



CANDEV 2020: OUR SOLUTION

TEAM 2309

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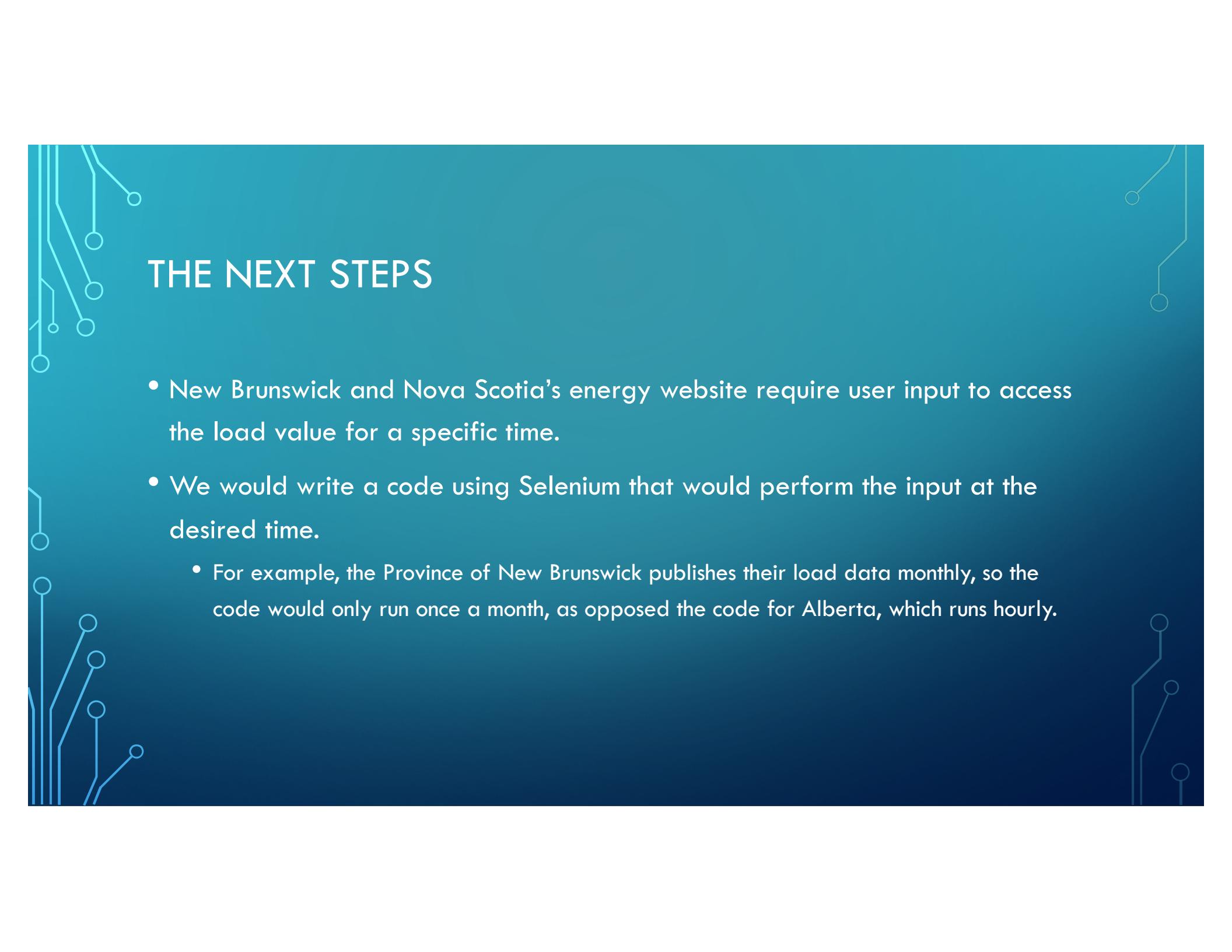
THE BUSINESS CASE

GOAL: Collect real-time electricity data from multiple provinces.

CHALLENGES: Provinces each publish data in different formats, at different times, and with different frequencies.

OUR SOLUTION

- For each province, create an excel sheet with the following information:
DATE-TIME-LOAD
- Alberta & Ontario's data is updated in real time
 - We wrote a code for each to access the webpage every hour on the hour
 - The code would record the aforementioned information and export it to a csv file



THE NEXT STEPS

- New Brunswick and Nova Scotia's energy website require user input to access the load value for a specific time.
- We would write a code using Selenium that would perform the input at the desired time.
 - For example, the Province of New Brunswick publishes their load data monthly, so the code would only run once a month, as opposed the code for Alberta, which runs hourly.

Current Supply Demand Report

Legend
DCR - Dispatched (and Accepted) Contingency Reserve
MC - Maximum Capability

SUMMARY					
	ASSET	MC	TNG	DCR	
Alberta Total Net Generation	1000				
Net Actual Interchange	-1039				
Alberta Internal Load (AIL)	11060				
Net-To-Grid Generation	7334				
Contingency Reserve Required	729				
Dispatched Contingency Reserve -Gen	760				
Dispatched Contingency Reserve -Other	665				
Dispatched Contingency Reserve -Total	103				
LSSI Armed Dispatch	157				
LSSI Offered Volume	157				

GENERATION					
	ASSET	MC	TNG	DCR	
COAL					
Battle River #4 (BR4)	155	53	15		
Battle River #5 (BR5)	385	137	0		
Genesee #1 (GEN1)	400	400	0		
Genesee #2 (GEN2)	400	393	0		
Genesee #3 (GEN3)	466	464	0		
H.R. Miller (HMR)	144	39	0		
Keephills #1 (KHF1)	395	380	0		
Keephills #2 (KHF2)	395	380	0		
Keephills #3 (KHF3)	463	406	0		
Sheerness #1 (SH1)	400	338	7		
Sheerness #2 (SH2)	390	140	0		
Sundance #3 (SDS3)	368	0			
Sundance #4 (SDS4)	406	202	80		
Sundance #5 (SDS5)	406	0	0		
Sundance #6 (SDS6)	401	203	65		
GAS					
Simple Cycle					
AB Newsprint (ANCI1)	63	0	0		
Banff (APL1)	7	0	6		
Bethel (BET1)	6	0	0		
Carson Creek (GEND1)	15	0	0		
Cloverbar #1 (ENC1)	48	46	0		
Cloverbar #2 (ENC2)	101	95	5		
Cloverbar #3 (ENC3)	101	95	5		
Crossfield Energy Centre #1 (CRS1)	48	42	0		
Crossfield Energy Centre #2 (CRS2)	48	42	0		
Crossfield Energy Centre #3 (CRS3)	48	43	0		
Drywood (DRW1)	6	0	0		
House Rock (HR1)	6	0	0		
Judy Creek (GENB1)	15	0	0		
Lethbridge Burden (ME03)	7	0	7		
Lethbridge Coalface (ME04)	6	0	6		
Lethbridge Tailings (ME02)	6	0	6		
NPC1 Damsite St. Marys (NPS1)	11	0	0		
NPC2 JL Landry (NPC2)	9	9	0		
Northern Prairie Power Project (NPP1)	105	86	0		
Panhandle (PAP1)	10	0	7		
Poplar Hill (PH1)	42	42	0		
Rainbow #5 (RBS0)	50	1	0		
Ralston (NAT1)	20	3	0		
Valley View 1 (VWV1)	50	20	20		
Valley View 2 (VWV2)	50	20	25		
West Wind (WW1)	20	20	0		
Wind generation					
Air Liquide Scotford FT (ALS1)	106	86	15		
Altamont (AMT1)	50	35	0		
Base Plant (SCR1)	50	36	0		
Bear Creek 1 (BCR1)	64	0	0		
Bear Creek 2 (BCR2)	36	16	0		
Blackfalds (BF11)	6	6	0		

INTERCHANGE					
	ASSET	MC	TNG	DCR	
COAL					
British Columbia		120	21	53	
Montana		350	63	178	
Saskatchewan		7	0	6	
TOTAL		1039			

Last Update : Jan 18, 2020 20:51

All values listed are in MW

SUMMARY					
Alberta Total Net Generation	10094				
Net Actual Interchange	-1020				
Alberta Internal Load (AIL)	11114				
Net-To-Grid Generation	7428				
Contingency Reserve Required	735				
Dispatched Contingency Reserve (DCR)	769				
Dispatched Contingency Reserve -Gen	666				
Dispatched Contingency Reserve -Other	103				
LSSI Armed Dispatch	189				
LSSI Offered Volume	189				

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Power Data

Power Data

This section provides easy access to market data, including real-time and historical reports.

Saturday, January 18, 2020

This Hour's Data >

Ontario Demand at 10:00 p.m. EST

16,926 MW

Hourly Output by Fuel Type at 10:00 p.m. EST

Nuclear 10,836 MW Wind 3,706 MW

Hydro 4,785 MW Solar 0 MW

Gas 334 MW Biofuel 8 MW

Hourly Ontario Energy Price at 10:00 p.m. EST

\$20.03 / MWh

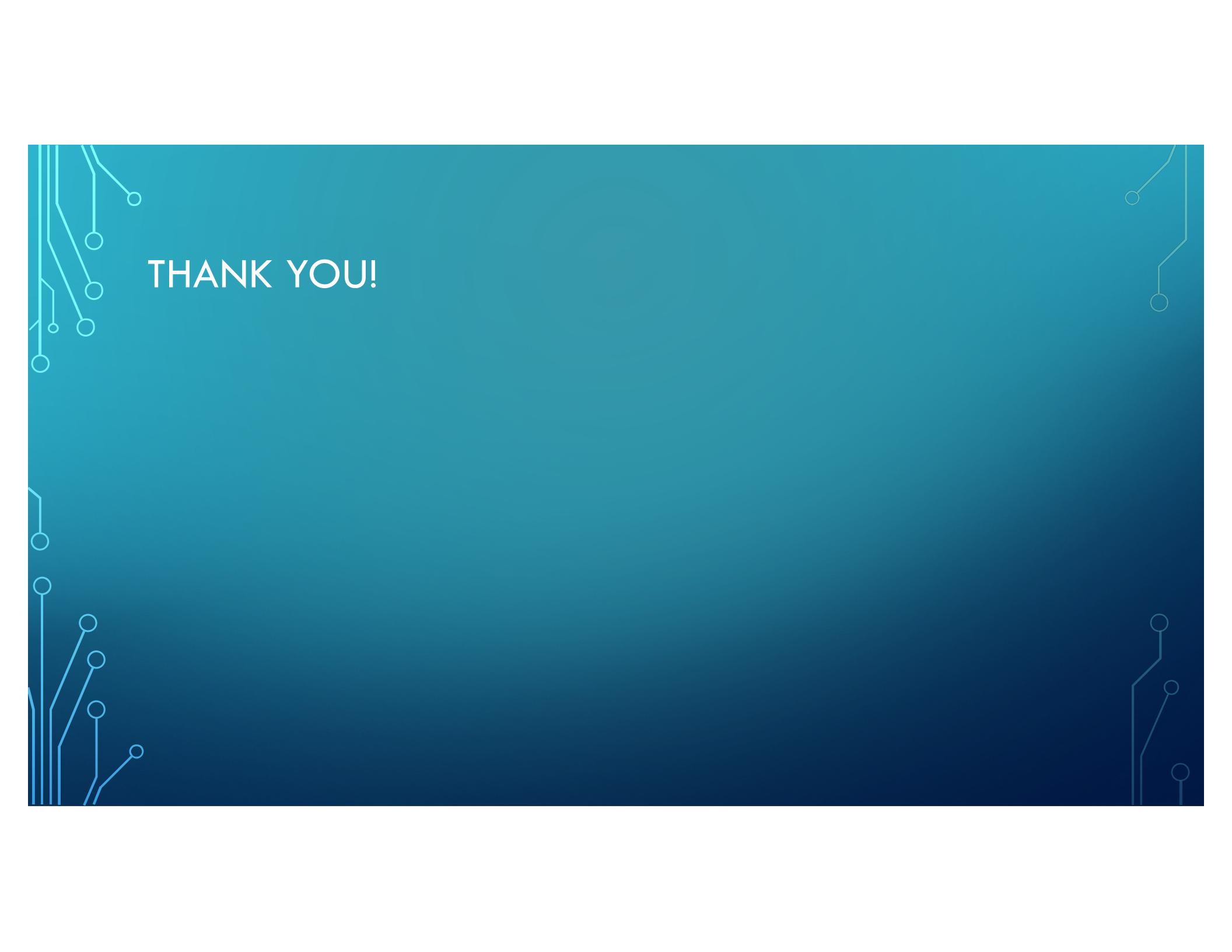
Global Adjustment 1st Estimate (January)

\$83.23 / MWh

Demand

Supply

Price



THANK YOU!