



GPCM Workshop: Demand

November 21, 2025

The Leader in Energy Market Simulation Systems

Providing energy companies, consultants, and regulators advanced tools to support:

- **Investment and M&A Strategy**
- **Environmental and Sustainability Goals**
- **Credible Risk Analysis**
- **Trading Strategy**
- **Policy Development and Assessment**
- **Energy Security**



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RBAC's Demand Curve
Development Methodology

Demand Curve Development

U.S. & Canada RES, COM & IND

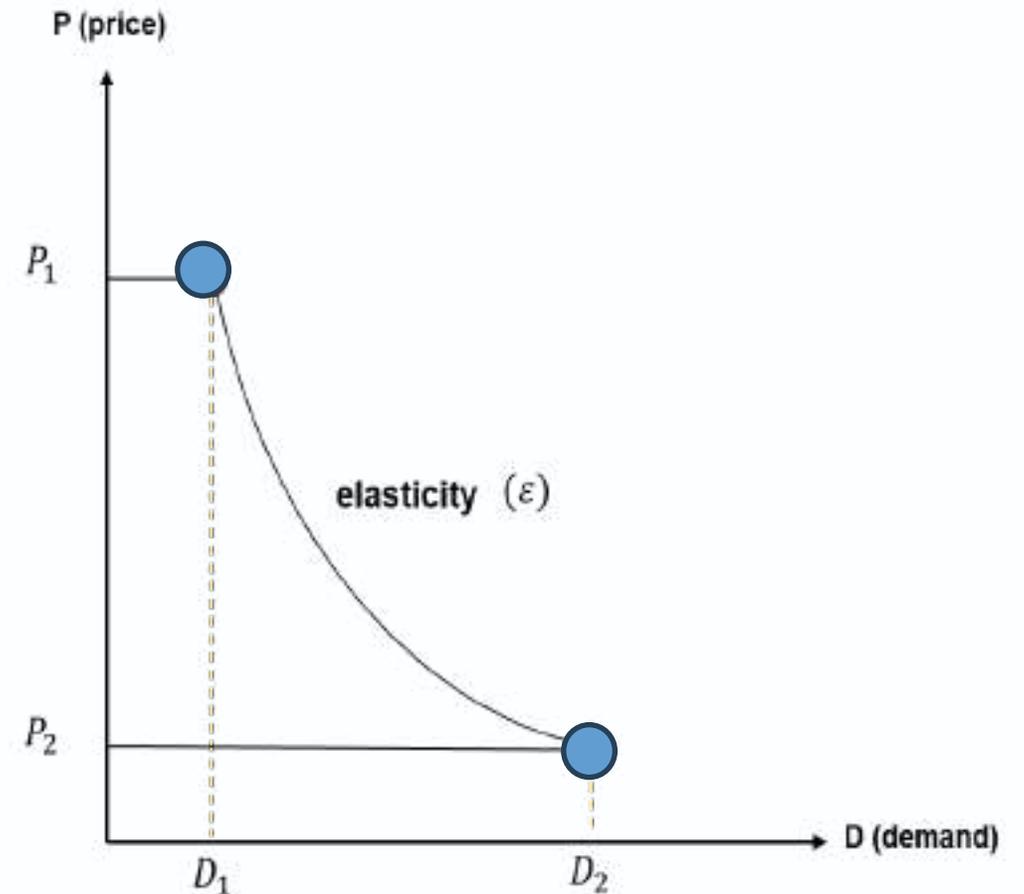
- Use regression-based forecasting through GDMS

U.S. & Canada ELC

- ELC demand curves (midpoint demand) directly put in Builder
- Base Case uses modified NERC forecast & CER Forecast

Mexico RES, COM, IND & ELC

- SENER Forecasts through mid-2030s
- Trend analysis for period after forecast



Demand Regressions Constructed by STATE and SECTOR

$$y = f(x_1, x_2, x_3, \dots, x_n) + \delta$$

dependent variable \rightarrow y independent driver variables \rightarrow $f(x_1, x_2, x_3, \dots, x_n)$ unexplained error \rightarrow δ

$$\text{Demand} = \alpha \cdot x_1^{\epsilon_1} \cdot x_2^{\epsilon_2} \cdot x_3^{\epsilon_3}$$

constant \rightarrow α price \rightarrow x_1 Weather \rightarrow x_2 market size / growth \rightarrow x_3

elasticity \rightarrow $\epsilon_1, \epsilon_2, \epsilon_3$

(e.g., population, customer count, GDP, GSP)

Driver Variables, Constant Terms, and Elasticities Vary



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Demand Case Builder & Demand
Make New

Demand Case Builder & Demand Make New

Demand	Customer	Location	Sector	Period	Segment	Demand1	Price1	Demand2	Price2	Elmt	Panel
25Q1Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Jan-2011	0	340	25.125	448	1.331	0.200	Per
25Q2Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Feb-2011	0	371	21.787	476	1.338	0.200	Per
25Q3Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Mar-2011	0	339	18.089	388	1.335	0.200	Per
25Q4Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Apr-2011	0	389	14.471	402	1.331	0.200	Per
25Q5Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	May-2011	0	327	14.471	526	1.338	0.200	Per
25Q6Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Jun-2011	0	441	14.471	717	1.335	0.200	Per
25Q7Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Jul-2011	0	334	14.471	860	1.335	0.200	Per
25Q8Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Aug-2011	0	580	14.471	814	1.331	0.200	Per
25Q9Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Sep-2011	0	484	14.471	831	1.335	0.200	Per
25Q10Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Oct-2011	0	287	14.471	462	1.335	0.200	Per
25Q11Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Nov-2011	0	256	18.089	412	1.338	0.200	Per
25Q12Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Dec-2011	0	389	21.787	504	1.335	0.200	Per
25Q13Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Jan-2012	0	286	14.471	516	0.975	0.200	Per
25Q14Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Feb-2012	0	281	15.912	510	0.975	0.200	Per
25Q15Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Mar-2012	0	339	13.176	518	0.975	0.200	Per
25Q16Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Apr-2012	0	401	13.541	484	0.975	0.200	Per
25Q17Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	May-2012	0	424	13.541	489	0.975	0.200	Per
25Q18Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Jun-2012	0	481	13.541	751	0.975	0.200	Per
25Q19Year	ADP Texas Central Company	Texas South (ERCOT)	ELC	Jul-2012	0	334	13.541	877	0.975	0.200	Per

Use DEMAND MAKE NEW:

- Change demand by a multiple or absolute value for:

- Sector
- Time period
- Geography
- Quantity or Price

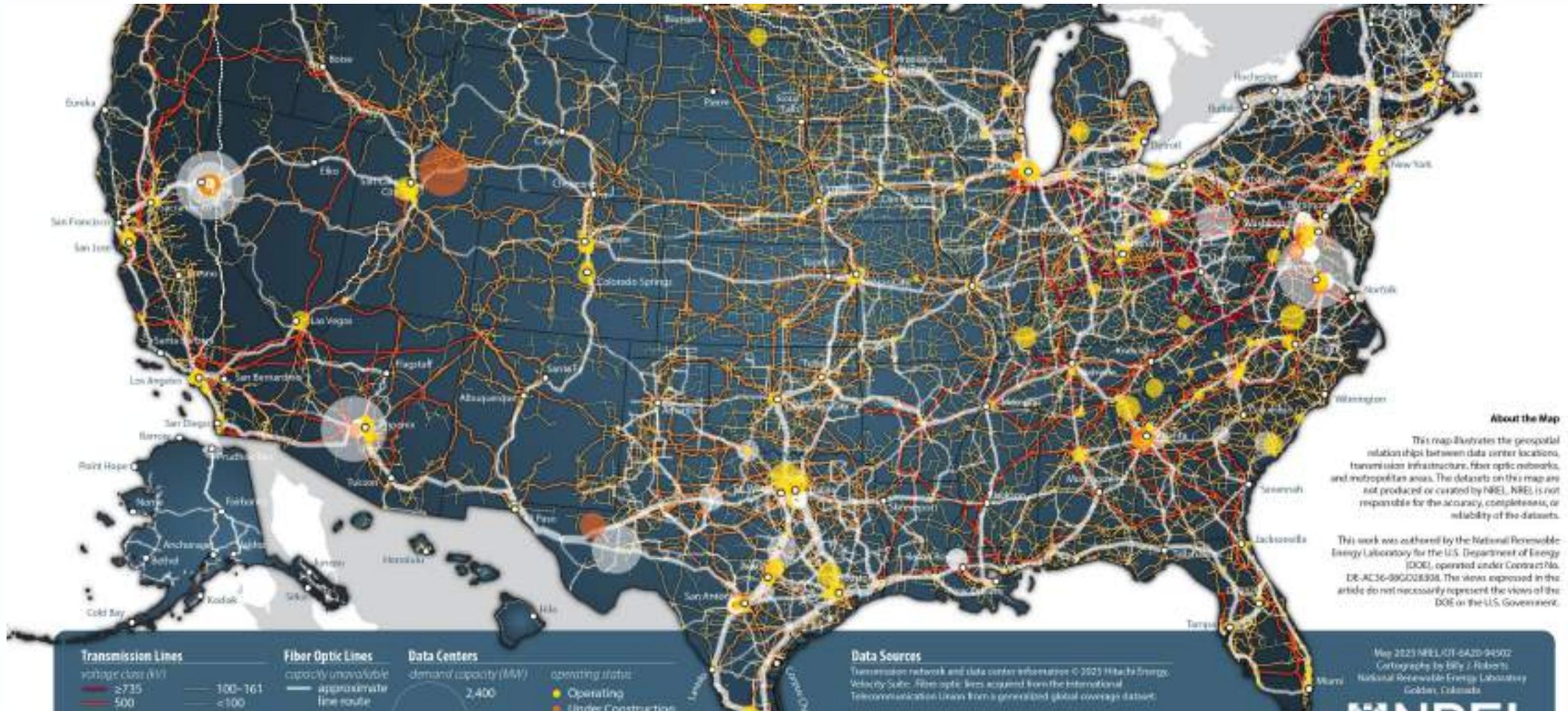
Control Panel -> Data Input -> Demand Model -> Demand Cures -> Make New



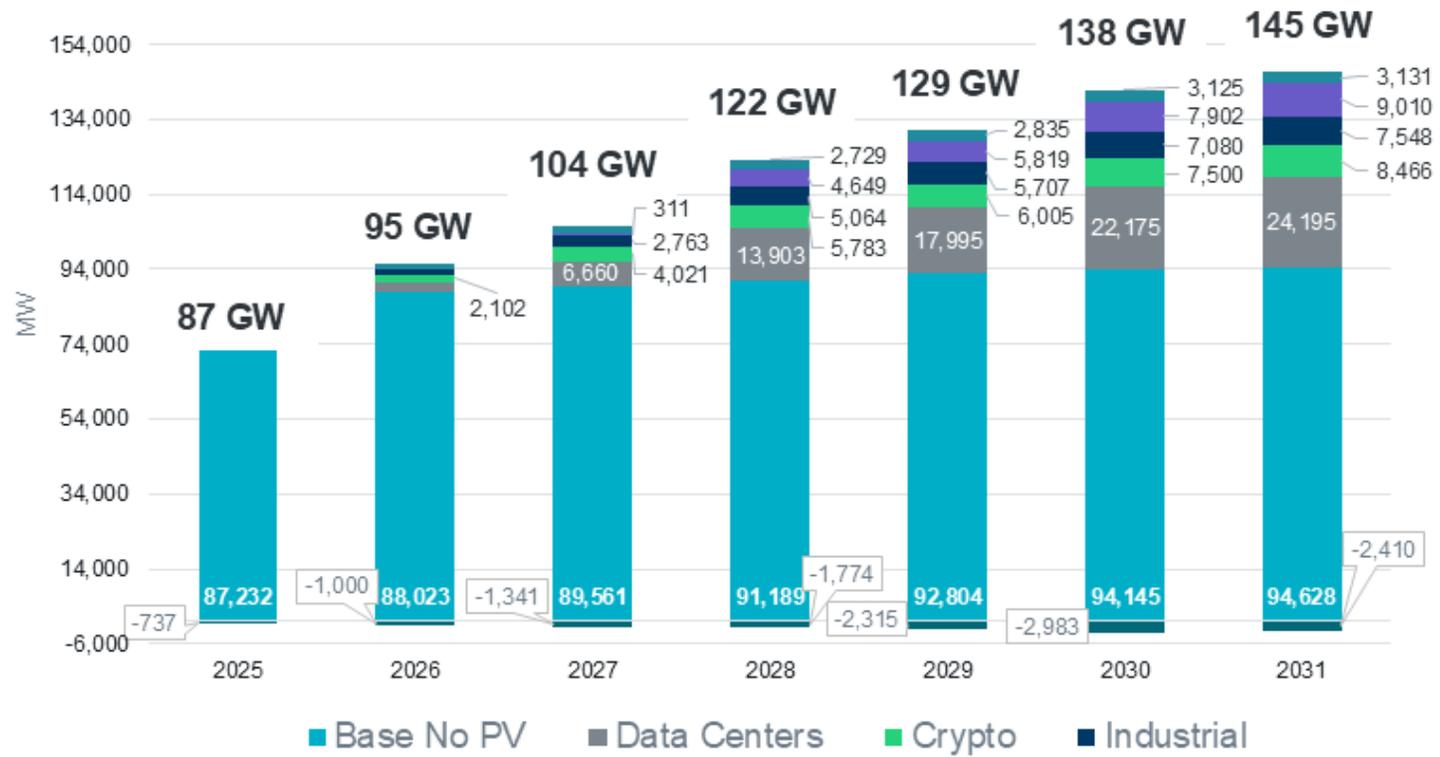
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Practice Scenario – Increasing
Electric Demand in Texas due to
Data Centers

Data Center Demand



Texas Data Center Demand



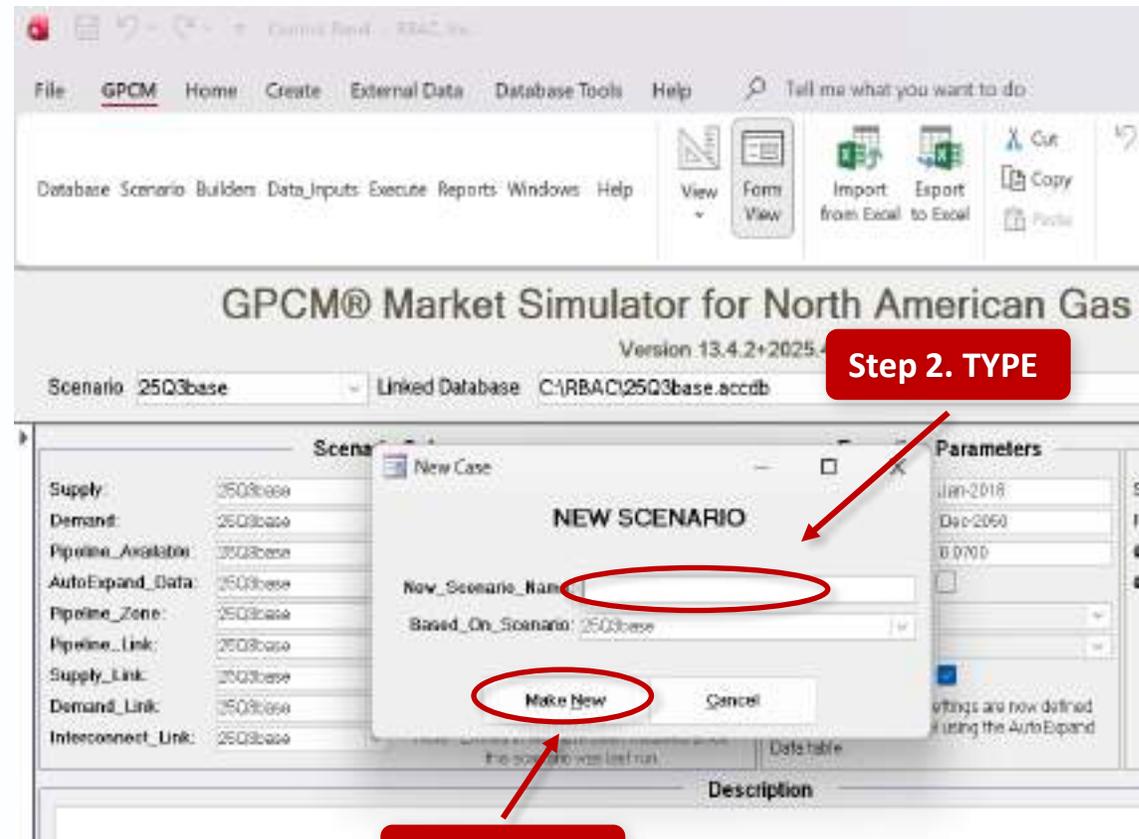
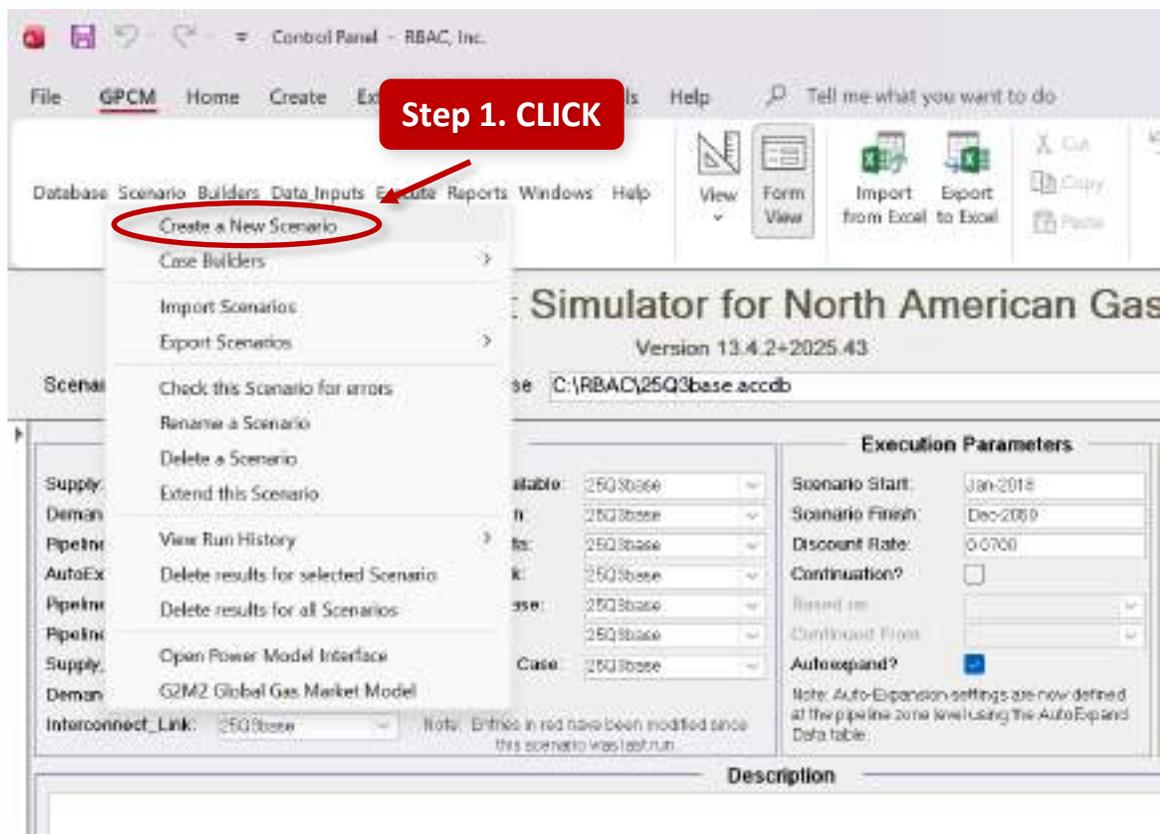
	2025	2026	2027	2028	2029	2030	2031
Data Centers	0	2,433	6,660	13903.35	17,995	22,175	24,195
Crypto	0	2,102	4,021	5782.964	6,005	7,500	8,466
Industrial	0	1,387	2,763	5064.178	5,707	7,080	7,548
Hydrogen	0	5	311	4649.1	5,819	7,902	9,010
Oil and Gas	0	1,699	2,320	2728.529	2,835	3,125	3,131
PV	-737	-1,000	-1,341	-1773.73	-2,315	-2,983	-2,410



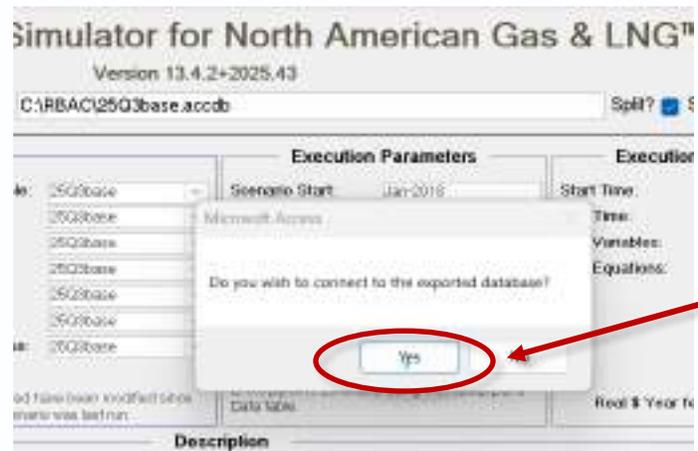
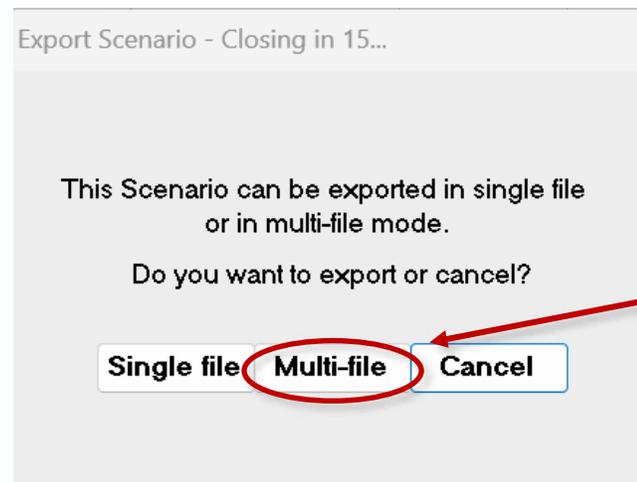
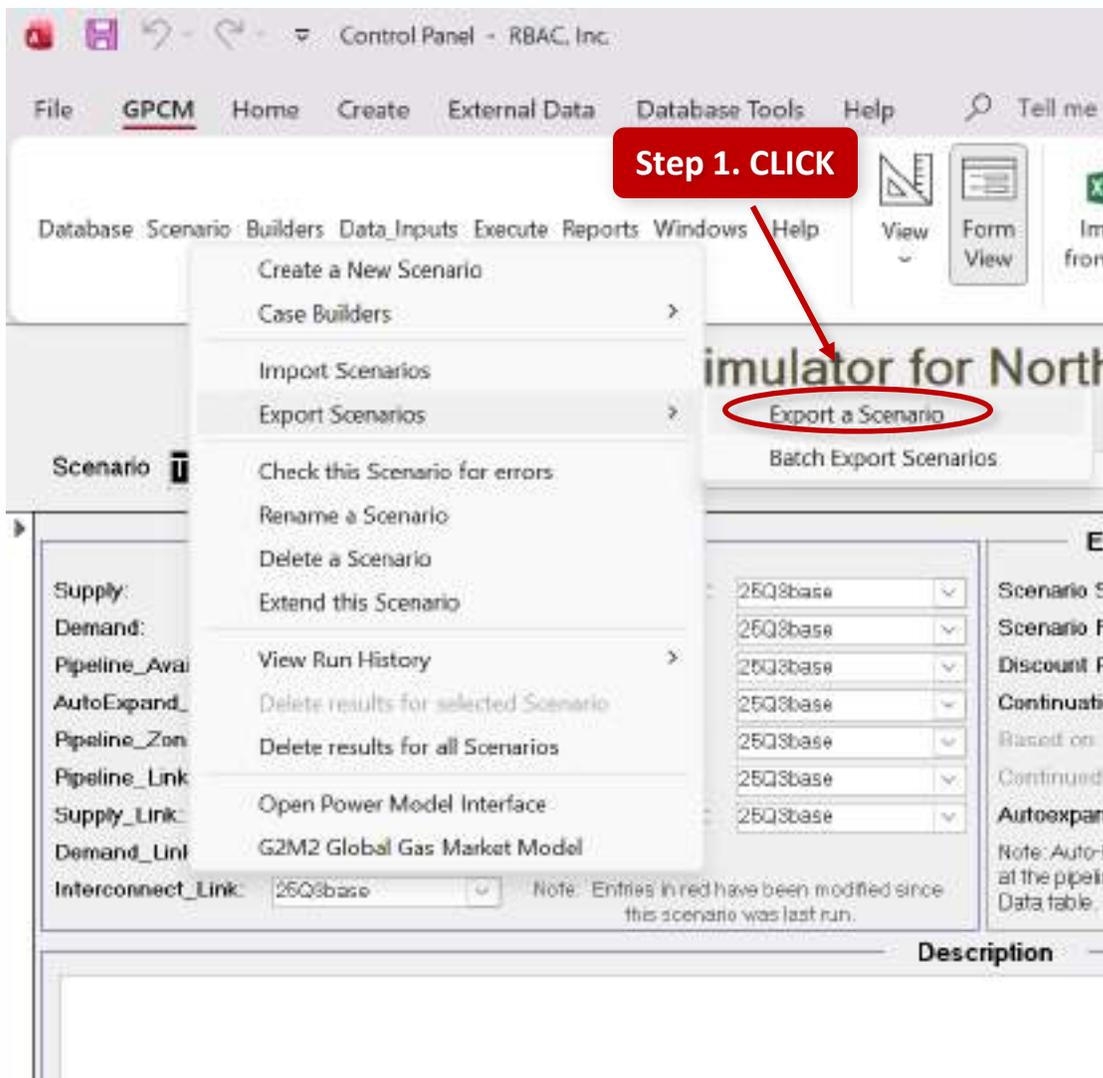
GPCM Demand Workshop

Part 1: Create a New Scenario
Based on 25Q3 Base and Export
into Split Database

Step 1 – Create New Scenario



Step 2 – Export and Connect to New Scenario





GPCM Demand Workshop

Part 2: Create Demand Scenarios
using Demand Case Builder

Demand Case Builder 101

File **GPCM** Home Create External Data Database Tools Help **Form Datasheet** Tell me what you want to do

Database Scenario Builders Data_Inputs Execute Reports Windows Help

View Form View Import from Excel Export to Excel Copy Paste Undo Filter Refresh All Ascending Descending

Demand Case Builder

Update Data Get Drivers Extend Load Case Missing Data Make New Rename Delete Close

Select Case: TX Data Center Demand Description: TX Data Center Demand Note: Real \$ Year for this database is 2024 Current Case: TX Data Center Demand

Regressions Weather Cust Counts CAN IND Other IND Other Drivers ELC Demand VEH Demand Mexico Demand Index Prices Customer Shares Demand Forecast Graphing Input Data

Power Plant Gas Demand (mmcf/day)

State	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TX	2025	5,750	5,231	3,643	4,224	5,085	6,341	7,026	7,533	6,157	5,009	4,342	4,901
TX	2026	4,958	4,790	4,778	4,628	5,530	6,705	7,800	7,826	8,397	5,204	4,511	4,780
TX	2027	5,034	4,625	4,812	4,863	5,570	6,754	7,907	7,883	8,443	5,242	4,544	4,815
TX	2028	5,084	4,873	4,881	4,912	5,626	6,821	8,017	7,862	8,508	5,294	4,589	4,853
TX	2029	5,107	4,895	4,882	4,934	5,651	6,852	8,052	7,897	8,537	5,318	4,610	4,884
TX	2030	5,143	4,930	4,917	4,969	5,691	6,900	8,110	8,054	8,583	5,358	4,643	4,919
TX	2031	5,253	5,035	5,022	5,075	5,813	7,048	8,283	8,226	8,724	5,470	4,742	5,024
TX	2032	5,393	5,169	5,155	5,210	5,967	7,235	8,503	8,445	8,902	5,615	4,868	5,158
TX	2033	5,473	5,248	5,232	5,288	6,056	7,343	8,630	8,571	9,005	5,699	4,940	5,235
TX	2034	5,583	5,351	5,337	5,394	6,178	7,491	8,803	8,743	9,146	5,814	5,040	5,340
TX	2035	5,693	5,457	5,443	5,500	6,300	7,638	8,977	8,915	9,287	5,928	5,139	5,445
TX	2036	5,835	5,593	5,578	5,637	6,457	7,828	9,200	9,137	9,468	6,078	5,267	5,581
TX	2037	5,913	5,668	5,653	5,713	6,543	7,933	9,323	9,260	9,588	6,157	5,337	5,655
TX	2038	6,023	5,773	5,758	5,819	6,665	8,081	9,497	9,432	9,709	6,272	5,437	5,760
TX	2039	6,133	5,878	5,863	5,925	6,786	8,228	9,670	9,604	9,850	6,388	5,536	5,868
TX	2040	6,167	5,911	5,895	5,958	6,824	8,273	9,723	9,657	9,893	6,421	5,568	5,898
TX	2041	6,128	5,874	5,858	5,920	6,781	8,222	9,662	9,596	9,844	6,381	5,531	5,861
TX	2042	6,123	5,869	5,854	5,916	6,776	8,215	9,655	9,589	9,837	6,376	5,527	5,856
TX	2043	6,118	5,864	5,849	5,911	6,770	8,208	9,647	9,581	9,831	6,371	5,523	5,852
TX	2044	6,147	5,892	5,876	5,939	6,802	8,247	9,692	9,626	9,868	6,401	5,548	5,879
TX	2045	6,108	5,855	5,840	5,901	6,759	8,195	9,632	9,566	9,819	6,381	5,514	5,842
TX	2046	6,104	5,850	5,835	5,897	6,754	8,189	9,624	9,558	9,812	6,358	5,509	5,838
TX	2047	6,099	5,846	5,830	5,892	6,749	8,182	9,616	9,550	9,806	6,351	5,505	5,833
TX	2048	6,127	5,873	5,858	5,920	6,780	8,221	9,661	9,595	9,843	6,380	5,531	5,860
TX	2049	6,099	5,836	5,821	5,883	6,738	8,169	9,601	9,535	9,794	6,340	5,498	5,824
TX	2050	6,084	5,832	5,816	5,878	6,732	8,163	9,593	9,527	9,787	6,335	5,492	5,819

ELC Price Elasticity

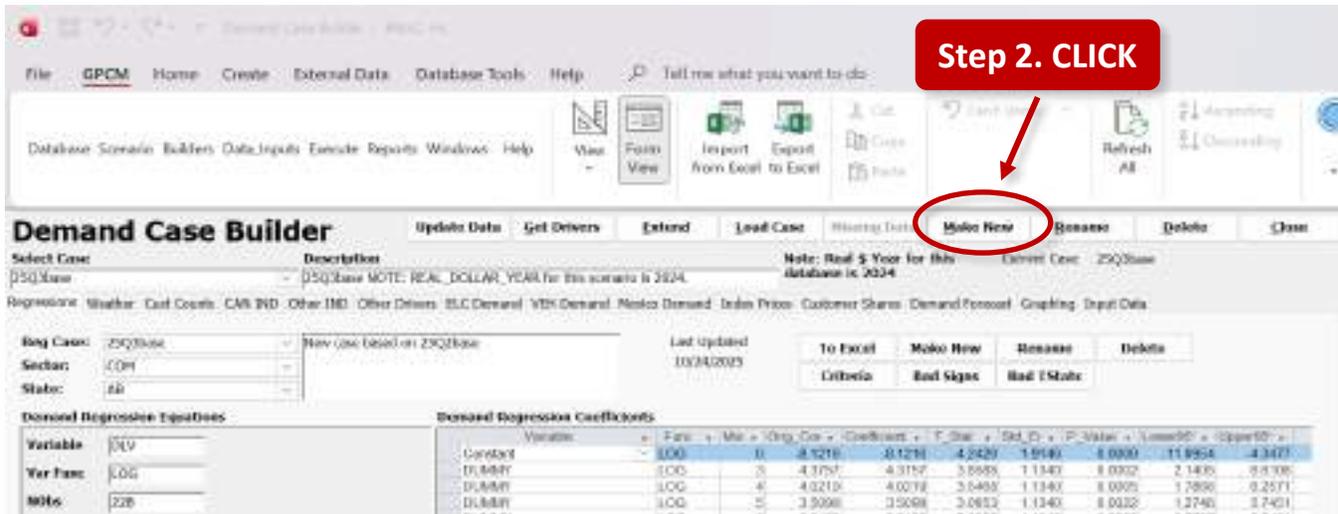
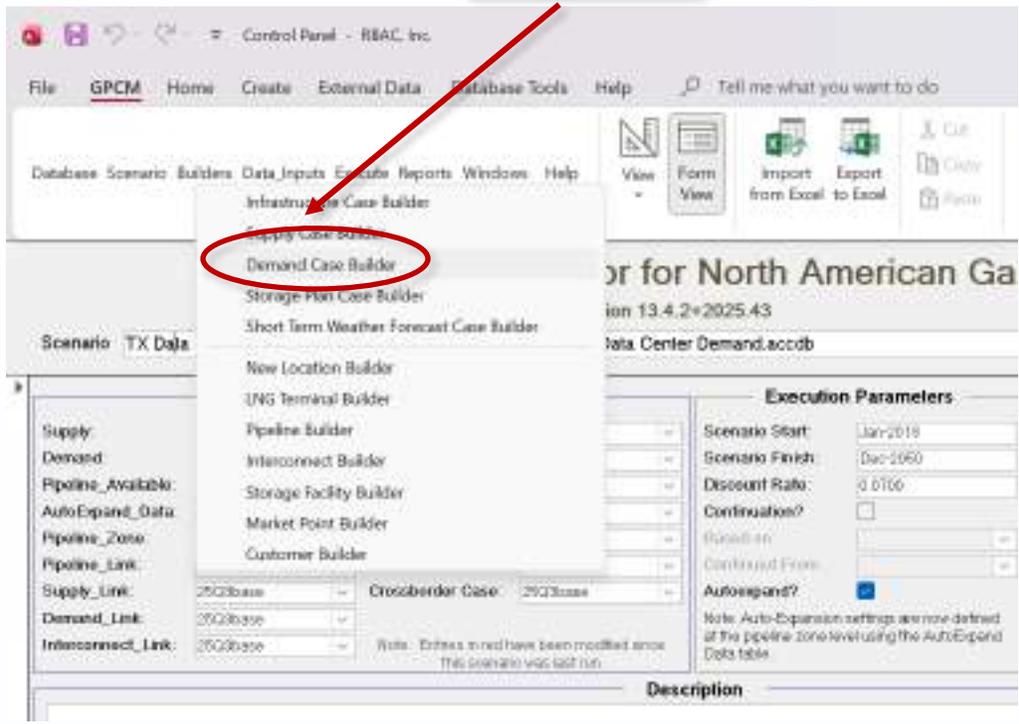
State	From	Elasticity
AB	2001	0.200
BC	2001	0.200
MB	2001	0.200
NB	2001	0.200
NS	2001	0.200
ON	2001	0.200
QB	2001	0.200
SK	2001	0.200
AK	2001	0.200
AL	2001	0.200
AR	2001	0.200
AZ	2001	0.200
CA	2001	0.200
CO	2001	0.200
CT	2001	0.200
DC	2001	0.200
DE	2001	0.200
FL	2001	0.100
GA	2001	0.200
IA	2001	0.200
ID	2001	0.200
IL	2001	0.200
IN	2001	0.200
KS	2001	0.200
KY	2001	0.200
LA	2001	0.200
MA	2001	0.200
MD	2001	0.200

Data Source: Formula Manual

Step 1 – Make New Demand Case

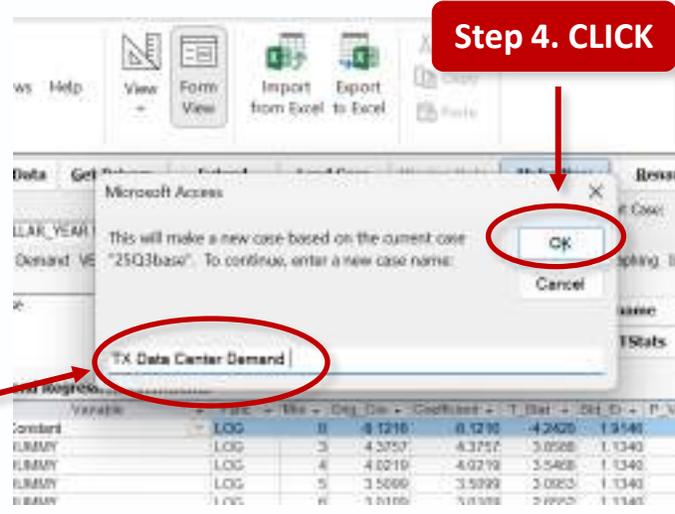
Step 1. CLICK

Step 2. CLICK

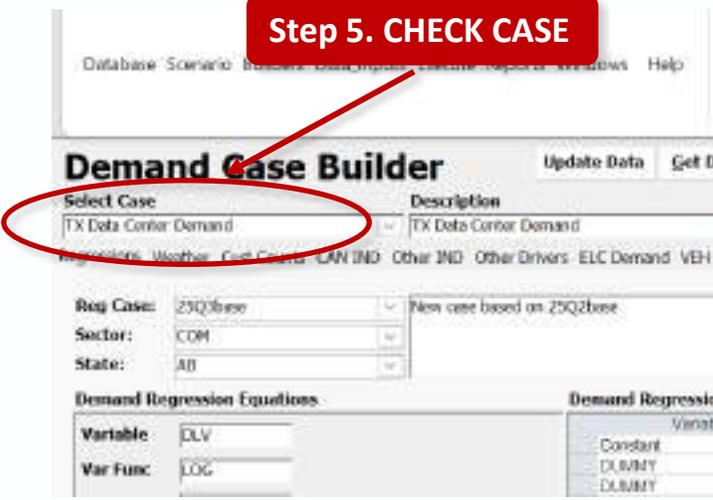


Step 4. CLICK

Step 5. CHECK CASE



Step 3. TYPE



Step 2 – Filter Data

File **GPCM** Home Create External Data Database Tools Help Form Datasheet Tell me what you want to do

Database Scenario Builders Data_Inputs Execute Reports Windows Help View Form View Import from Excel Export to Excel Copy Paste Undo Filter Refresh All Ascending Descending

Step 1. CLICK

Demand Case Builder Update Data Get Drivers Extend Load Case Missing Data Make New Rename Delete Close

Select Case: TX Data Center Demand Description: TX Data Center Demand Note: Real \$ Year for this database is 2024 Current Case: TX Data Center Demand

Regressions Weather Cust Counts CAN IND Other IND Other Drivers **ELC Demand** VEH Demand Mexico Demand Index Prices Customer Shares Demand Forecast Graphing Input Data

Step 2. FILTER FOR TX

Power Plant Gas Demand (mwhr/day)

State	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TX	2025	5,750	5,231	3,643	4,224	5,085	6,941	7,026	7,533	6,157	5,009	4,342	4,901
TX	2026	4,998	4,790	4,778	4,628	5,530	6,705	7,800	7,026	6,397	5,204	4,511	4,780
TX	2027	5,034	4,625	4,612	4,663	5,570	6,754	7,907	7,063	6,443	5,242	4,544	4,815
TX	2028	5,084	4,673	4,661	4,912	5,626	6,821	8,017	7,062	6,508	5,294	4,589	4,863
TX	2029	5,107	4,895	4,882	4,934	5,651	6,852	8,052	7,097	6,537	5,318	4,610	4,884
TX	2030	5,143	4,930	4,917	4,969	5,691	6,900	8,110	8,054	6,583	5,358	4,643	4,919
TX	2031	5,153	5,035	5,022	5,075	5,813	7,048	8,283	8,226	6,724	5,470	4,742	5,024
TX	2032	5,193	5,169	5,155	5,210	5,967	7,235	8,503	8,445	6,902	5,615	4,868	5,158
TX	2033	5,473	5,248	5,232	5,288	6,056	7,343	8,630	8,571	7,005	5,699	4,940	5,235
TX	2034	5,583	5,351	5,337	5,394	6,178	7,491	8,803	8,743	7,146	5,814	5,040	5,340
TX	2035	5,693	5,457	5,443	5,500	6,300	7,638	8,977	8,915	7,287	5,928	5,139	5,445
TX	2036	5,835	5,593	5,578	5,637	6,457	7,828	9,200	9,137	7,468	6,078	5,267	5,581
TX	2037	5,913	5,668	5,653	5,713	6,543	7,933	9,323	9,260	7,568	6,157	5,337	5,655
TX	2038	6,023	5,773	5,758	5,819	6,665	8,081	9,497	9,432	7,709	6,272	5,437	5,760
TX	2039	6,133	5,878	5,863	5,923	6,786	8,228	9,610	9,504	7,850	6,388	5,536	5,898
TX	2040	6,167	5,911	5,895	5,958	6,824	8,273	9,723	9,657	7,893	6,421	5,568	5,898
TX	2041	6,128	5,874	5,858	5,920	6,781	8,222	9,662	9,596	7,844	6,381	5,531	5,861
TX	2042	6,123	5,869	5,854	5,916	6,776	8,215	9,655	9,589	7,837	6,376	5,527	5,856
TX	2043	6,118	5,864	5,849	5,911	6,770	8,208	9,647	9,581	7,831	6,371	5,523	5,852
TX	2044	6,147	5,892	5,876	5,939	6,802	8,247	9,692	9,626	7,868	6,401	5,548	5,879
TX	2045	6,108	5,855	5,840	5,901	6,759	8,195	9,632	9,566	7,819	6,381	5,514	5,842
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TX	2047	6,099	5,846	5,830	5,892	6,749	8,182	9,616	9,550	7,806	6,351	5,505	5,833
TX	2048	6,127	5,873	5,858	5,920	6,780	8,221	9,661	9,595	7,843	6,380	5,531	5,860
TX	2049	6,099	5,836	5,821	5,883	6,738	8,169	9,601	9,535	7,794	6,340	5,498	5,824
TX	2050	6,084	5,832	5,816	5,878	6,732	8,163	9,593	9,527	7,787	6,335	5,492	5,819

Step 3. FILTER FOR 2025-2050

ELC Price Elasticity

State	From	Elasticity
AB	2001	0.200
BC	2001	0.200
MB	2001	0.200
NB	2001	0.200
NS	2001	0.200
ON	2001	0.200
QB	2001	0.200
SK	2001	0.200
AK	2001	0.200
AL	2001	0.200
AR	2001	0.200
AZ	2001	0.200
CA	2001	0.200
CO	2001	0.200
CT	2001	0.200
DC	2001	0.200
DE	2001	0.200
FL	2001	0.100
GA	2001	0.200
IA	2001	0.200
ID	2001	0.200
IL	2001	0.200
IN	2001	0.200
KS	2001	0.200
KY	2001	0.200
LA	2001	0.200
MA	2001	0.200
MD	2001	0.200

Data Source: Formula Manual

Step 3 – Select & Copy Data

File GPCM Home Create External Data Database Tools Help Form Datasheet Tell me what you want to do

Database Scenario Builders Data_Inputs Execute Reports Windows Help View Form View Import from Excel Export to Excel Copy Paste Undo Filter

Demand Case Builder

Update Data Get Drivers Extend Load Case Missing Data Make New Rename

Select Case Description Note: Real \$ Year for this database is 2024. Current Case: TX Data Center Demand

TX Data Center Demand TX Data Center Demand

Regressions Weather Demand Index Prices Customer Shares Demand Forecast Graphing Input

Step 1. HIGHLIGHT AND COPY ALL DATA

Power Plant Gas

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2025	5,756	5,231	3,643	4,224	5,695	6,341	7,028	7,533	8,157	8,009	4,242	4,601
TX 2026	4,990	4,790	4,776	4,826	5,500	6,705	7,800	7,828	8,397	8,204	4,511	4,790
TX 2027	5,034	4,825	4,812	4,983	5,570	6,754	7,937	7,983	8,443	8,242	4,544	4,675
TX 2028	5,084	4,873	4,861	4,932	5,606	6,821	8,017	7,982	8,508	8,294	4,589	4,683
TX 2029	5,187	4,965	4,882	4,934	5,651	6,852	8,052	7,997	8,537	8,318	4,610	4,684
TX 2030	5,143	4,938	4,917	4,969	5,691	6,900	8,110	8,054	8,583	8,366	4,643	4,919
TX 2031	5,253	5,035	5,022	5,075	5,813	7,048	8,283	8,226	8,724	8,470	4,742	5,024
TX 2032	5,393	5,169	5,155	5,210	5,907	7,205	8,503	8,440	8,902	8,615	4,808	5,158
TX 2033	5,473	5,240	5,232	5,288	6,050	7,343	8,630	8,571	9,000	8,699	4,840	5,215
TX 2034	5,583	5,351	5,337	5,394	6,178	7,491	8,803	8,743	9,140	8,814	5,040	5,340
TX 2035	5,693	5,457	5,443	5,500	6,300	7,638	8,977	8,915	9,287	8,928	5,139	5,440
TX 2036	5,835	5,590	5,576	5,637	6,457	7,828	9,200	9,137	9,499	9,076	5,287	5,591
TX 2037	5,913	5,668	5,653	5,713	6,543	7,933	9,320	9,250	9,598	9,157	5,317	5,655
TX 2038	6,023	5,773	5,756	5,819	6,665	8,081	9,497	9,432	9,769	9,272	5,437	5,780
TX 2039	6,133	5,878	5,863	5,925	6,786	8,228	9,670	9,604	9,880	9,386	5,536	5,886
TX 2040	6,187	5,911	5,895	5,958	6,824	8,273	9,723	9,657	9,893	9,421	5,568	5,898
TX 2041	6,128	5,874	5,858	5,920	6,781	8,222	9,662	9,596	9,844	9,381	5,531	5,801
TX 2042	6,123	5,869	5,854	5,915	6,776	8,215	9,655	9,589	9,837	9,378	5,527	5,806
TX 2043	6,118	5,864	5,849	5,911	6,770	8,208	9,647	9,581	9,831	9,371	5,523	5,802
TX 2044	6,147	5,892	5,876	5,938	6,802	8,247	9,692	9,620	9,868	9,401	5,548	5,879
TX 2045	6,108	5,855	5,840	5,901	6,759	8,195	9,632	9,566	9,819	9,361	5,514	5,842
TX 2046	6,104	5,850	5,835	5,897	6,754	8,189	9,624	9,558	9,812	9,355	5,509	5,838
TX 2047	6,099	5,845	5,830	5,892	6,749	8,182	9,616	9,550	9,800	9,351	5,505	5,833
TX 2048	6,127	5,873	5,858	5,920	6,780	8,221	9,601	9,535	9,784	9,380	5,531	5,800
TX 2049	6,080	5,836	5,821	5,883	6,738	8,169	9,601	9,535	9,784	9,340	5,496	5,824
TX 2050	6,084	5,832	5,816	5,878	6,732	8,163	9,593	9,527	9,787	9,335	5,492	5,810

ELC Price Elasticity

State	From	Elasticity
AB	2001	0.200
BC	2001	0.200
MB	2001	0.200
NB	2001	0.200
NS	2001	0.200
ON	2001	0.200
QB	2001	0.200
SK	2001	0.200
AK	2001	0.200
AL	2001	0.200
AR	2001	0.200
AZ	2001	0.200
CA	2001	0.200
CO	2001	0.200
CT	2001	0.200
DC	2001	0.200
DE	2001	0.200
FL	2001	0.190
GA	2001	0.200
IA	2001	0.200
ID	2001	0.200
IL	2001	0.200
IN	2001	0.200
KS	2001	0.200
KY	2001	0.200
LA	2001	0.200
MA	2001	0.200
MD	2001	0.200

VA_TX_GPCM Forecast - Annual Forecast

File Home Insert Draw Page Layout

Paste Copy Format Painter

Step 2. PASTE DATA INTO EXCEL

Data Period	25Q3 Demand MMcf/d initial	25Q3 Demand MMcf/d
1		
2	2015	-
3	2016	-
4	2017	-
5	2018	4,512
6	2019	4,890
7	2020	4,726
8	2021	4,433
9	2022	4,854
10	2023	5,335
11	2024	5,712
12	2025	5,473
13	2026	5,747
14	2027	5,789
15	2028	5,831
16	2029	5,872
17	2030	5,914



GPCM Demand Workshop

Part 2: Update Data in the Demand Case Builder

Step 1 – Update Data

VA_TX_GPCM Forecast - Annual Forecast

File Home Insert Draw Page Layout

Cut Copy Paste Format Painter

Step 1. UPDATE DATA

Data Period	25Q3 Demand MMcf/d initial	25Q3 Demand MMcf/d
2015	-	-
2016	-	-
2017	-	-
2018	4,512	4,512
2019	4,890	4,890
2020	4,726	4,726
2021	4,433	4,433
2022	4,854	4,854
2023	5,335	5,335
2024	5,712	5,712
2025	5,473	5,473
2026	5,747	5,747
2027		5,789
2028		5,831
2029		5,872
2030	5,914	5,914

VA_TX_GPCM Forecast - Monthly Forecast

File Home Insert Draw Page Layout Formulas Data Review View Automate Help

Cut Copy Paste Format Painter

Clipboard Font Alignment Number

Tx

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1														
2			31	28	31	30	31	30	31	31	30	31	30	31
3														
4	Tx	2025	4,834.2	4,881.4	4,439.0	4,477.1	5,129.0	6,017.4	7,306.9	7,267.8	6,921.6	4,826.1	4,183.8	4,420.0
5	Tx	2026	4,712.9	4,516.3	4,584.7	4,552.3	5,214.1	6,321.6	7,429.6	7,378.9	6,931.2	4,866.8	4,253.3	4,586.6
6	Tx	2027	4,796.2	4,568.9	4,347.8	4,606.1	5,282.0	6,281.1	7,490.4	7,448.1	6,987.8	4,852.6	4,202.1	4,548.9
7	Tx	2028	4,787.5	4,596.4	4,386.4	4,604.8	5,388.7	6,438.5	7,584.5	7,512.7	6,148.6	4,895.8	4,318.5	4,580.4
8	Tx	2029	4,914.0	4,814.4	4,883.3	4,661.6	4,357.1	6,458.8	7,690.9	7,538.8	6,162.0	5,112.1	4,346.5	4,634.0
9	Tx	2030	4,038.5	4,831.7	4,825.8	4,674.5	5,354.0	6,491.4	7,829.1	7,576.9	6,192.1	5,030.3	4,367.4	4,827.6
10	Tx	2031	4,888.8	4,856.4	4,844.2	4,693.4	5,376.0	6,017.7	7,800.9	7,887.5	6,218.1	5,056.6	4,368.1	4,846.0
11	Tx	2032	4,878.8	4,978.5	4,964.3	4,712.6	5,388.0	6,046.7	7,892.9	7,548.2	6,244.8	5,080.4	4,404.8	4,896.3
12	Tx	2033	4,964.8	4,991.7	4,679.5	4,728.8	5,490.4	6,587.1	7,717.9	7,681.1	6,365.2	5,087.8	4,418.1	4,991.6
13	Tx	2034	4,911.9	4,708.1	4,896.8	4,745.4	5,425.3	6,588.8	7,744.8	7,891.9	6,327.0	5,114.7	4,433.1	4,937.6
14	Tx	2035	4,825.1	4,724.6	4,712.2	4,762.1	5,484.0	6,013.1	7,772.0	7,718.8	6,306.1	5,132.7	4,449.3	4,714.3
15	Tx	2036	4,845.2	4,746.0	4,727.7	4,777.1	5,472.2	6,034.7	7,797.4	7,744.1	6,326.7	5,149.4	4,463.8	4,729.7
16	Tx	2037	4,966.3	4,751.4	4,742.8	4,702.2	5,488.0	6,054.8	7,821.1	7,767.6	6,346.0	5,162.1	4,477.4	4,744.1
17	Tx	2038	4,974.2	4,767.8	4,753.0	4,805.6	5,504.2	6,073.5	7,843.1	7,789.4	6,368.8	5,179.8	4,488.9	4,757.4
18	Tx	2039	4,967.8	4,796.0	4,787.3	4,816.8	5,510.4	6,088.7	7,853.2	7,888.4	6,383.1	5,192.9	4,501.0	4,769.0
19	Tx	2040	4,888.8	4,791.2	4,778.7	4,809.3	5,511.2	6,096.3	7,891.6	7,927.7	6,398.1	5,205.1	4,512.6	4,780.7
20	Tx	2041	5,089.1	4,801.3	4,788.7	4,838.4	5,542.9	6,128.4	7,905.2	7,944.1	6,411.5	5,218.1	4,521.5	4,790.8
21	Tx	2042	5,018.5	4,816.3	4,797.7	4,848.4	5,553.2	6,133.0	7,912.9	7,958.8	6,423.5	5,225.7	4,532.8	4,799.0
22	Tx	2043	5,028.7	4,818.1	4,808.8	4,859.4	5,562.3	6,144.8	7,921.9	7,971.7	6,434.0	5,234.0	4,537.4	4,807.8
23	Tx	2044	5,033.8	4,824.6	4,817.3	4,869.2	5,570.1	6,153.5	7,937.0	7,982.7	6,443.0	5,241.8	4,543.7	4,814.4
24	Tx	2045	5,039.0	4,830.5	4,817.8	4,880.9	5,570.0	6,161.4	7,946.3	7,991.9	6,450.0	5,247.7	4,548.8	4,820.0
25	Tx	2046	5,044.4	4,835.0	4,822.4	4,892.4	5,581.9	6,167.7	7,953.7	7,999.3	6,456.6	5,252.7	4,553.3	4,824.5
26	Tx	2047	5,047.9	4,836.4	4,823.8	4,893.8	5,589.8	6,172.4	7,959.3	7,994.8	6,461.1	5,258.3	4,558.8	4,827.9
27	Tx	2048	5,056.3	4,846.7	4,833.8	4,899.1	5,599.8	6,178.8	7,963.0	7,998.6	6,466.1	5,262.8	4,563.4	4,830.1
28	Tx	2049	5,051.4	4,841.8	4,828.2	4,898.2	5,593.7	6,177.2	7,964.9	7,918.4	6,460.8	5,260.1	4,559.1	4,831.3
29	Tx	2050	5,051.4	4,841.8	4,828.2	4,898.3	5,593.7	6,177.2	7,964.9	7,918.4	6,460.8	5,260.1	4,559.1	4,831.3

Step 2. COPY DATA FROM EXCEL

Tips:

1. Make sure data is in MMcf/d by month
2. Do NOT copy a header row

Step 2 – Input Data into GPCM

Step 1. DELETE DATA IN GPCM

Step 2. CLICK

Step 3. PASTE DATA IN GPCM

Step 4. CLICK



GPCM Demand Workshop

Part 3: Load Case and Run Scenario in GPCM

Step 1 – Load Case into GPCM

Step 1. CHECK CASE

Step 2. CLICK

The screenshot shows the 'Demand Case Builder' interface. At the top, there are menu options like 'Database Tools', 'Help', and 'Form View'. Below the menu is a toolbar with icons for 'View', 'Form View', 'Import from Excel', and 'Export to Excel'. The main area is titled 'Demand Case Builder' and contains a 'Description' field and a 'Load Case' button circled in red. Below this is a large table with columns for 'State', 'Year', and 'Demand (mmcf/day)'. The table contains data for various states (AB, AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, HI, IL, IN, IA, KS, KY, LA, MA, MD, ME, MI, MN, MO) and years from 2001 to 2020. A red arrow points from the 'Step 1. CHECK CASE' label to the 'Load Case' button.

Step 3. CLICK

The screenshot shows the 'Mark States / Sectors to be Forecast' dialog box. It has a title bar with 'File', 'GPCM', 'Home', 'Create', and 'External Data'. Below the title bar is a menu bar with 'Database Tools', 'Help', 'Form View', and 'Data View'. The main area is titled 'Mark States / Sectors to be Forecast' and contains a 'Load' button circled in red. Below this is a table with columns for 'State', 'County', ' Census Region', 'Sector', and 'Include?'. The table contains data for various states and sectors, with 'Include?' checkboxes. A red arrow points from the 'Step 3. CLICK' label to the 'Load' button.

Step 5. CLICK

The screenshot shows the 'Demand Case Loader' dialog box. It has a title bar with 'File', 'GPCM', 'Home', 'Create', 'External Data', 'Database Tools', and 'Help'. Below the title bar is a menu bar with 'Database Tools', 'Help', 'Form View', 'Data View', 'Import from Excel', and 'Export to Excel'. The main area is titled 'Demand Case Loader' and contains a 'Load to GPCM' button circled in red. Below this is a table with columns for 'Parameter', 'Description', and 'Value'. The table contains data for 'Base Case', 'Forecast Start Date', and 'Forecast End Date'. A red arrow points from the 'Step 5. CLICK' label to the 'Load to GPCM' button. Another red arrow points from the 'Step 4. CHECK (and CHANGE) START and END DATES' label to the 'Forecast Start Date' and 'Forecast End Date' fields.

Step 4. CHECK (and CHANGE) START and END DATES

Step 2 – Check Database for Errors

Step 1. CLICK

The screenshot displays the 'Control Panel - RBAC, Inc.' application window. The 'Scenarios' menu is open, and the option 'Check this Scenario for errors' is highlighted with a red circle. A red arrow points from the text 'Step 1. CLICK' to this option. The main interface shows the 'Gas Simulator for North American Gas & LNG™' with version 13.4.6+2025.49. The current case is 'C:\RBAC\TX Data Center Demand.acddb' with a size of 528 MB. The 'Execution Parameters' section includes fields for Scenario Start (Jan-2018), Scenario Finish (Dec-2018), Discount Rate (0.0700), and a checked 'Autoexpand?' option. The 'Execution Summary' section shows fields for Start Time, Run Time, # of Variables, and # of Equations. A note at the bottom states: 'Note: Auto-Expansion settings are now defined at the pipeline zone level using the Auto Expand Data table. Real \$ Year for linked DB is 2024'.

Step 3 – Run Scenario in GPCM

The screenshot shows the GPCM Market Simulator interface. The title bar reads "GPCM® Market Simulator for North American Gas & LNG™" and "Version 13.4.2+2025.43". The main window displays the "Scenario Subcases" table, the "Execution Parameters" section, and the "Execution Summary" section.

Step 1. CHECK CASE AND SCENARIO (Red callout box pointing to the Scenario Subcases table):

Scenario Subcases	Value	Value
Supply	250base	Storage_Available: 250base
Demand	250base	Storage_Plan: 250base
Pipeline_Available	250base	Storage_Data: 250base
AutoExpand_Data	250base	Storage_Link: 250base
Pipeline_Zone	250base	Balancing Case: 250base
Pipeline_Link	250base	CO2 Case: 250base
Link	250base	Crossborder Case: 250base
Link	250base	
sect_Link	250base	

Step 2. CLICK (Red callout box pointing to the "Execute" button in the ribbon):

The "Execute" button is located in the ribbon under the "Reports" group. It is represented by a green play button icon.

Execution Parameters:

- Scenario Start: Jan-2018
- Scenario Finish: Dec-2024
- Discount Rate: 0.0750
- Continuation?:
- Autospand?:

Execution Summary:

- Start Time: [Empty]
- Run Time: [Empty]
- # of Variables: [Empty]
- # of Equations: [Empty]

Description:

Note: Entries in red have been modified since this scenario was last run.

Real \$ Year for linked DB is 2024

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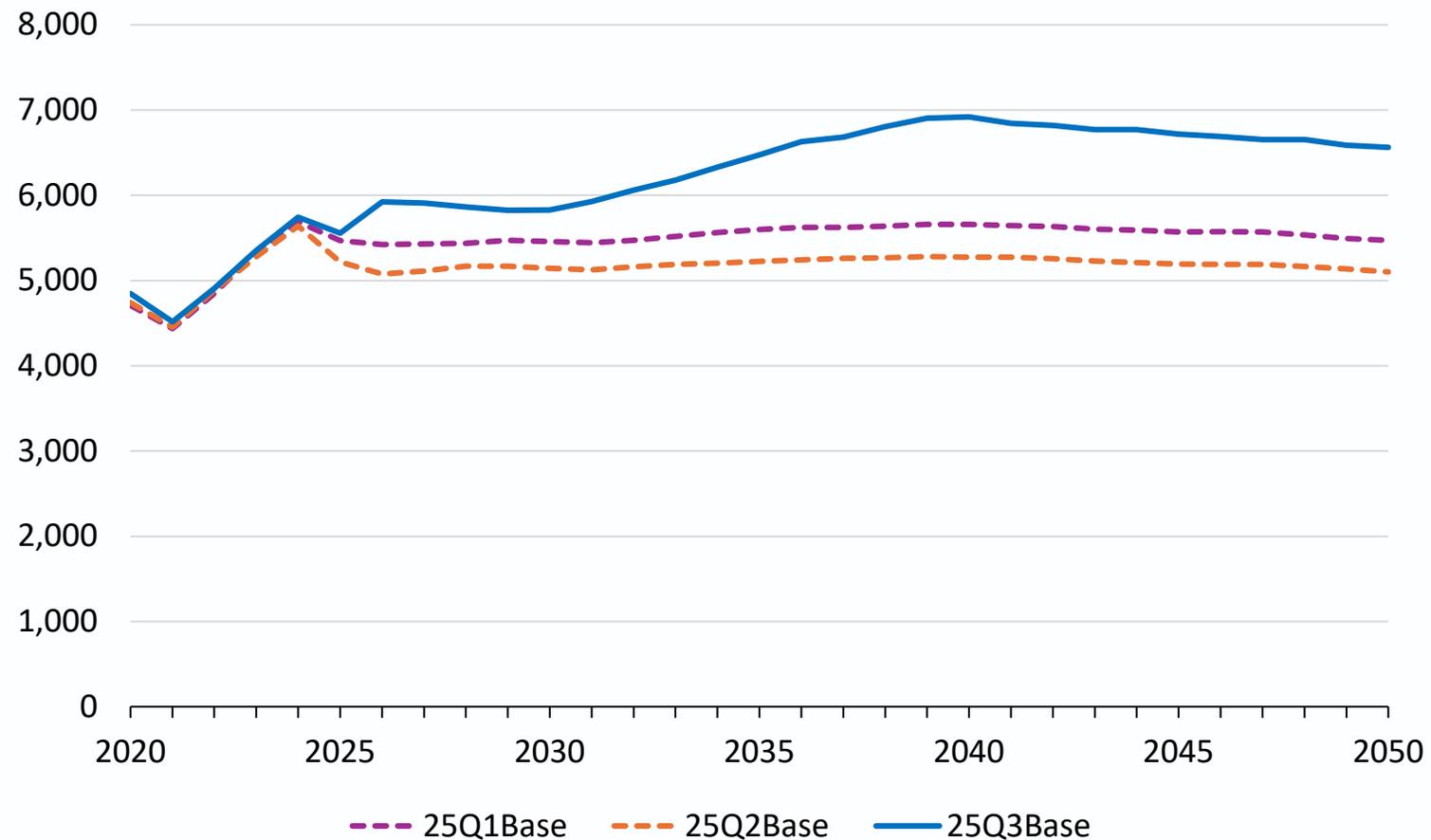


GPCM Demand Workshop

Part 4: Compare Results

Electric Sector Consumption

Texas' Annual Natural Gas Consumption from Electric Power Consumers, 2020 – 2050 (MMcf/d)



QUESTIONS?





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RBAC leads the market in global and regional gas and LNG market simulation and predictive analytics in support of corporate investment and M&A strategy, ESG, risk analysis, planning, and commodity trading. Our products and expertise help companies go beyond the narratives and hype to identify the opportunities and define the risks inherent in the uncertainties of energy transition using reality and fact-based fundamentals and analysis.

We continuously enhance our market simulation systems with the latest software and computer technology while applying the best of mathematical economics to assist our clients achieve their goals. This is especially needed as we see fundamental shifts taking place in the energy industry to achieve energy transition goals and meet increasingly demanding requirements of ESG. We provide regularly scheduled updates of our simulation systems and databases to keep our clients up-to-date with the most current market information. We enhance the functionality of our systems to enable our customers to simulate the effect of new regulations or industry requirements.

Our aim is to continue to lead the market in best practices which raise the standard of market simulation, enabling rapid and flexible scenario generation, sensitivity analysis, risk-assessment and forecasting, giving clients the edge in the rapidly changing energy market.

Those using RBAC's products and services include energy industry firms and consultants, as well as government agencies involved with energy, transportation, and the environment.

RBAC's principal products include:

- **GPCM® Market Simulator for North American Gas and LNG™** focused on the North American gas & LNG markets. GPCM is the industry standard market simulator for North American gas.
- **G2M2® Market Simulator for Global Gas and LNG™** for simulating increasingly integrated gas and LNG markets worldwide.
- **Gas4Power®** for integrating gas and power market fundamentals to produce credible forecasts for both.
- **NGL-NA®** Market Simulator for North American Natural Gas Liquids

With RBAC's advanced simulation systems, licensees can create and run scenarios involving bio-methane (Renewable Natural Gas – RNG) mixed with natural gas and to assess the implications of carbon taxes and markets on supply, demand, and prices. Future enhancements will include the ability to simulate the advent of a future hydrogen market with both pure hydrogen pipelines as well as mixtures with methane. The Energy Analyst of today and the future needs these kinds of tools to conduct realistic assessments and help develop realistic strategies and plans to achieve the goals of the energy transition.

Dr. Robert Brooks founded RBAC in 1987 based on experience developing several well-respected predictive models for government and industry. He designed the first gas transportation model while getting his PhD at MIT and has led the industry ever since.

RBAC's staff includes industry-trained experts in natural gas supply and demand, transportation, storage, marketing, and trading. Our team applies its world-class expertise in mathematical modeling, statistical analysis, mathematical algorithm development, software engineering, and database design to current and future challenges, risks and opportunities in energy.