



Xcel Energy's Carbon Vision and the Upper Midwest Energy Plan

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Sixth Annual EPRI-IEA Expert Workshop: Challenges in Electricity Decarbonisation

Leading the Clean Energy Transition



A bold vision for a carbon-free future

2018



2030



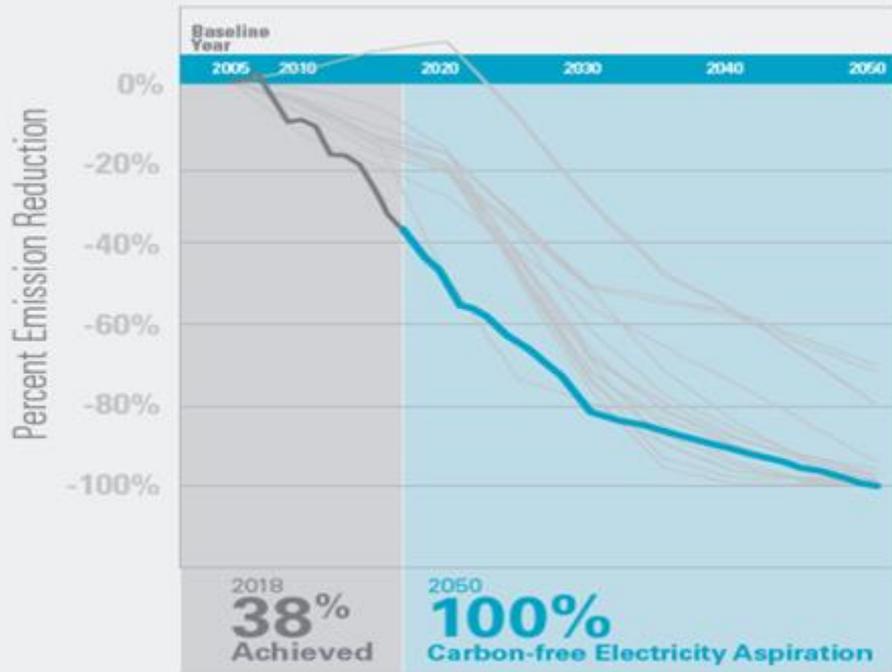
2050



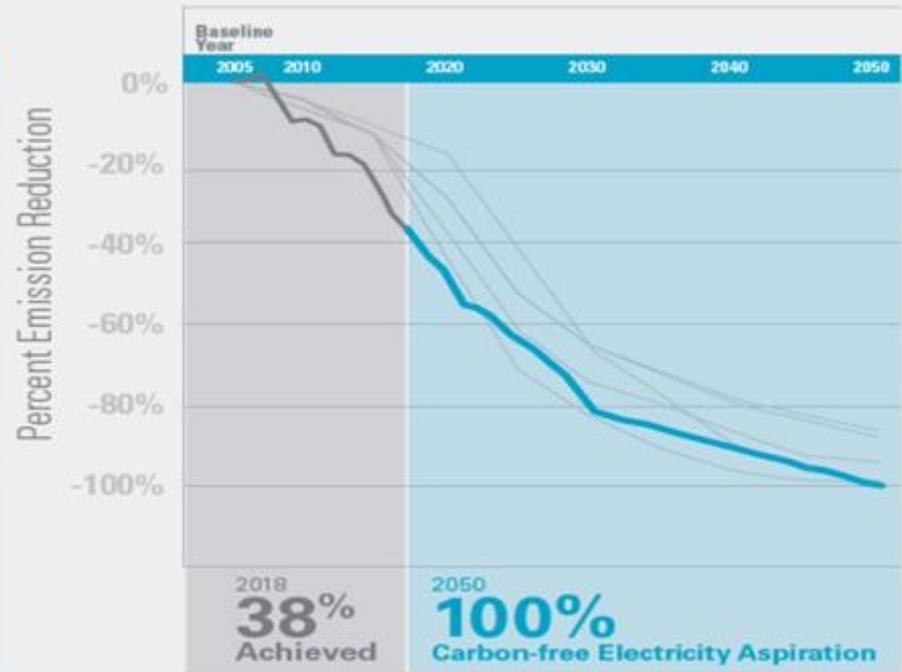
Comparing our Goals to the Science

Xcel Energy's Carbon Emission Reduction Trajectory

Compared to 2 C Scenarios



Compared to 1.5 C Scenarios



Upper Midwest Energy Plan 2020-2034



Close coal plants



Add renewables



**Continue
carbon-free nuclear**

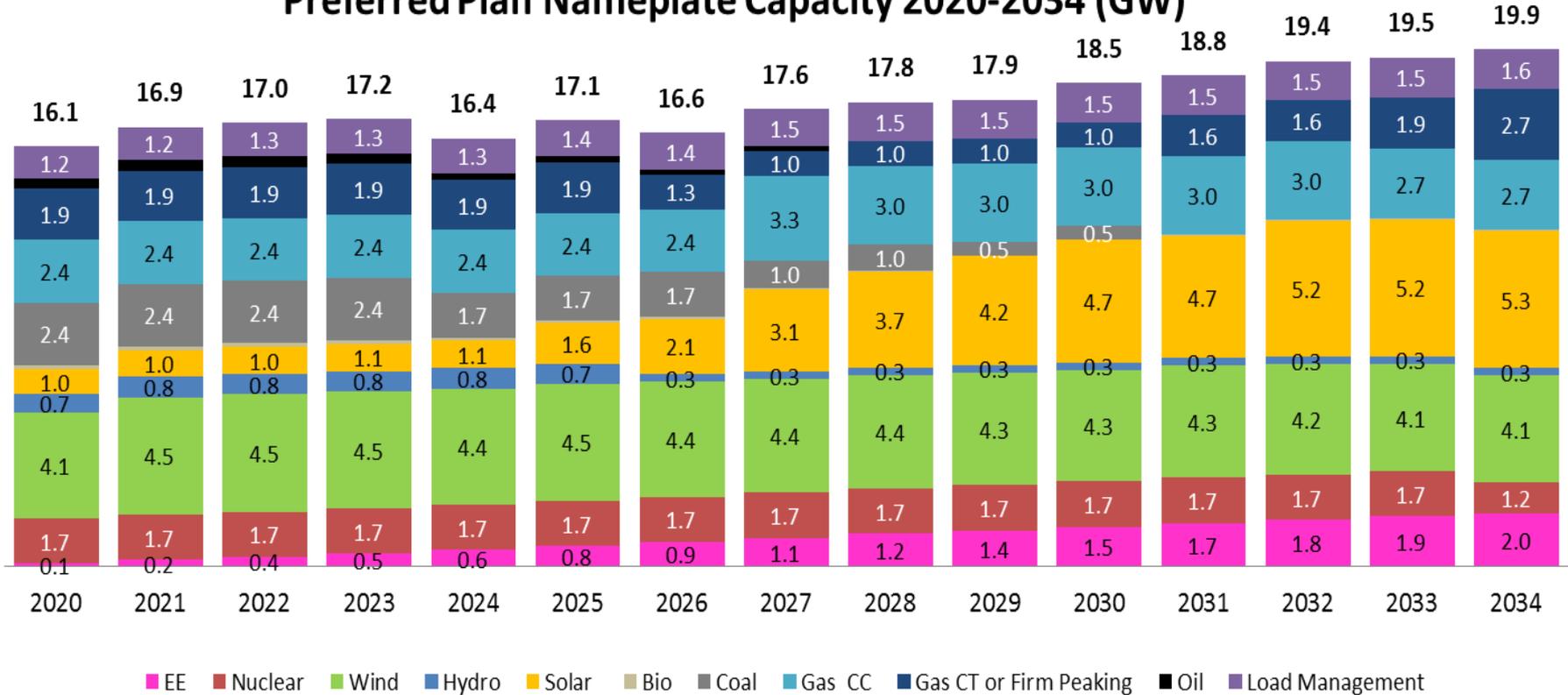


Bridge to carbon-free

Preferred Plan Capacity Overview

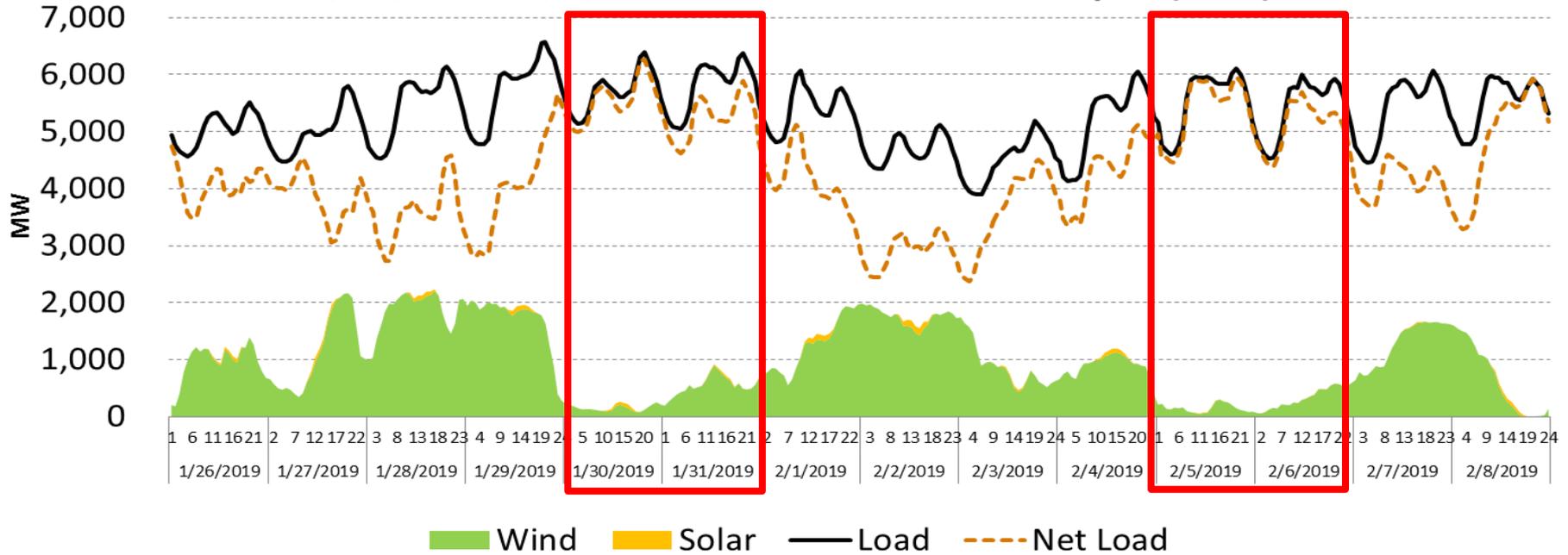


Preferred Plan Nameplate Capacity 2020-2034 (GW)



The Winter Challenge – Historical Example

1/26/19 to 2/8/19 Renewable & Load Output (MW)



A Cleaner Energy Mix

Upper Midwest

