



RESEARCH REPORT

Executive Summary:

Market Data: Demand Response

Residential, Commercial, and Industrial Demand Response
Participation and Sites, Load Curtailment, and Spending:
Global and Regional Market Sizing and Forecasts

NOTE: This document is a free excerpt of a larger report. If you are interested in purchasing the full report, please contact Navigant Research at research-sales@navigant.com.

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Section 1

EXECUTIVE SUMMARY

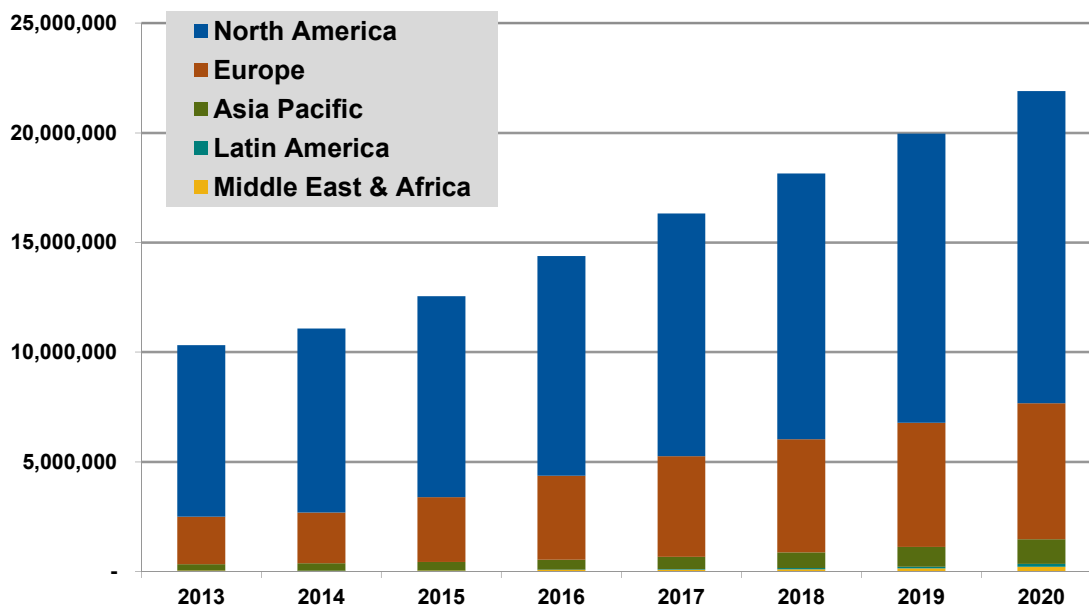
1.1 Market Introduction

While demand response (DR) is a relatively mature market in the United States, it is just emerging in most other regions, such as Europe, Asia Pacific, and the Middle East & Africa. In the years ahead, Navigant Research anticipates these nations will have robust DR markets with solid growth prospects. Even if they remain small compared to the United States, these emerging DR markets will become increasingly important.

This *Market Data: Demand Response* report provides regional and global forecasts of DR participation, load curtailment, and DR revenue for technology providers and participants. The data is examined from the perspective of three major customer segments: residential, commercial, and industrial. Navigant Research also analyzes the burgeoning automated DR (ADR) and OpenADR markets. Some of the highlights of this report include:

- » In 2013, Navigant Research estimates that more than 10.3 million sites (residential, commercial, and industrial) across the world are involved in DR programs. The majority of them are residential sites located in North America.
- » Total load curtailment in the world from DR programs in 2013 is estimated to be 57,764 MW; North America contributes roughly 71%. By 2020, global load curtailment is expected to reach 140,472 MW at a compound annual growth rate (CAGR) of 13.5%.
- » Navigant Research projects total annual DR support spending of nearly \$3 billion in 2013, including residential DR spending of approximately \$332 million, commercial DR spending at \$866 million, and industrial spending at \$1.8 billion.
- » As of 2013, more than 37,000 sites across the globe are enabled for ADR. The vast majority of these sites are in North America today, but the fast-growing adoption of ADR in other regions, particularly Asia Pacific, points to a promising ADR market internationally.
- » The OpenADR standard, primarily used in the United States today, is being introduced to other countries and will eventually become a robust market opportunity worldwide.

Chart 1.1 **Total DR Sites by Region, World Markets: 2013-2020**



(Source: Navigant Research)

The forecasts in this report show strong growth for the global DR market, especially in the emerging geographies. The adoption of ADR looks especially promising, specifically in Asia Pacific, which will most likely leapfrog directly to the more advanced DR technologies with automation when adopting demand response. In Europe, the need to integrate intermittent renewables like wind and solar power will drive utilities to implement ADR programs.

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SCOPE OF STUDY

This *Market Data: Demand Response* report examines the demand response (DR) market in five major regions, presenting a 7-year forecast and market sizing from 2013 through 2020. The regions include North America, Europe, Asia Pacific, Latin America, and the Middle East & Africa. The data is also examined from the perspective of the three major customer segments: residential, commercial, and industrial.

In addition to worldwide and regional views of the DR market, Navigant Research provides separate market sizing and forecasts with respect to DR participation, peak load curtailment, and annual DR spending. The latter is based on the amount of spending by DR providers, such as utilities, grid operators, and aggregators on an annual basis when they enable a site for DR. Navigant Research also examines the prevalence of automated DR (ADR) and OpenADR, as well as spending on ADR on a regional basis.

SOURCES AND METHODOLOGY

Navigant Research's industry analysts utilize a variety of research sources in preparing Research Reports. The key component of Navigant Research's analysis is primary research gained from phone and in-person interviews with industry leaders including executives, engineers, and marketing professionals. Analysts are diligent in ensuring that they speak with representatives from every part of the value chain, including but not limited to technology companies, utilities and other service providers, industry associations, government agencies, and the investment community.

Additional analysis includes secondary research conducted by Navigant Research's analysts and its staff of research assistants. Where applicable, all secondary research sources are appropriately cited within this report.

These primary and secondary research sources, combined with the analyst's industry expertise, are synthesized into the qualitative and quantitative analysis presented in Navigant Research's reports. Great care is taken in making sure that all analysis is well-supported by facts, but where the facts are unknown and assumptions must be made, analysts document their assumptions and are prepared to explain their methodology, both within the body of a report and in direct conversations with clients.

Navigant Research is a market research group whose goal is to present an objective, unbiased view of market opportunities within its coverage areas. Navigant Research is not beholden to any special interests and is thus able to offer clear, actionable advice to help clients succeed in the industry, unfettered by technology hype, political agendas, or emotional factors that are inherent in cleantech markets.

NOTES

CAGR refers to compound average annual growth rate, using the formula:

$$\text{CAGR} = (\text{End Year Value} \div \text{Start Year Value})^{(1/\text{steps})} - 1.$$

CAGRs presented in the tables are for the entire timeframe in the title. Where data for fewer years are given, the CAGR is for the range presented. Where relevant, CAGRs for shorter timeframes may be given as well.

Figures are based on the best estimates available at the time of calculation. Annual revenues, shipments, and sales are based on end-of-year figures unless otherwise noted. All values are expressed in year 2013 U.S. dollars unless otherwise noted. Percentages may not add up to 100 due to rounding.

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