis Dam on the Little Tallahatchie River, near the Town of Sardis, Panola County, MS.
- FFP Missouri 2, LLC was issued an original license for the proposed 9.0 MW Grenada Lake Hydroelectric Project No. 13702. The project will be located at the U.S. Army Corps of Engineers' Grenada Dam on the Yalobusha River, near the Town of Grenada, Grenada County, MS.
- FFP Missouri 2, LLC was issued an original license for the proposed 4.6 MW Enid Lake Hydroelectric Project No. 13703. The project will be located at the U.S. Army Corps of Engineers' Enid Dam on the Yocona River, near the Town of Enid, Yalobusha County, MS.
- FFP Missouri 2, LLC was issued an original license for the proposed 5.1 MW Arkabutla Lake Hydroelectric Project No. 13704. The project will be located at the U.S. Army Corps of Engineers' Arkabutla Dam on the Coldwater River, near the Town of Arkabutla, Tate and Yalobusha Counties, MS.

### Hydropower Project Activities in December 2015

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
<b>Filed</b>								
License	0	0	0	0	0	0	0	0
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Issued</b>								
License	10	52.580	0	0	0	0	10	52.580
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Placed in Service</b>								
License	0	0	0	0	0	0	0	0
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0

Source: Staff Database



## Office of Energy Projects Energy Infrastructure Update For December 2015

### Hydropower Project Activities Year to Date (through December 31, 2015)

Status	Conventional		Pumped Storage		Hydrokinetic		Total No. of Projects	Total Capacity (MW)
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)		
<b>Filed</b>								
License	3	10.300	3	1,033.300	0	0	6	1,043.600
10-MW Exemption	1	0.192	0	0	0	0	1	0.192
Capacity Amendment	1	0.600	0	0	0	0	1	0.600
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Issued</b>								
License	15	70.498	0	0	0	0	15	70.498
10-MW Exemption	1	0.600	0	0	0	0	1	0.600
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0
<b>Placed in Service</b>								
License	0	0	1	21.250	0	0	1	21.250
10-MW Exemption	0	0	0	0	0	0	0	0
Capacity Amendment	0	0	0	0	0	0	0	0
Conduit Exemption	0	0	0	0	0	0	0	0

Source: Staff Database

## Electric Generation Highlights

- MidAmerican Energy Co.'s 470.5 MW Highland Wind Energy Project in O'Brien County, IA is online.
- Kay Wind LLC's 314 MW Kay Wind Project in Kay County, OK is online. The power generated is sold to Westar Energy Inc. and Apex Clean Energy Inc. under long-term contract.
- Roosevelt Wind Project LLC's 250 MW Roosevelt Wind Project in Roosevelt County, NM is online. The power generated is sold to Southwestern Public Service Co. under long-term contract.
- Javelina Wind Energy LLC's 250 MW Javelina Wind Farm Phase II Expansion Project in Webb County, TX is online. The power generated is sold to Austin Energy under long-term contract.
- Shannon Wind LLC's 202.3 MW Shannon Wind Farm Project in Clay County, TX is online.
- South Plains Wind Energy LLC's 200 MW South Plains Wind Energy Phase 1 Project in Floyd County, TX is online.
- Cedar Bluff Wind LLC's 200 MW Cedar Bluff Wind Farm Project in Ness County, KS is online. The power generated is sold to Westar Energy Inc. under long-term contract.
- Slate Creek Wind Project LLC's 150 MW Slate Creek Wind Project in Sumner County, KS is online. The power generated is sold to Great Plains Energy Inc. under long-term contract.
- Briscoe Wind Farm LLC's 150 MW Briscoe County Wind Project in Briscoe County, TX is online.
- Green Pastures Wind LLC's 150 MW Green Pastures Wind Phase 2 Expansion Project in Knox County, TX is online.
- Thunder Spirit Wind LLC's 107 MW Thunder Spirit Wind Project in Adams County, ND is online. The power generated is sold to Montana-Dakota Utilities Co. under long-term contract.
- Campbell County Wind Farm LLC's 95 MW Campbell County Wind Project in Campbell County, SD is online. The power generated is sold to Basin Electric Power Cooperative under long-term contract.
- AEP Texas Central Co.'s 80 MW Sendero Wind Energy Project in Jim Hogg County, TX is online.
- Prairie Breeze Wind II LLC's 73 MW Prairie Breeze Wind Expansion Project in Boone County, NE is online. The power generated is sold to Lincoln Electric System under long-term contract.



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- Goodwell Wind I, II, and III LLCs' Goodwell Wind I, II, and III Projects in Texas County, OK are online. Each project is 66.7 MW in capacity. The power generated is sold to Public Service Co. of Oklahoma under long-term contracts.
- Little Elk Wind Project LLC's 74 MW Little Elk Wind Project in Kiowa County, OK is online. The power generated is sold to Peoples Electric Cooperative under long-term contract.
- One Energy LLC's 7.5 MW Findlay Wind Farm Project in Hancock County, OH is online. The power generated is sold to Whirlpool Corp and Ball Corp.
- Utah Red Hills Renewable Park LLC's 104 MW Utah Red Hills Renewable Park Solar Project in Iron County, UT is online. The power generated is sold to Rocky Mountain Power under long-term contract.
- CED Alamo 5 LLC's 100 MW Downie Ranch Solar Project in Uvalde County, TX is online. The power generated is sold to CPS Energy under long-term contract.
- Decatur Parkway Solar Project LLC's 81 MW Decatur Parkway Solar Project, and Decatur County Solar Project LLC's 19 MW Decatur County Solar Project in Decatur County, GA are online. The power generated is sold to Georgia Power Co. under long-term contracts.
- Silver State Solar Power South LLC's 65 MW Silver State Solar South Project in Clark County, NV is online. The power generated is sold to Southern California Edison Co. under long-term contract.
- Seville Solar One LLC and Seville Solar Two LLC's 50 MW Seville Solar Project in Imperial County, CA is online. The power generated is sold to San Diego Gas and Electric Co., and Imperial Irrigation District under long-term contracts.
- Eden Solar LLC's 47.7 MW Eden Solar Project in Rockingham County, NC is online.
- Sustainable Power Group LLC's 26 MW Adera Solar Project in Madera County, CA is online. The power generated is sold to Southern California Edison Co. under long-term contract.
- Montgomery Solar LLC's 21.5 MW Montgomery Solar Project in Montgomery County, NC is online. The power generated is sold to Duke Energy Progress under long-term contract.
- Constellation Solar Maryland LLC's 20 MW Perryman Solar Farm Project in Harford County, MD is online. The power generated is sold to the Archdiocese of Baltimore under long-term contract.
- Kelford Solar LLC's 20 MW Kelford Solar Project in Bertie County, NC is online.
- Dominion Resources Inc.'s 20 MW Richland Solar Center Project in Twiggs County, GA is online. The power generated is sold to Georgia Power Co. under long-term contract.
- 67RK 8ME LLC's 16.7 MW Red Crest Solar Project, and 87RL 8ME LLC's 15 MW Woodmere Solar Farm Project in Kern County, CA are online. The power generated is sold to Pacific Gas and Electric Co. under long-term contracts.
- Tracy Solar LLC's 14 MW Tracy Solar Project in Nash County, NC is online. The power generated is sold to Duke Energy Carolinas under long-term contract.
- Duke Energy Progress's 12.8 MW Camp Lejeune Solar Project in Onslow County, NC is online.
- Whitakers Solar LLC's 12 MW Whitaker Solar Project in Nash County, NC is online.
- Citizen Solar B LLC's 7 MW Citizen B Solar Project in Fresno County, CA is online.
- Andrew Solar LLC's 7 MW Andrew Solar Project in Craven County, NC is online. The power generated is sold to Duke Energy Carolinas under long-term contract.
- Sun Devil Solar LLC's 6.5 MW Sun Devil Solar Project in Warren County, NC is online. The power generated is sold to Duke Energy Progress under long-term contract.
- Highland Solar Center LLC's 6.4 MW Highland Solar Center Project in Lenoir County, NC is online. The power generated is sold to Duke Energy Progress under long-term contract.
- Gates Solar LLC's 6.3 MW Gates Solar Project in Gates County, NC is online. The power generated is sold to Virginia Electric and Power Co. under long-term contract.
- Phoenix Solar Inc.'s 5.8 MW University of Illinois Solar Project in Champaign County, IL is online. The power generated is sold to the University of Illinois under long-term contract.
- Pastime Farm LLC's 5 MW Pastime Solar Farm Project in Clay County, IN is online. The power generated is sold to Duke Energy Indiana under long-term contract.
- Meares Solar Center LLC's 5 MW Meares Solar Center Project in Columbus County, NC is online.
- Balsam Solar LLC's 5 MW Balsam Solar Project, and Sweetgum Solar LLC's 5 MW Sweetgum Solar Project in Lee County, NC are online. The power generated is sold to Duke Energy Carolinas under long-term contracts.
- Fresh Air Energy II LLC's 5 MW Little River PV1 Project in Randolph County, NC is online. The power generated is sold to Duke Energy Progress under long-term contract.



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- Fresh Air Energy XVI LLC's 5 MW Thorton PV1 Project in Greene County, NC is online. The power generated is sold to Duke Energy Progress under long-term contract.
- FLS Energy Inc's 4.5 MW TWE New Bern Solar Project in Craven County, NC is online. The power generated is sold to Duke Energy Progress under long-term contract.
- Fresh Air Energy XV LLC's 3.5 MW Old Catawba PV1 Project in Catawba County, NC is online. The power generated is sold to Duke Energy Progress under long-term contract.
- AES Warrior Run Inc's AES Warrior Run Cogeneration F Energy Storage Expansion Project in Allegany County, MD is online.
- McHenry Battery Storage LLC's McHenry Energy Storage Project in McHenry County, IL is online.

### New Generation In-Service (New Build and Expansion)

Primary Fuel Type	December 2015		January – December 2015 Cumulative		January – December 2014 Cumulative	
	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)	No. of Units	Installed Capacity (MW)
Coal	0	0	1	3	3	166
Natural Gas	0	0	51	5,952	82	9,162
Nuclear	0	0	0	0	10	266
Oil	0	0	11	19	19	96
Water	0	0	22	154	19	237
Wind	27	3,022	71	8,186	71	5,319
Biomass	1	1	30	312	92	270
Geothermal Steam	0	0	2	48	7	36
Solar	44	734	282	2,598	426	3,776
Waste Heat	0	0	0	0	4	75
Other *	2	0	17	0	8	22
<b>Total</b>	<b>74</b>	<b>3,757</b>	<b>487</b>	<b>17,272</b>	<b>741</b>	<b>19,425</b>

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group LLC which include plants with nameplate capacity of 1 MW or greater. The data may be subject to update.

### Total Installed Operating Generating Capacity

	Installed Capacity (GW)	% of Total Capacity
Coal	304.72	26.07%
Natural Gas	500.99	42.86%
Nuclear	107.03	9.16%
Oil	44.78	3.83%
Water	100.06	8.56%
Wind	74.00	6.33%
Biomass	16.68	1.43%
Geothermal Steam	3.91	0.33%
Solar	14.70	1.26%
Waste Heat	1.15	0.10%
Other*	0.77	0.07%
<b>Total</b>	<b>1,168.78</b>	<b>100.00%</b>

Sources: Data derived from Velocity Suite, ABB Inc. and The C Three Group LLC which include plants with nameplate capacity of 1 MW or greater. The data may be subject to update.

\* "Other" includes purchased steam, tires, and miscellaneous technology such as batteries, fuel cells, energy storage, and fly wheel.



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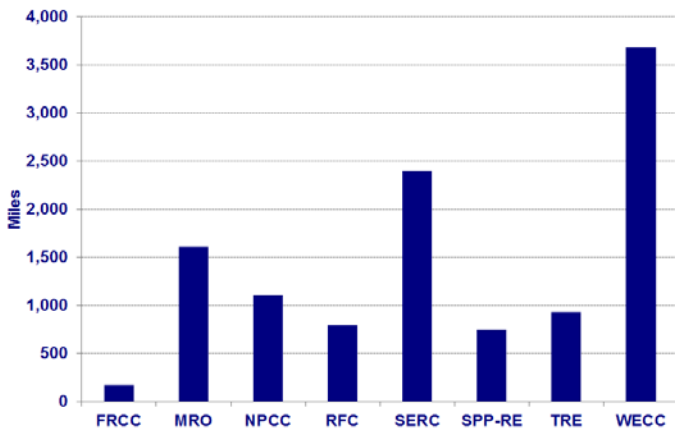
## Electric Transmission Highlights

- Connecticut Light and Power, New England Electric, and Narragansett Electric Company completed 65.3 miles of the Interstate Reliability Project. The 345 kV interstate transmission project connects MA, CT, and RI and it is part of the New England East-West Solution (NEEWS).

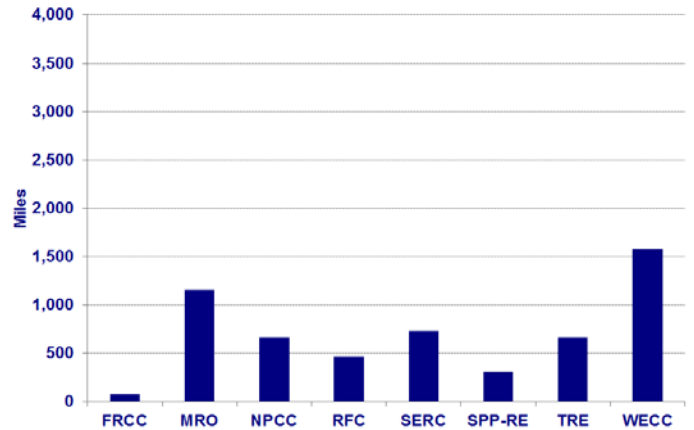
Voltage (kV)	Transmission Projects Completed				Proposed Transmission Projects In-Service by December 2017	
	December 2015	December 2014	January – December 2015 Cumulative	January – December 2014 Cumulative	High Probability of Completion	All
	Line Length (miles)					
≤230	0.0	405.3	198.3	1,202.5	2,644.6	5,086.1
345	65.3	120.0	903.3	1,659.8	2,328.4	4,458.2
500	0.0	0.0	294.0	70.0	657.9	1,905.9
<b>Total U.S.</b>	<b>65.3</b>	<b>525.3</b>	<b>1,395.6</b>	<b>2,932.3</b>	<b>5,630.9</b>	<b>11,450.2</b>

Sources: Data derived from Staff Database and U.S. Electric Transmission Projects ©2016 The C Three Group, LLC.

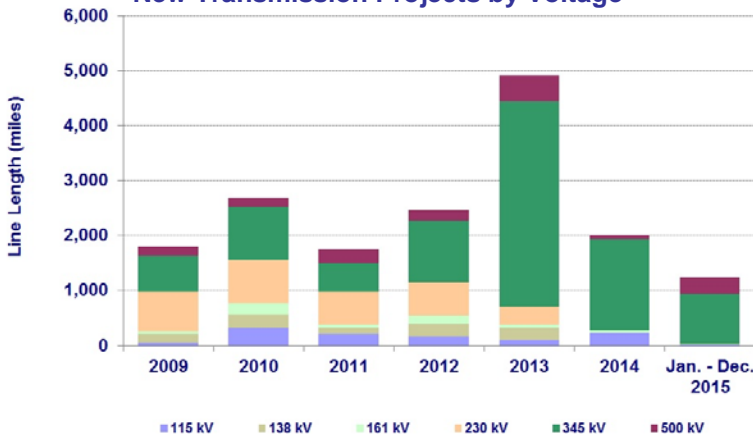
**All Transmission Projects with a Proposed In-Service Date by December 2017**



**Transmission Projects with a High Probability of being completed by December 2017**



**New Transmission Projects by Voltage**



Sources: Data derived from Staff Database and U.S. Electric Transmission Projects ©2016 The C Three Group, LLC.

**Disclaimer:** This Report contains analyses, presentations, and conclusions that may be based on or derived from the data sources cited, but do not necessarily reflect the positions or recommendations of the data providers.