WIND WORKS FOR AMERICA’S CITIES
The U.S. wind industry is thriving. We have over 84 gigawatts of wind power capacity in America as of mid-2017 – that’s enough electricity for 24 million American homes. Texas leads with a quarter of the wind power in the country. In 2016, wind provided over 35% of in-state electricity generation in Iowa, and over 25% in North Dakota, South Dakota, Kansas, and Oklahoma.

Thanks to advanced technologies and tax certainty, the cost of wind energy has fallen by 66% in seven years. This means that wind in many areas – particularly in the middle of the country – has become the most cost-competitive choice for electricity. That savings has been passed onto purchasers, with the average price of a contract for wind energy falling 71% in the same time period. And these long-term contracts allow customers like city governments to lock in a fixed price for up to 20 years.

There are several ways cities can purchase wind energy, based on whether they own their utility and, if not, whether their state allows non-utilities to make retail electricity purchases. The following three pages outline how cities with different kinds of utilities and in different states can make a wind purchase.

CONTACTS
If after reading this brochure you’d like to learn more about wind energy or are interested in making a purchase, contact one of the advisors below.

Altenex/Edison Energy: Charlie Daum, Managing Director, (612) 203-9023

Renewable Choice Energy: Aran Rice, Vice President, Strategic Renewables, (303) 551-7596
The City of Georgetown, Texas is far from a liberal bastion – and their mayor, Dale Ross, is quick to point that out. But for Mayor Ross and his city, the decision to purchase wind energy as part of its pledge to go 100% clean energy was as much an economic decision as it was an environmental one.

“This was a business decision and it was a no-brainer,” said Mayor Dale Ross.

“This is a long-term source of power that creates cost certainty, brings economic development, uses less water, and helps the environment.”

Photo courtesy of EDF Renewable Energy.

MUNICIPAL UTILITIES

If your city owns its electrical utility, then your city is well-primed to make a wind purchase. In all 50 states, municipal-owned utilities, like all utilities, can purchase electricity on the wholesale electric market, including electricity generated by wind power. In fact, of all the wind purchasing done by municipalities, 98% of it has been through a municipal utility.

Austin Energy, the municipal utility for Austin, Texas, made the first municipal wind purchase in 1994, and remains the leader in municipal wind purchasers. Some municipal utilities are among the biggest purchasers of wind energy in the country. Austin Energy, for example, ranks #8, while CPS Energy, the public utility for San Antonio, TX, ranks #12. Many smaller cities and towns have also made purchases, ranging from a fraction of a megawatt to over 100 MW of wind energy – enough to power nearly 5,000 of your constituents’ homes.

TOP 10 MUNICIPAL UTILITY WIND PURCHASERS

<table>
<thead>
<tr>
<th>Utility</th>
<th>MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin Energy</td>
<td>1344 MW</td>
</tr>
<tr>
<td>CPS Energy (San Antonio, TX)</td>
<td>1059 MW</td>
</tr>
<tr>
<td>Los Angeles Department of Water and Power</td>
<td>969 MW</td>
</tr>
<tr>
<td>Lincoln Electric System</td>
<td>404 MW</td>
</tr>
<tr>
<td>Kansas City (KS) Board of Public Utilities</td>
<td>250 MW</td>
</tr>
<tr>
<td>City Utilities of Springfield (MO)</td>
<td>249 MW</td>
</tr>
<tr>
<td>Georgetown (TX) Utility Systems</td>
<td>144 MW</td>
</tr>
<tr>
<td>City of Springfield (IL)</td>
<td>120 MW</td>
</tr>
<tr>
<td>Brownsville (TX) Public Utilities Board</td>
<td>78 MW</td>
</tr>
<tr>
<td>City of Burlington, VT</td>
<td>67 MW</td>
</tr>
</tbody>
</table>

A municipal utility can generally acquire wind energy in two ways: by contracting with a wind developer, or through direct ownership.

WIND CONTRACTS

A power purchase agreement (PPA) is a contract between an electricity supplier, such as a wind developer, and the purchasers of that electricity. This agreement defines all the terms of the sale, from when the wind project begins operation, to payment terms, to penalties for under-delivery. PPAs are generally long-term – spanning 15-20 years or longer – allowing purchasers to lock in low rates. The nationwide average PPA price has fallen 71% in the last seven years, from $70/MWh to $20/MWh. In exchange for paying to put this wind-powered electricity on the grid, the purchasing city gets the renewable energy credits (RECs) from the wind project.

DIRECT OWNERSHIP

In addition to contracting with a developer, municipal utilities can also own their own wind projects. For example, your utility could work with a developer who will site and build the wind project before transferring ownership of the project to your utility. Working directly with a developer or through an advisor, you can find the setup that works best for your city’s needs.
STATES WITH RETAIL CHOICE

If your city doesn’t own its utility, there are still options for purchasing wind energy. Thirteen states plus the District of Columbia have competitive retail markets for electricity: California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Texas. In these states, non-utility entities like cities and companies can purchase electricity directly from a supplier – such as a wind developer – rather than having to get it through their utility.

POWER PURCHASE AGREEMENTS

A power purchase agreement (PPA) is a contract between an electricity supplier, such as a wind developer, and the purchaser of that electricity. This agreement defines all the terms of the sale, from when the wind project begins operation, to payment terms, to penalties for under-delivery. PPAs are generally long-term – spanning 20 years or longer – allowing purchasers to lock in low rates. The nationwide average PPA price has fallen 71% in the last seven years, from $70/MWh to $20/MWh. In exchange for paying to put this wind-powered electricity on the grid, the purchasing city gets the renewable energy credits (RECs) from the wind project.

COMMUNITY CHOICE AGGREGATION

Even in these states with retail markets, city governments cannot purchase electricity and provide it to their citizens. Rather, they have to set up an entity called community choice aggregation (CCA). CCA is a not-for-profit public agency that aggregates the buying power of individual customers to secure energy supply contracts for the community.

San Francisco, for example, launched a CCA in 2016 and now serves over 8,000 customers cleaner energy than what they would otherwise get from their investor-owned utility, Pacific Gas & Electric. Most of it comes from local wind projects.

CASE STUDY: WASHINGTON, DC

In 2015, Washington, DC signed a deal with wind developer Avangrid for 46 MW of wind energy from a project in Pennsylvania – enough to power 35% of district government buildings. The deal will save the district $45 million over the next 20 years.

“We are supporting green building, promoting energy and water efficiency, and fostering renewable energy,” said Mayor Muriel Bowser.

“This wind agreement exemplifies how my administration will use energy policy to boost our economy and create cleaner air for current and future generations.”

Photo courtesy of Avangrid Renewables.
As of June 2017, no municipalities had yet purchased wind energy through a virtual PPA. However, many well-known companies have used virtual PPAs to power their factories, data centers, or corporate headquarters in states that do not have retail choice. Here’s what some of them are saying about why they purchased wind energy:

**GOOGLE:** “Because energy is a large operating expense at Google, it is beneficial to power the data centers with low-cost wind power.”

**IKEA:** “The U.S. has amazing wind and sun resources that will never run out. We are delighted to make this investment – it is great for jobs, great for energy security, and great for our business.”

**DOW CHEMICAL:** “Dow is always looking for win-win solutions – good for the environment and good for business. By entering into this agreement, Dow is taking a serious approach to our future energy needs in Texas and cost-competitive wind energy is a great opportunity.”

**CASE STUDY:**

**FACEBOOK**

To date, no municipalities have purchased wind energy through a renewable energy tariff, either. However, in April 2017 Facebook announced it had designed a renewable energy tariff with the Omaha Public Power District to power its new data center in rural Nebraska with 100% wind energy. OOPD CEO Tim Burke called the deal “an example of how we work to meet the needs of large customers, particularly those who seek more renewable energy.”
To learn more about how wind works for America’s towns and cities, please visit
AWEA.ORG/MUNICIPAL-WIND

The Hackberry Wind Project, which supplies electricity to Austin Energy. Photo courtesy of RES.

Cover photo: The Jersey Atlantic Wind Farm, which powers the Atlantic County Utilities Authority’s Wastewater Treatment Facility. Photo by Don Camp.