



October 20, 2016

Avangrid Renewables, LLC (formerly known as Iberdrola Renewables) is pleased to have the opportunity to respond to the City of San Diego's Request for Information to Meet City's 100% Renewable Energy Goals (RFI). Avangrid is encouraged to see the momentum of the growth of renewable energy buyers outside of the investor owned utility model and wishes the City of San Diego the best of luck as it moves forward with the implementation of its Climate Action Plan. Avangrid would be honored to partner with the City as it moves forward with renewable energy procurement in the furtherance of the CAP.

Avangrid Renewables is one of the largest and most experienced renewable developers in the U.S., with a strong history and proven track record of creative product structure and solutions. Renewable transactions are core to our business, and we're proud of the positive relationships we have built with our customers over many years.

Avangrid has decades of experience working in the Western energy markets and has partnerships with nearly every California utility and many Community Choice Aggregators. The City of San Diego can be assured that a partnership with Avangrid brings an unmatched breadth of experience in large-scale renewable energy.

#### **City of San Diego RFI Questions and Objectives**

Avangrid would support the City's CAP by offering to partner on a long-term or short-term wholesale Power Purchase Agreement for a wind or solar renewable energy project in the 20-300 MW range of size. Avangrid can also offer pricing for smaller volumes based on a capacity share of a larger project. Avangrid has existing renewable generating projects in California as well a number of projects under development that are planned for future construction. These projects would likely interconnect to the CAISO grid and would ensure reliable and sustainable energy services for the near and long term.

Naturally, all wind and solar generating projects contribute to the environmental goals of the CIA including 100% carbon free renewable energy, long-term greenhouse gas reductions, and the creation of green jobs in San Diego County. With a bundled power purchase from an in-state renewable project, there would be no associated unbundled REC purchase required.

#### **Tule II Wind Project**

Avangrid is pleased to announce that it started construction of the 132 MW Tule Wind Project in San Diego County this Fall. There is a 69 MW second phase of the project that would come available in the 2019/2020 timeframe that would be an advantageous fit for the City's CAP goals as it brings direct investment to the County.



## About Avangrid Renewables

### Qualifications

Avangrid Renewables is part of the Iberdrola Group, the world's largest wind developer, and is a leader in the renewable energy industry in the U.S. Within its power business, AR is focused on the development and marketing of clean fuel sources, including wind, solar, biomass, and natural gas-fired generation. Through direct ownership or power purchase agreements, AR controls nearly 6,000 MW of generation currently in operation including thermal, wind, solar and biomass assets. AR is incorporated in the state of Oregon and has U.S. headquarters located in Portland, Oregon. We also have regional offices in Chicago, Philadelphia, and Austin. AR was formed in 1995, and executed its first renewable energy transaction in 1999.

Our capabilities include the following:

*Development:* AR is the second largest renewable developer in the United States, pursuing greenfield projects, repowering projects, and acquisitions. We currently have more than 25,000 MW of both wind and solar projects under active development. In addition, AR is the third largest holder of BLM rights-of-way and is actively pursuing both public and private lands for construction of wind and solar power projects.

*Forecasting and Resource Analysis:* AR leads the market in its ability to predict generation through sophisticated forecasting techniques. AR has a 24-7 forecasting group that provides hourly forecasts for each renewable project. The hourly forecasts have shown an increase in accuracy, particularly during key ramp periods. AR's meteorology group is also responsible for placing sophisticated wind, solar and other climatological measurement tools on project sites and analyzing data to better predict project generation.

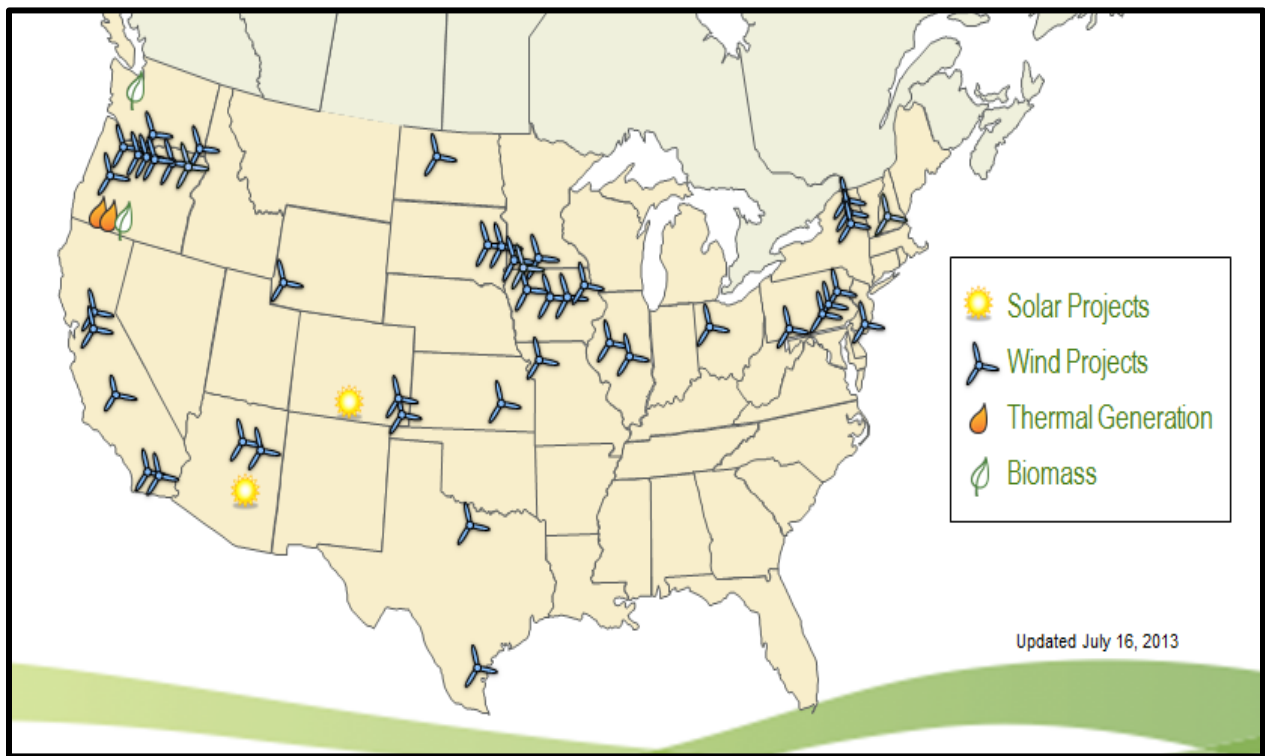
*Operations:* AR's expert operations and maintenance group currently operates 24-hours a day to oversee the operations of nearly 6,000 MW of installed renewable capacity in the US. AR has developed in-house expertise for the maintenance of our turbine and panel fleet and AR staff is present at each of our facilities, providing balance-of-plant operations and maintenance. This can also include full project operations and maintenance. Our National Control Center allows AR to deliver high quality products by providing superior management and delivery through our 24-hour remote operations capabilities.

*Trading:* AR has established robust systems, including its 24-hour real-time and day-ahead desks, to manage renewable energy into short-term markets.

*Origination:* AR consistently tailors energy supply contracts to best suit customer’s needs, and as a result, a majority of AR’s renewable assets are sold under long-term contracts. AR regularly carries out power supply transactions with many companies nationwide, including public utility districts, investor owned utilities, electric cooperatives, and federal power marketing administrations.

*Diverse Asset Base:* The map below represents AR’s combined wind, solar, biomass, gas-fired power plants and natural gas storage facilities. The geographical diversity of the project fleet allows AR to optimize “lessons learned” across to the country and maximize each project’s generation capabilities.

### North American Assets



A listing of the assets shown above, including current offtake customers, is shown on the next page.



### Avangrid Off-Take Summary

Project Name	Location	Control Structure	Capacity	Customers
Klamath Cogeneration	Klamath Falls, Oregon	Own	535 MW Cogen., 100 MW Peakers	Various
San Luis Solar	Colorado	Own	30 MW	Xcel/PSCo
Copper Crossing Solar	Arizona	Own	20 MW	Salt River Project
Simpson Biomass	Western Washington	PPA	43 MW	SMUD
Baffin	Texas	Own	202 MW	Merchant
Barton 1	Iowa	Own	80 MW	NIPSCO, WPPI Energy
Barton 2	Iowa	Own	80 MW	Merchant
Barton Chapel	Texas	Own	120 MW	Pending
Big Horn	Washington	Own	200 MW	Modesto, Santa Clara, Redding
Big Horn II	Washington	Own	50 MW	Modesto, Santa Clara, Redding
Blue Creek	Ohio	Own	304 MW	AMP, First Energy, The Ohio State University
Buffalo Ridge	South Dakota	Own	50.4 MW	NIPSCO
Buffalo Ridge II	South Dakota	Own	210 MW	Merchant
Casselman	Southwest Pennsylvania	Own	35 MW	First Energy
Cayuga Ridge	Illinois	Own	300 MW	TVA
Colorado Green	Southeast Colorado	50/50 JV with Shell	81 MW	Xcel/PSCo
Dillon	Southern California	Own	45 MW	Southern California Edison
Dry Lake I and II	Arizona	Own	128 MW	Salt River Project
El Cabo	New Mexico	Own	298 MW	Southern California Edison
Elk River	Southeast Kansas	Own	150 MW	Empire District Electric Company
Elm Creek	Southwest Minnesota	Own	100 MW	Great River Energy
Elm Creek II	Southwest Minnesota	Own	148.8 MW	We Energies
Farmers City	Missouri	Own	146 MW	Merchant
Flying Cloud	Northwest Iowa	Own	25 MW	Interstate Power & Light (Alliant)
Groton	New Hampshire	Own	48 MW	Massachusetts Utilities
Hay Canyon	Central Oregon	Own	101 MW	Snohomish PUD
High Winds	Northern California	PPA with NextEra	162 MW	SMUD, Merced, Modesto, Palo Alto, Alameda, SCPPA
Hoosac	Massachusetts	Own	28.5 MW	Massachusetts Utilities
Klondike II	Central Oregon	Own	75 MW	Portland General Electric
Klondike III	Central Oregon	Own	224 MW	EWEB, PG&E, PSE, BPA
Klondike IIIa	Central Oregon	Own	76 MW	PG&E
Klondike I	Central Oregon	Own	24 MW	BPA
Lempster	New Hampshire	Own	24 MW	Southern New Hampshire University
Locust Ridge	Pennsylvania	Own	26 MW	PPL Energy Plus
Locust Ridge II	Pennsylvania	Own	102 MW	PPL Energy Plus, Thomas Jefferson University, Thomas Jefferson University Hospital, Mainline Health System, Albert Einstein Health System, Frankford Hospitals, McGee Rehabilitation, Christiana Care
Manzana	California	Own	189 MW	SDG&E, Silicon Valley Power, Los Angeles Department of Water & Power
Maple Ridge I	Northern New York	50/50 JV with EDP	116 MW	NYSERDA
Maple Ridge II	Northern New York	50/50 JV with EDP	45 MW	New York Power Authority
MinnDakota	Southwest Minnesota	Own	150 MW	Northern States Power (Xcel)
Moraine	Southwest Minnesota	Own	49 MW	Northern States Power (Xcel)
Moraine II	Southwest Minnesota	Own	50 MW	Northern States Power (Xcel)
Mountain View III	Southern California	Own	25 MW	SDG&E
New Harvest	Iowa	Own	100 MW	Ameren Illinois, Commonwealth Edison
Pebble Springs	Central Oregon	Own	99 MW	SCPPA
Peñascal I	Texas	Own	202 MW	City of San Antonio, South Texas Electric Co-op
Peñascal II	Texas	Own	202 MW	
Providence Heights	Illinois	Own	72 MW	Commonwealth Edison
Rugby	North Dakota	Own	149 MW	Missouri River Energy Services, CMMPA, UMMPA
Shiloh	Northern California	Own	150 MW	PG&E, Palo Alto, MID
Southwest Wyoming	Southwest Wyoming	PPA with NextEra	144 MW	LADWP, Anaheim, Glendale, Burbank, UAMPS
Star Point	Central Oregon	Own	99 MW	Modesto Irrigation District
Top of Iowa II	Northern Iowa	Own	80 MW	Madison Gas & Electric, Wisconsin Public Power
Trimont	Southwest Minnesota	Own	100 MW	Great River Energy
Tule	Southern California	Own	132 MW	Southern California Edison
Twin Buttes	Southeast Colorado	Own	75 MW	Public Service Company of Colorado (Xcel)
Winnabago	Iowa	Own	20 MW	Dairyland Power
<b>Total</b>			<b>5885</b>	



**a. Key Staff**

Avangrid Renewables has over 750 employees throughout the United States dedicated to the development, operations, trading, scheduling, sales and maintenance of each renewable asset under management. The core team biographies are listed below.

*Frank Burkhartsmeyer, President and CEO, Avangrid Renewables:* Frank holds a BA degree in Liberal Arts from the University of Montana and a Master's in Business Administration from the University of Oregon. Frank has over 17 years of strategy and finance experience in the energy industry.

Frank has been with Avangrid Renewables since October of 2005, most recently as SVP of Finance and prior to that Vice President of Strategy, Planning & Market Fundamentals. He was previously with ScottishPower as Managing Director of Strategic Planning responsible for the company's two United States businesses — PacifiCorp and PPM Energy. He also held a variety of roles at PacifiCorp including Director of Treasury with responsibility for the company's investment strategy and capital markets activities. Before PacifiCorp, Frank spent seven years in the commercial banking industry in a variety of corporate development and financial analysis roles.

*Barrett Stambler, Vice President of Origination,* is responsible for AR's sales and marketing activities throughout the United States and Canada. Barrett has more than 30 years of experience in the renewable energy industry with Avangrid, PPM Energy, PacifiCorp, U.S. Windpower, Calpine, and the U.S. Department of Energy. Barrett currently oversees AR's renewable, thermal, environmental and integration product sales teams, which are responsible for expanding customer relationships across North America. In 2008, Barrett was presented with the AWEA, national wind power trade association, Commercial Achievement Award in honor of his creative contributions to innovative structures for renewable power sales – and for the sheer volume of wind power he has sold in his 30 year career. He has been integral in AR's wind power business from its earliest days, including the company's first-ever power purchase agreement for Stateline Wind Energy Center in 2001. Barrett holds a B.A. from Pomona College and an M.B.A. from Yale University.

*Diana Scholtes, Managing Director of Power Origination,* is responsible for leading Avangrid's origination efforts for the company's activities in the U.S. in both conventional and renewable technologies. This includes the execution of transactions in the long-term as well as short-term forward physical and financial markets, monetizing the value of company's asset portfolio. Diana has nearly 20 years of energy experience including positions at PacifiCorp, Bonneville Power Administration, Portland General Electric, Enron and UBS Energy. Her experience comprises of all major facets of the energy business including energy trading, operations, and asset development in both utility and IPP environments.



*Rany Raviv, Vice President of Business Development*, joined AR in 2007. Previously, he was a 10-year veteran of Ormat, a geothermal energy leader where he led growth activities in the US. He has more than 15 years' experience in global energy, mergers and acquisition, project finance, and brings a valuable track record of closing complex and diverse deals. He holds a B.S. in Computer Science and Business Studies from the University of Buckingham (UK) and an M.B.A. from City University Business School (UK).

*Dan Jaynes, Director of Meteorology*, has over 9 years of prior experience in resource assessment with Garrad Hassan (currently DNV GL), the world's foremost renewable energy consultancy, and with Vestas, the world's largest wind turbine manufacturer. Mr. Jaynes currently supports the measurement and characterization of renewable resources for the AR pipeline of projects. Mr. Jaynes holds a BS in Mechanical Engineering from The Ohio State University and a Masters in Mechanical Engineering from the University of Massachusetts.

*Jon Fischer, Director of Transmission*, has 17 years of experience in the power business. In his capacity at AR, he manages AR's transmission-related activities in terms of generation interconnection and transmission procurement, and provides transmission strategies and support for AR's renewable and thermal origination. Prior to joining AR, Mr. Fischer managed the middle office function at PacifiCorp's regulated wholesale energy trading floor as well as providing transmission expertise. From 1990 through 1996, he worked for the Bonneville Power Administration in a variety of transmission sales, acquisition, and wholesale energy marketing positions. Mr. Fischer holds a BS in economics and political science from Willamette University.

*Mark Perryman, Vice President of Operations*, is responsible for the operations and performance of the company's generation assets in the United States. He manages a team of over 450 employees covering field services, operations and maintenance, dispatch and balancing for nearly 60 wind, solar and thermal assets located in 18 States. He is also responsible for the National Control Center, supply chain and regulatory compliance teams. Mr. Perryman has been with the company since January 2005 and has a long history in renewable power generation from plant construction, commissioning, start up, operations, maintenance, supervision and management of multiple wind projects throughout the United States. Formerly a General Electric Wind Energy employee, Mark has more than 28 years of experience in the renewable energy industry, attaining a wealth of managerial, analytical and technical omniscience throughout his career. Mark's recent continued education experience has included completing Stanford University's Energy Innovation & Emerging Technologies program, through its Center for Professional Development, and numerous other executive level development programs.



*Erik Lallum, Vice President of Engineering and Construction*, is responsible for project engineering and construction activities in the United States. He oversees a team of project managers, construction managers, safety and quality directors, engineers and support staff who manage the execution of our approved development project plans. His responsibility includes overseeing contract negotiation and management, site construction management including safety and regulatory compliance, and he is responsible to ensure quality standards are met on all projects the company builds within the United States. Mr. Lallum has been with AR, including predecessor companies PPM Energy, for seven years and has led the engineering and construction of over 2,000 MW of wind projects that are currently in operations or under construction. He holds a B.S. in Civil Engineering from Montana State University, and MBA from Pacific Lutheran University and professional engineering licenses in Washington and Oregon.

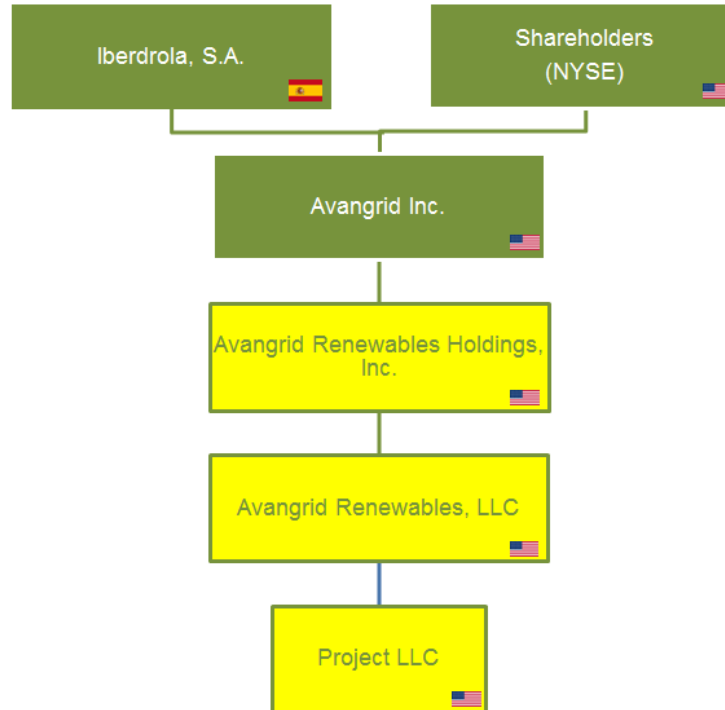
*Wayne Mays, Director of Engineering*, has responsibility for project engineering for all AR projects in North America. His engineering and development experience in utility scale PV solar projects is recognized in the industry. In addition to his engineering and development role, he provides consultation to AR's venture capital fund in evaluating solar technology companies and is regularly called on as a speaker and panelist at solar conferences and industry events. Mr. Mays has over 30 years of experience in the energy business and has worked in a variety of engineering, development and management roles in public utilities, conventional and renewable energy development companies. Mr. Mays is a registered professional engineer in the state of Oregon, and holds a BS in Electrical Engineering from Oregon State University and an MS in Electrical Engineering from Washington State University.

## **Financial Information**

AR traditionally finances the construction and operation of its projects on its balance sheet and anticipates using this method for the proposed projects. Through its parent company, AR has access to a full range of financing options. Avangrid traditionally remains the long-term owner and operator of its projects. AR's vertically integrated approach minimizes financing risk by avoiding dependency on external financiers.

## ***Organizational Structure and Background***

The chart below shows AR's corporate ownership structure. AR is an Oregon Limited Liability Company and subsidiary of Avangrid Renewables Holdings, Inc.



Any credit required for the proposed transaction would come in the form of a corporate guaranty from a credit-worthy guarantor. Currently, the entity providing credit support is Avangrid, Inc., a publically traded company listed on the New York Stock Exchange under the ticker symbol of “AGR.” Avangrid’s most recent SEC filings can be found at the following web page: <http://www.avangrid.com/InvestorRelations/secfilings.html>

## **CREDIT**

Avangrid has the benefit of a solid balance sheet with positive cash flow from a geographically diversified US revenue base of regulated and quasi-regulated assets. Standard & Poor's has assigned a corporate credit rating (CCR) of 'BBB+' with stable outlook. Moody's Investor Service has assigned an issuer credit rating of 'Baa1' with positive outlook.

Iberdrola S.A. is the majority shareholder of Avangrid. Iberdrola S.A. is a publically traded company listed on the Madrid Stock Exchange under the ticker symbol of “IBE.” The most recent annual reports can be found on the following investor relations web page:

<https://www.iberdrola.es/webibd/corporativa/iberdrola?IDPAG=ENWEBACCINFAN&codCache=13394273719861205>





Avangrid Renewables is excited for the opportunity to provide creative solutions supporting the City of San Diego's 100% Renewable goals and looks forward to the next step in the process. Please feel free to contact us with any questions at the contact information below.

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