ATC Futures

Drivers	Load Growth within ATC	Energy Growth within ATC	Load Growth outside ATC	Energy Growth outside ATC	New low-cost generation within ATC[1]			% Energy in ATC from Renewables		% Renewables inside/ outside WI[2]	
Bounds	2013, 2018, 2023	2013, 2018, 2023	2013, 2018, 2023	2013, 2018, 2023	2013	2018	2023	2013	2018, 2023	2013	2018, 2023
Lower	0.5%	0.5%	0.5%	0.5%	Retirements: 300 MW coal, No NED	950 MW coal, 500 MW nuclear, No NED	950 MW coal, 500 MW nuclear, No NED	8%	10%	Inside: 50% Out: 50%	Inside: 50% Out: 50%
Mid[3]	1.5%	1.5%	1.5%	1.5%	Retirements: 150 MW coal, NED is built	475 MW coal, NED is built	475 MW coal, NED is built	8%	10%	Inside: 50% Outside: 50%	Inside: 50% Outside: 50%
Upper	3.0%	3.0%	3.0%	3.0%	Retirements: None, NED is built	None, NED is built plus 500 MW add'l coal	Same as 2018, but add 500 more MWs coal	10%	25%	Inside: 50% Outside: 50%	Inside: 20% Outside: 80%
2013 Futures Descriptions											
Robust Economy	3.0%	3.0%	3.0%	3.0%	Upper			Mid		Mid	
High re-tirements	1.5%	1.5%	1.5%	1.5%	Lower			Mid		Mid	
High Environ.	1.0%[4]	1.0%[4]	1.0%[4]	1.0%[4]	225 MW coal retirements plus NED 280 MW built			Upper		Upper	
Slow Growth	0.5%	0.5%	0.5%	0.5%	Mid			Mid		Mid	
DOE 20% Wind	2.0%	2.0%	2.0%	2.0%	Lower			20%		Mid	
Fuel&Reg. Limitations	1.3%	1.3%	1.3%	1.3%	5 year delay on new Coal, CT & CC near loads			Mid		Mid	
2018 Futures Descriptions											
Robust Economy	3.0%	3.0%	3.0%	3.0%	Upper			Mid		Mid	
High re-tirements	1.5%	1.5%	1.5%	1.5%	Lower			Mid		Mid	
High Environ.	1.0%[4]	1.0%[4]	1.0%[4]	1.0%[4]	950 MW coal retirements plus NED 280 MW built			Upper		Upper	
Slow Growth	0.5%	0.5%	0.5%	0.5%	Mid			Mid		Mid	
DOE 20% Wind	2.0%	2.0%	2.0%	2.0%	Lower			25%		Mid	
Fuel&Reg. Limitations	1.3%	1.3%	1.3%	1.3%	CT & CC near loads, Limited gen. & trans. siting			Mid		Mid	
2023 Futures Descriptions											
Robust Economy	3.0%	3.0%	3.0%	3.0%	Upper			Mid		Mid	
High re-tirements	1.5%	1.5%	1.5%	1.5%	Lower			Mid		Mid	
High Environ.	1.0%[4]	1.0%[4]	1.0%[4]	1.0%[4]	950 MW coal retirements plus NED 280 MW built			Upper		Upper	
Slow Growth	0.5%	0.5%	0.5%	0.5%	Mid			Mid		Mid	
DOE 20% Wind	2.0%	2.0%	2.0%	2.0%	Lower			25%		Mid	
Fuel&Reg. Limitations	1.3%	1.3%	1.3%	1.3%	CT & CC near loads, Limited gen. & trans. siting			Mid		Mid	

ATC Futures (cont.)

Drivers	CapX 2020 Trans.[5]		Natural Gas price forecast	Coal Price Forecast	Environmental Regulations	Generation Portfolios outside ATC	
Bounds	2013	2018, 2023	2013, 2018, 2023	2013, 2018, 2023	2013, 2018, 2023	2013	2018, 2023
Lower	None	CapX Phase 1	-30%	-10%	Status Quo-CAIR & CAMR	MISO MTEP09	MISO MTEP09
Mid	None	CapX Phase 1	NYMEX For 5 Years Followed by EIA Escalation Rate	MISO MAIN $2.00/MMBTU Delivered in 2010 & 2%/yr . ($2.34 in 2018, $2.59 in 2023)	Status Quo-CAIR & CAMR	MISO MTEP09	MISO MTEP09
Upper	CapX Phase 1	CapX Phase 1	40%	30%	Status Quo-CAIR & CAMR & $25/ton for CO_2, 25% Higher Mercury Costs	MISO MTEP09	MISO MTEP09
2013 Futures Descriptions							
Robust Economy	Upper		Mid-Upper – 20%	Mid-Upper – 15%	Status Quo	? MW	
High re-tirements	None		Mid-Upper – 20%	Lower	Status Quo	? MW	
High Environ.	None		Upper	Lower	$25/ton CO2 Tax, +25% Mercury Cost	? MW MISO Environmental	
Slow Growth	None		Lower	Mid	Status Quo	? MW	
DOE 20% Wind	Upper		Upper	Lower	Status Quo	? MW MISO 20% Wind	
Fuel&Reg. Limitations	None		Mid-Upper – 20%	Mid	Status Quo	? MW MISO Reg. Limitation	
2018 Futures Descriptions							
Robust Economy	Upper		Mid-Upper – 20%	Mid-Upper – 15%	Status Quo	? MW	
High re-tirements	Mid		Mid-Upper – 20%	Lower	Status Quo	? MW	
High Environ.	Mid		Upper	Lower	$25/ton CO2 Tax, +25% Mercury Cost	? MW MISO Environmental	
Slow Growth	Mid		Lower	Mid	Status Quo	? MW	
DOE 20% Wind	Mid		Upper	Lower	Status Quo	? MW MISO 20% Wind	
Fuel&Reg. Limitations	Mid		Mid-Upper – 20%	Mid	Status Quo	? MW MISO Reg. Limitation	
2023 Futures Descriptions							
Robust Economy	Upper		Mid-Upper – 20%	Mid-Upper – 15%	Status Quo	? MW	
High re-tirements	Mid		Mid-Upper – 20%	Lower	Status Quo	? MW	
High Environ.	Mid		Upper	Lower	$25/ton CO2 Tax, +25% Mercury Cost	? MW MISO Environmental	
Slow Growth	Mid		Lower	Mid	Status Quo	? MW	
DOE 20% Wind	Mid		Upper	Lower	Status Quo	? MW MISO 20% Wind	
Fuel&Reg. Limitations	Mid		Mid-Upper – 20%	Mid	Status Quo	? MW MISO Reg. Limitation	

Notes:

1) All scenarios include Weston 4 and Elm Road 1 and 2 for a total of about 1,800 MWs.
2) Approach: Determine # of MWh that could be produced from planned renewables in WI, all other comes from outside.
3) Mid load growth was based primarily on ATC's normalized peak growth rate over the past 5 years.
4) A lower load growth percentage was selected for the High Environmental future due to increased Demand Side Management and Energy Efficiency, not because of low economic growth.
5) Includes approved transmission upgrades from MTEP for 2013, 2018 & 2023.