



Pennsylvania Business Leadership on Sustainability

Achieving Pennsylvania Business' Sustainability Goals

PA Chamber of Business & Industry – 2022 Annual Environmental Conference

October 27, 2022

SAFE HARBOR:

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NRG At A Glance Across North America



SCOPE*



Over
18
generating assets
in 7 states



Approximately
6 Million
Customers

STABILITY



Fortune
500
company



Approximately
\$27 Billion
in revenue

SUSTAINABILITY



50%
carbon emissions
reductions by 2025**



net-zero
carbon emissions
reduction by 2050

**Using 2014 as a baseline

STRENGTH



Over
6,500
full-time employees



Headquarters in
Houston
Texas

SAFETY



7 facilities
With VPP Star rating

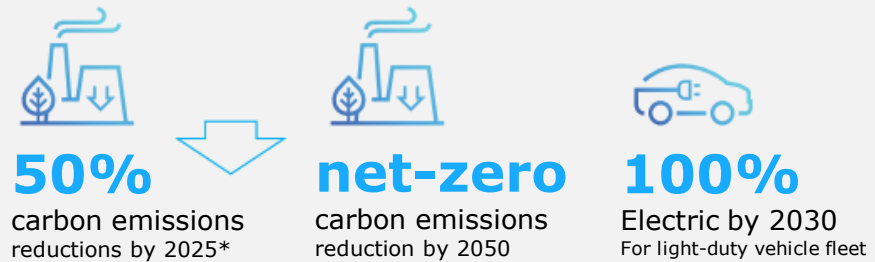
NRG At A Glance in Pennsylvania



RETAIL BRANDS



SUSTAINABILITY



*Using 2014 as a baseline

COMMUNITY



STRENGTH



FAMILY OF BRANDS



PRODUCTS



Electricity



Natural Gas



Solar



Backup Power

SERVICES



Home Security



Home Power



HVAC Services



Energy Management



Protection Plans



Portable Power



EV Energy Plans



2021 Highlights

- **\$9.95 million** donated to charities
- **Over 400** nonprofits received donations
- **Over 700** employee volunteers
- **Over 6,000 total** volunteer hours

As of 06/30/21, NRG only



Recently we surveyed 178 large energy customers across all sectors.

- 59% have a measurable reduction goal for their owned/controlled sources.
- 52% have a measurable reduction goal for their purchased energy.
- 46% have a net-zero goal.
- Only 15% of those surveyed do not have a goal.

We learned the top 3 reasons they focused on their climate goals. They are:

- 65% said their reputation is at stake
- 59% said achieving climate goals will be a cost reduction
- 47% cited regulatory and legal risk requirements

Companies who implemented their climate plan did so in 3 ways:

- 57% completed energy efficiency or waste heat recovery projects
- 46% switched to renewable, low or no emission sources of power
- 18% electrified their vehicle fleet

Almost two-thirds of the companies surveyed said their #1 obstacle to their climate plan is money. That translated into either unfavorable economics – increasing cost of operations - or lack of capital.

The State of Decarbonization

Smart Energy Decisions & NRG

August 2022



Links to full SED De-carbonization Report

<https://www.nrg.com/assets/documents/white-papers/2022-state-of-decarbonization-report.pdf>

Or send an email to

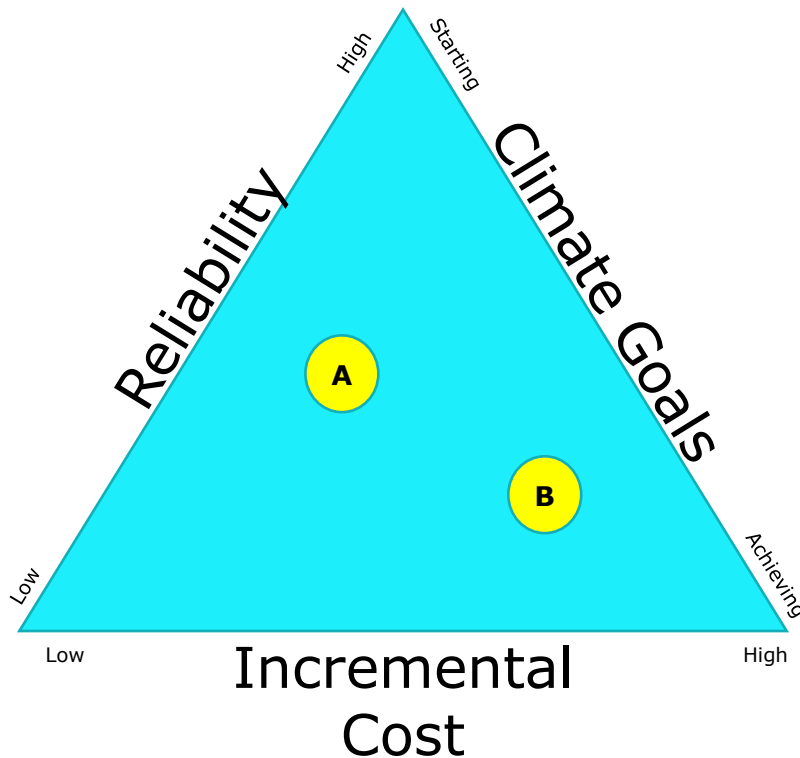


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The Energy Triangle: Understanding the Technology Trade-offs



Achieving “Net Zero Emission” for “No Incremental Cost” while maintaining access to “100% Reliable Power, Any Time Needed” is a huge challenge with today’s technology.



2 Examples:

Company A and B have different priorities.

They have different access to funding.

And the impact is different on their cost structure.

The net result of their spending has different outcomes.

NRG's Approach to Smart Energy Management and Avoided Grid Emissions

We are providing avoided emission data for the Summer of 2020. The avoided emission data is derived from your performance and grid conditions. The table below shows avoided emissions during demand response events and tests for each market and zone. The attachment shows avoided emissions for each event and test for each facility.

WattTime is our source of the avoided emission data. WattTime uses data from the Environmental Protection Agency, Energy Information Administration, and Independent System Operator (ISO) emission reporting coupled with real-time demand data from ISOs and balancing authorities. WattTime's analytics uses historical data based on different grid conditions (weather, demand, generation mix, pricing, etc.) to identify how power plants responded to changes in demand. WattTime's empirical approach uses real-time grid conditions to determine the most likely marginal emissions are at a given time. You can learn more at: <https://www.watttime.org>

The Result. When you curtailed your load during demand response tests and events, you achieved avoided emissions through reduced demand on high-emitting resources.

ISO: PJM Program: EDRP

Zone	Avoided Emissions* (Metric Tons CO2)
AECO	22.15
AEP	44.30
ATSI	66.45
COMED	88.60
PPL	110.75
Total Avoided Emissions	332.25