



Ameren Missouri Renewable Initiative



EXECUTIVE SUMMARY

- ❑ Missouri Renewable Energy Standard (MoRES) contains both overall (total) renewables and solar-specific requirements. The renewables requirements are set as a specific percentage of the retail electric sales in MWhs and increase over time. The annual solar-specific requirement is 2% of the total renewables requirements.

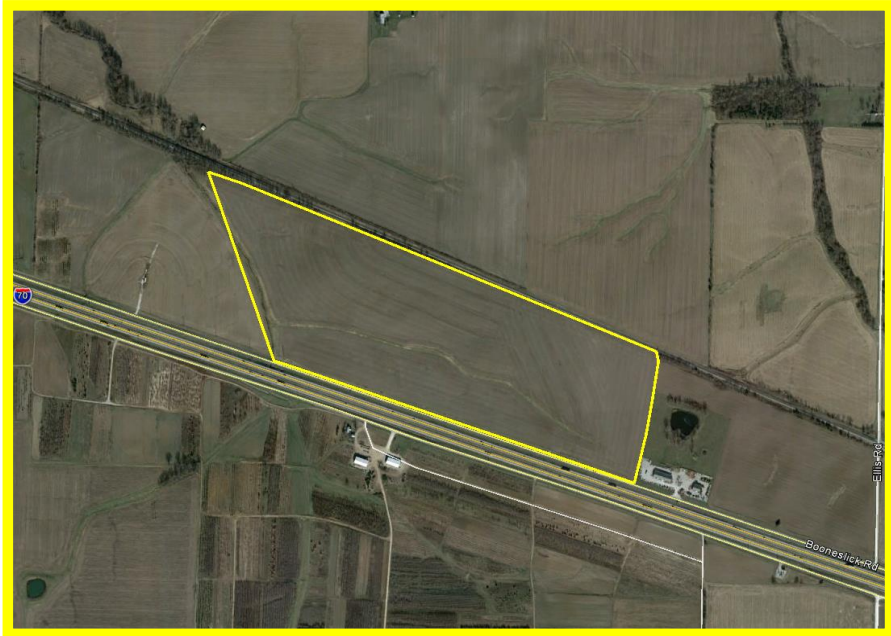
Years	TOTAL RENEWABLES REQUIREMENTS		SOLAR REQUIREMENTS
	% of Total Retail Sales	Estimated MW-h	Estimated MW-h
2011 – 2013	2%	740K	15K (~11MW)
2014 – 2017	5%	1.8M	37K
2018 – 2020	10%	3.7M	73K
2021 – 2025	15%	5.5M*	110K (~85 MW)

- ❑ Compliance is achieved through the acquisition of Renewable Energy Credits (RECs), with or without the associated energy.
- ❑ The basis for acquiring RECs can be achieved through (1) the purchase of RECs with or without the associated energy component, (2) the acquisition of a purchase power agreement (PPA) with a certified renewable energy resource providing the energy and RECs or (3) energy production through the building, owning and operation of a certified renewable energy resource by the utility.

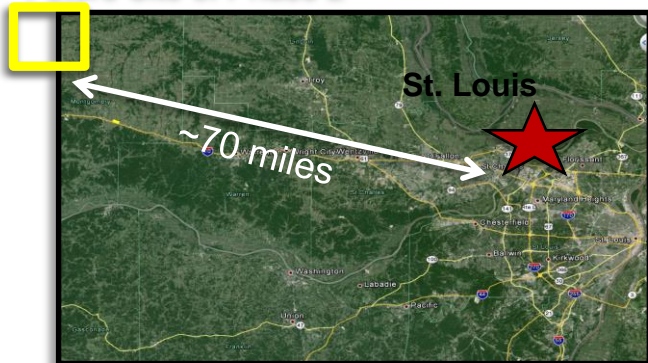
RENEWABLE RESOURCE ADDITIONS

	<u>Time</u> <u>Frame</u>	<u>Additions</u> <u>MW</u>	<u>Capital</u> <u>(millions)</u>	<u>Total</u> <u>MW</u>
Pioneer Prairie	2009			102
Customer Solar	2011-2015			50
Utility Solar				
O'Fallon	2013-2014	5	\$16	5
Montgomery County	2015-2016	15	\$36	15
Phase III	2020-2021	10	\$28-32	10
Phase IV	2024-2025	10	\$28-32	10
Phase V	2026-2027	10	\$28-32	10
Wind				
Phase I	2018-2019	50	\$90-110	50
Phase II	2019-2020	50	\$90-110	50
Phase III	2021-2022	100	\$200-220	100
Phase IV	2023-2024	100	\$200-220	100
Phase V	2025-2026	100	\$200-220	100
Maryland Heights-Landfill Gas	2022-2023	5	\$13-17	19
Keokuk				142
(Units 14 & 15)	2018-2019	4	\$14-22	4
Total		459	\$957-1,089	767

MONTGOMERY COUNTY SOLAR PROJECT OVERVIEW



Future Site of Phase 2



Capacity: 13.2 MW AC (15 MW DC)

Location: Adjacent to I-70: ~70 miles from the GOB

- 91 acres for solar development
- ½ mile of I-70 frontage
- Viewable to public from I-70
- Northside of Highway

Major Equipment:

- ~48,000 panels
- 6 central inverters

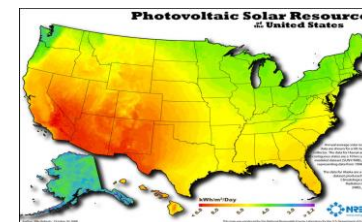
In-service Date: 4th Quarter, 2016



View looking North from I-70

BUSINESS JUSTIFICATION

- ❑ 30% Investment Tax Credit(ITC) will expire at the end of 2016
- ❑ ITC provides project cost reduction and benefit to customers
- ❑ Project aligned with overall corporate generation strategy
 - Generation fleet diversification
 - Less carbon emitting resources-renewables
 - Meet the Missouri RPS requirements
- ❑ Provides 1.25 S-RECs per MWhr as an in state resource
- ❑ Elimination of solar rebates will limit future customer development and access to a current source of compliance S-RECs
- ❑ Provides effective hedge against illiquid and volatile S-REC futures market
- ❑ Supports on-going legislative initiatives and the renewable community's drive for in-state renewable project development
- ❑ Aids in spreading out project capital cost associated with meeting Missouri Renewable Energy Standard



WIND DEVELOPMENT PLAN

- Planned addition of approximately 400 MWs of wind between 2018-2026
- Discussions initiated with existing wind farm on potential acquisition by Ameren Missouri
- Evaluation by wind consulting firm DNV-GL to determine primary sites (12-15) in Missouri to accommodate wind development by Ameren Missouri on an EPC basis
- Intent to pursue top 2-3 sites for detailed evaluation and data collection
- Potential request for proposal in late 2015 to be issued to top 5 wind developers in the U.S. for MISO projects in their development portfolio



HYDRO

- Completion of 2 unit upgrades at Keokuk (Units 14 & 15)
- Capital spend ~ \$22 million
- Operational in 2019
- Additional generation of 4 MWs
- Upgrades for Units 4 & 5 delayed



LANDFILL GAS

- Additional 5 MWs to be installed in 2025 time frame-dependent on gas output from landfill
- Capital spend~\$16 million
- Provides additional~ 25,000 MWhs



CUSTOMER DISTRIBUTIVE GENERATION

- Currently there are approximately 50 MWs of customer installed solar: residential and commercial/industrial
- Lack of solar rebates has drastically reduced installs in Ameren Missouri service territory
- Panel prices continue to decline
- Customer interest and desire is still high
- Development of strategy to deal with future technological advancements that could significantly erode the customer base: smart grid, battery storage, etc.

