



June, 2010

17 pages

6 tables, charts & figures

## Osmotic Power: A Primer

### Examining the opportunities and risks of making baseload power from osmosis

It's still very early, but interest is growing in technologies to make electricity from osmosis.

Osmotic technologies capture energy created when salt water and fresh water meet, which happens naturally where rivers meet oceans around the world.

The market potential for osmotic power, according to supporters, is huge.

But can these technologies overcome efficiency, cost and scale challenges quickly enough to be commercially viable? When?

This report looks at the two main types of osmotic-power plants currently being developed: pressure-retarded osmosis (PRO) and reverse electro dialysis (RED). It explains how they work, summarizes the technologies'

advantages and drawbacks, and identifies leading companies worldwide.

It also makes specific recommendations for investors, entrepreneurs, service providers, utilities and large corporations, and desalination DBOs and plant owners.

#### REPORT INCLUDES

- Layperson's introduction to osmotic power and how it works
- Market opportunity sizing
- Advantages
- Challenges
- Profiles of leading players
- Recommendations for investors, entrepreneurs, service providers, utilities and large corporations and desalination DBOs and plant owners

#### ALSO FEATURES

- Potential for osmotic power to be created by waste and produced water
- Leading players' estimates of current and eventual cost per kWh
- Table of the top 21 organizations and individuals holding osmotic power patents as of this writing

#### ESSENTIAL FOR

- Investors
- Utilities and large corporations pursuing renewable baseload power
- Membrane and other desalination equipment vendors
- Entrepreneurs
- Service providers

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## TABLE OF CONTENTS

Executive summary .....	4
The basics: How it works.....	5
Pressure-Retarded Osmosis (PRO) .....	5
Reverse Electrodialysis (RED).....	6
Advantages: Why it appears worth pursuing.....	6
Potential challenges.....	8
Membrane .....	8
Cost.....	10
Environment .....	10
Commercial risks.....	11
Player profiles.....	12
Recommendations.....	15
Investors .....	15
Entrepreneurs .....	15
Utilities and large corporations .....	15
Desalination vendors, DBOs, plant owners .....	15
Service providers .....	16
Conclusions .....	16
Methodology & bibliography.....	16

## CHARTS & FIGURES

Figure 1: In a PRO system, pressure can be created by the flow from freshwater into salt water. The pressure is then used to run a turbine. Source: Statkraft.....	5
Figure 2: Statkraft believes osmotic power has the potential to provide between 1,600 and 1,700 TWh annually worldwide, with approximately 180 TWh in Europe, by 2030. Source: Statkraft.....	6
Figure 3: Osmotic power generation from polluted/produced water. Source: Hydration Technology Innovations (HTI).....	8
Figure 4: Exterior of the Statkraft osmotic power prototype in Tofte, Norway, outside of Oslo. Source: Statkraft.....	11
Table 1: Summary of major companies in osmotic power. Source: Kachan & Co. analysis. ....	14
Table 2: Companies and individuals with the most osmotic power patents. Source: IP Checkups. .	14

### COMPANIES PROFILED

Aquaporin, Energy Recovery Inc. (ERI), Hydration Technology Innovations, Kema, Oasys Water, REDstack, Statkraft, and Wader.

### INTERVIEWS & SOURCES

Interviews with the head of osmotic power at Statkraft, director of membrane technologies for Kennedy/Jenks Consultants, editor of the Water Desalination Report and a senior partner of CMEA Capital. Plus

presentations from an April 2010 webinar including CEO of O2 Environmental, chief science officer of Aquaporin, and chief operating officer of Hydration Technology Innovations. 11 secondary publications reviewed.

### ABOUT THE AUTHOR »



Jennifer contributes to print and Web publications such as The New York Times' Green Inc. blog, Earth2Tech, Renewable Energy World, DailyFinance and PV Magazine. Her stories also have appeared in outlets such as NYTimes.com, BusinessWeek.com, CNN.com, TheStreet.com, The Wall Street Journal, Los Angeles Times and MIT's Technology Review. Jennifer was previously founding editor of Greentech Media, where she helped launch the company's news site in 2007. She has reported for Red Herring magazine, the Bay Area News Group and the Los Angeles Times' community newspapers.

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