

The Evolution of Home Energy Management **Table of Contents**

By Eddie Accomando, Research Analyst, and Tom Kerber, Director, Research, Home Controls & Energy

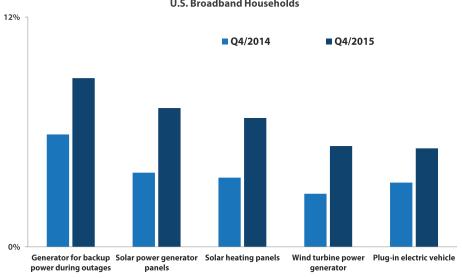
Synopsis

Home energy management can take many forms. Smart meters enable numerous energy management services, smart products expand the potential for the number of devices that can be managed, and digital engagement of HEM customers continues to create new benefits for the end user. This report describes how technology will drive the evolution of home energy management.

Planned Energy Purchases

Likely to Buy Energy-related Products in next 12 Months (2014-15)

U.S. Broadband Households



Publish Date: 1Q 16

"Energy providers are best positioned to provide energy management solutions. As the consumer's preferred channel for energy solutions, and with the ability to monetize solutions through capital offsets and demand response, energy providers have a significant competitive advantage," said Eddie Accomando, Research Analyst.

Contents

Dashboard

1.0 Report Summary

- 1.1 Purpose of Report
- 1.2 Scope of Report
- 1.3 Research Approach/Sources
- 1.4 Key Questions Addressed

2.0 Consumer Drivers of Energy Management

- 2.1 Conservation / Energy Independence
- 2.2 Cost Avoidance / Return on Investment
- 2.3 Convenience, Protection and Comfort

3.0 Technology and Policy Drivers of Energy Management

- 3.1 Disaggregation
- 3.2 Energy Modeling
- 3.3 Solar Technology
- 3.4 Distributed Generation Policy
- 3.5 Battery Storage Technology

Business Model Drivers of Energy Management

4.1 Utility Demand Response Programs

© 2016 Parks Associates. All rights reserved.



The Evolution of Home Energy Management *Table of Contents*

By Eddie Accomando, Research Analyst, and Tom Kerber, Director, Research, Home Controls & Energy

- 4.2 Pricing-Based Demand Response
- 4.3 Energy Market Participation

5.0 Industry Drivers of Home Energy Management

- 5.1 Energy Utilities
- 5.2 Retail Energy Providers
- 5.3 Smart Home / Security Providers
- 5.4 Smart Thermostat Manufacturers
- 5.5 Distributed Generation and Storage Industry
- 5.6 Comprehensive Energy Management System Integrators

6.0 Evolution of Home Energy Management Solutions

7.0 Forecast

- 7.1 Forecast Methodology and Assumptions
- 7.2 Forecast

8.0 Implications and Recommendations

9.0 Appendix

- 9.1 Glossary
- 9.2 Index
- 9.3 Image Sources

| ia | | |
|----|--|--|
| | | |
| | | |

HEMS Ecosystem

Reasons for Residential Electricity Plan Changes

Relative Value of Features

Ownership of Energy Efficient Products

Average Electric Bill (2010-2014)

Smart Energy Device Savings (2010-2014)

Smart Energy Device Adoption Rate

Smart Energy Devices Purchased from Security Provider

Disaggregation Company Profiles

Energy Modeling Company Profiles

Anticipated Impact of Variable Rate Plans on Electric Bill

Incentives That Increase Willingness to Adopt a Variable Rate Plan

Profiles of Energy Aggregators

Home Energy Management Ecosystem

Electric Utility Company Profiles

Electricity Plan Characteristics

Battery Storage Company Profiles

Residential Storage Electronics Company Profiles

Future Electric Grid Terminology

Forecast Model

Forecast of Smart Thermostat Sales by Channel, 2012-2019

Forecast of Smart Thermostats Sold with Security Systems, 2012-2019

Forecast of Professionally Monitored Security Systems with Home Controls, 2014-

2019



The Evolution of Home Energy Management Table of Contents

By Eddie Accomando, Research Analyst, and Tom Kerber, Director, Research, Home Controls & Energy

List of Companies

Alcatraz Home Warranty of America

American Council for an Energy-Honda

Efficient Economy Honeywell Lyric

Houston Light and Power American Electric Power

Android iPhone

Astrum Solar Johnson Controls **Austin Energy** Just Energy Belkin WeMo LightSail Energy Ben Franklin Plumbing Mr. Sparky Electric

Bidgely Nest **BMW** NG **BNVGL** Nissan Nissan Leaf Bounce **British Gas** NREL Centrica UK NRG

One-Hour Air Conditioning Cinemax

Comcast Pepco ComEd **PGE** ConEdison PlotWatt Crius **Princeton Power** Degrees of Difference Recurrent **Direct Energy** Reliant

Direct Energy Solar Samsung Samsung Smart Things

ecobee 3 SCE **EcoFactor SDGE**

ecobee

Security by Reliant EcoSaver

Energy Rewards Showtime EnergyHub SolarCity Sonnenbatterie **Enphase** EOS SunEdison **ERCOT** Sungevity SunPower ESS Tesla Exelon

First Choice Power Tesla PowerPack First Solar Tesla PowerWall

Frito Lay

Gigafactory **U.S Energy Information Association**

Green Charge Networks U.S. Department of Energy

Hawaiian Electric **Vivint Solar HBO** Wal-Mart Home Depot WeatherBug Home Solar Works with Nest



The Evolution of Home Energy Management *Table of Contents*

By Eddie Accomando, Research Analyst, and Tom Kerber, Director, Research, Home Controls & Energy

Attributes

Parks Associates 15950 N. Dallas Pkwy Suite 575 Dallas TX 75248

800.727.5711 toll free 972.490.1113 phone 972.490.1133 fax

parksassociates.com sales@ parksassociates.com Authored by Eddie Accomando and Tom Kerber

Executive Editor: Jennifer Kent Published by Parks Associates

© February 2016 Parks Associates Dallas, Texas 75248

All rights reserved. No part of this book may be reproduced, in any form or by any means, without permission in writing from the publisher.

Printed in the United States of America.

Disclaimer

Parks Associates has made every reasonable effort to ensure that all information in this report is correct. We assume no responsibility for any inadvertent errors.