



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

# SCIENCE BASED TARGETS CASE STUDY: NRG ENERGY

AN INITIATIVE BY:



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**Targets adopted by companies to reduce greenhouse gas (GHG) emissions are considered “science-based” if they are in line with the level of decarbonization required to keep global temperature increase below 2 degrees Celsius compared to pre-industrial temperatures, as described in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR5).**

## INTRODUCTION

*NRG Energy, Inc. is a large American energy company, dual-headquartered in Princeton, New Jersey, and Houston, Texas. Its power plants provide approximately 50,000 megawatts of generation capacity, and its retail arm serves nearly 3 million customers.*

*Since 2009, NRG has been investing heavily in clean energy with an aim of becoming the leading green energy producer in the U.S. The company's investments include wind power, solar thermal energy, photovoltaic solar, and distributed solar power facilities, as well as repowering of some of their traditional coal plants with lower carbon natural gas and building fast-start natural gas plants that help smooth the intermittency of large utility-scale renewables. In 2011, NRG began providing 100% renewable energy to the Empire State Building.*

*We spoke to Laurel Peacock, Senior Sustainability Manager at NRG.*

## WHY DID YOU SET A SCIENCE-BASED TARGET?

When we were reviewing our sustainability strategy we realised it made the most sense to set a science-based goal as a way of aligning our business strategy with our transition to a lower carbon generator. We wanted to be ambitious, and we wanted our goals to be aligned with the best thinking out there. It felt like it was time: an inflexion point. For us it is the right thing to do, but also makes perfect business sense. We hope to make the difference we need – for our sector, for our communities, and for the planet.

## WHAT DO YOU SEE AS THE ADVANTAGES AND BUSINESS BENEFITS OF HAVING A SCIENCE-BASED TARGET?

As a power generation company, emissions are a very material issue for us. Our power generation assets - such as coal power plants and associated machinery - have long lives. We know that in order to evolve our system it will take 30-40 years. So we need to think long term: having a science-based target helps us do that.

We wouldn't be doing this if it didn't make business and economic sense. We see real opportunity for growth in the renewables market. It is the way the market is trending and what our customers are demanding. And by investing in renewables we can not only reduce our emissions but also future proof the business.

## WHAT WAS THE PROCESS OF SETTING A SCIENCE-BASED TARGET LIKE FOR NRG?

This wasn't a new idea: internally we had already been modelling future scenarios and had been following the

### THE TARGETS\*

- NRG Energy commits to a 50% reduction of absolute emissions by 2030 from a 2014 base-year (scopes 1, 2 & 3).
- The company also has a long-term target to reduce absolute emissions by 90% by 2050 from 2014 levels (scopes 1, 2 & 3).
- The targets cover scope 3 emissions related to employee commuting and business and travel.

\*Please note that NRG Energy has updated its target since the publication of this case study. Visit [sciencebasedtargets.org/companies-taking-action](https://sciencebasedtargets.org/companies-taking-action) for the latest information

science for a long time. As a highly-regulated energy producer we had quality data, and we knew that we wanted to be ambitious. We also had smart people and strong leadership. And we got great support from CDP and other NGOs. This meant setting the target was relatively straight forward.

We looked at a few different ways of setting targets, and for while we considered setting an intensity target, rather than an absolute one; Our leadership said: "what the world needs now is less carbon. An intensity goal will not get us there. We need to take carbon out of the atmosphere." So we set an absolute goal, which will move us in that direction.

What was more challenging was determining the approach to announcing our target publically. This took time and careful planning because we had to communicate it internally first, addressing all the questions that come with an ambitious new target. Our executive sustainability steering committee toured the country along with representatives from both the business and operations side, explaining what we were doing and why. This process took over a year.

## WHAT CHALLENGES DID YOU ENCOUNTER?

There were implications of the decision for staff: we were essentially acknowledging that our high-emission plants would be evolving. It was critically important to communicate this properly; to reassure people that we would not be just shutting plants overnight. It is a long, gradual process, partly based on the natural aging of plants along with market conditions. For those employees whose plants are either transitioning or retiring, we are offering retraining.

This internal stakeholder engagement was a big factor in setting and communicating a science-based target. It was also critical to our overall success – because by the end we had everyone's support and understanding and, perhaps most importantly, their cooperation for the

changes that would have to be made to meet the target. It has been a truly cross-functional, collaborative journey and has fostered a cultural shift in the company.

## WHAT STEPS ARE YOU TAKING TO IMPLEMENT THE TARGET NOW IT IS SET?

We have three main strategies for meeting the target, which will be balanced according to the state of the market and other factors. The first is taking advantage of the natural attrition of our ageing fleet. The second is investing in environmental enhancements, repowerings, new technologies and other energy saving tools for our existing plants. And the third is expanding our renewables arm.

## IS THIS SOMETHING INVESTORS AND OTHER STAKEHOLDERS WANTED YOU TO DO?

Setting a science-based target directly answered the needs of our customers, all of whom are thinking about their own carbon footprints. It is also critical for investors who need to know that we are thinking of potential risks, in the short-, medium- and long-term. Having an ambitious target for reducing emissions and managing our plants is important to show that we will remain reliable, sustainable, and safe suppliers now and in the future.

## HOW WAS THE TARGET RECEIVED BY YOUR EXTERNAL STAKEHOLDERS?

We have the most aggressive target for our sector. Businesses across the energy sector and beyond – into retail, hospitality, consumer packaged goods, manufacturing, and more, have all taken note. My fellow sustainability practitioners are keen to follow our lead: they are pleased someone took the first step. Seeing that we have done it will hopefully inspire others to act.

**"For us setting science based targets is the right thing to do, but also makes perfect business sense."**

**Laurel Peacock**  
*Senior Sustainability Manager*





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