



# Navigating the Solar Development Landscape

How to Get from “Interesting Concept” to Being Confident it’s the Right Choice

November 9, 2021



# Agenda

## Solar is a safe, reliable and economic investment

The benefits, risks, and how solar can help Counties and Municipalities

- » How solar works
- » Types of solar
- » Why consider solar
- » Onsite vs. Community Solar
- » Financing consideration
- » Economic benefits of solar
- » Questions

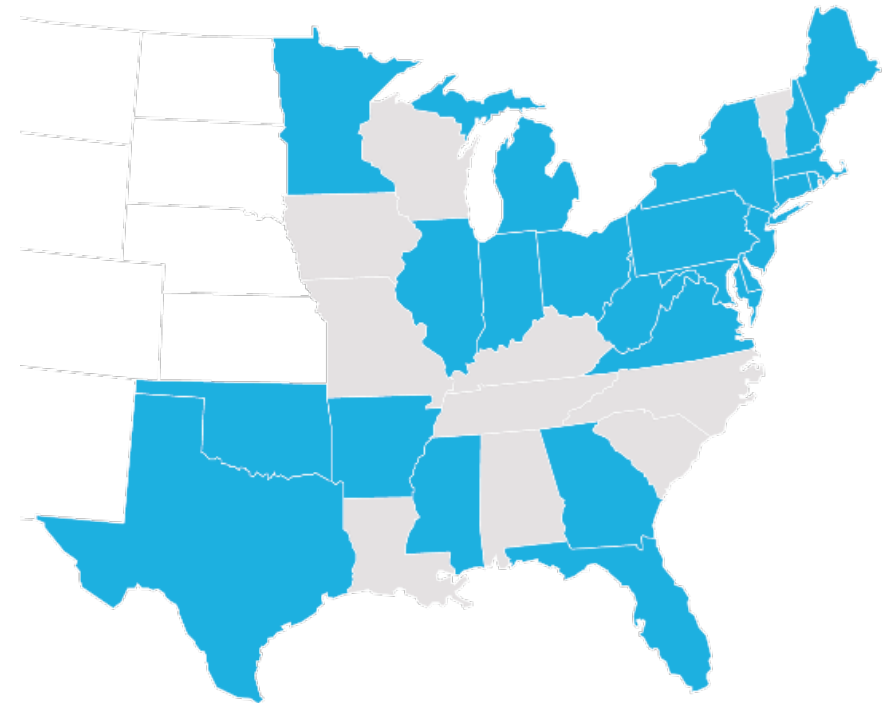
Usource is *not* a developer or installer.

We are an independent advisory firm with deep solar expertise.

We “sit on your side of the table” and represent *your* interests.

# Usource Overview

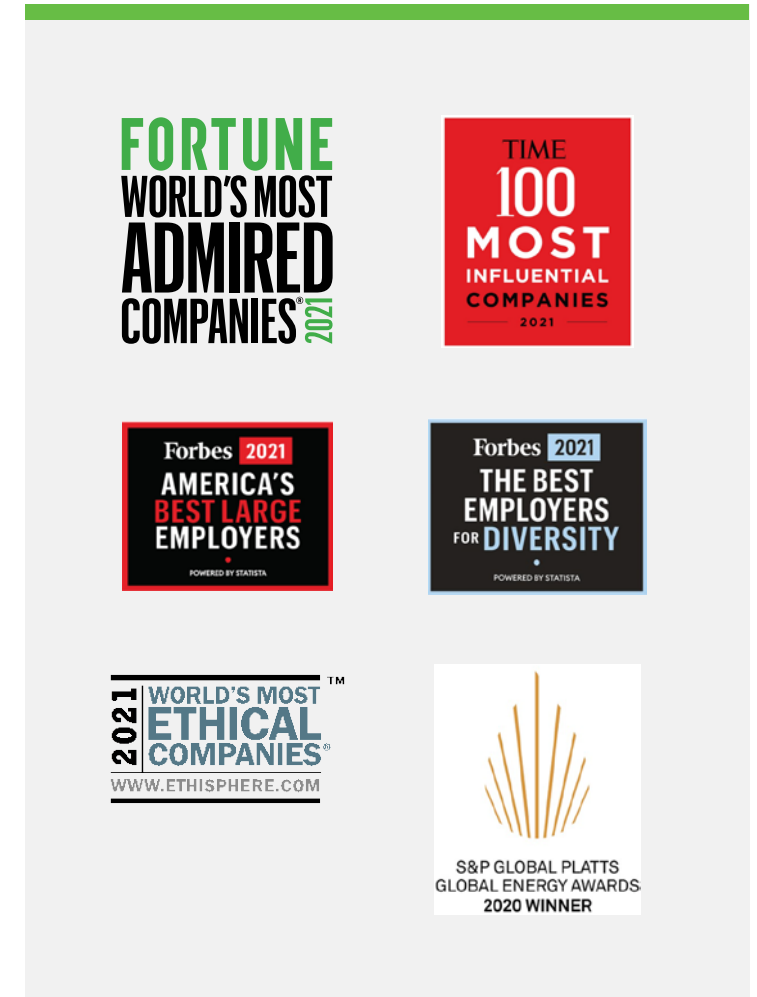
- » Nearly 700 clients – doing business in 24 states
- » Manage over 4 billion kWh of electricity and 10 bcf of natural gas
- » Local consultants with access to hundreds of experts
- » Affiliate of NextEra Energy Resources
  - World's largest generator of wind & solar energy, and leader in battery storage
  - World class, cutting-edge energy expertise
  - Fortune 200 company subsidiary (NextEra Energy Inc., NYSE: NEE)



# Independent Advisory Services

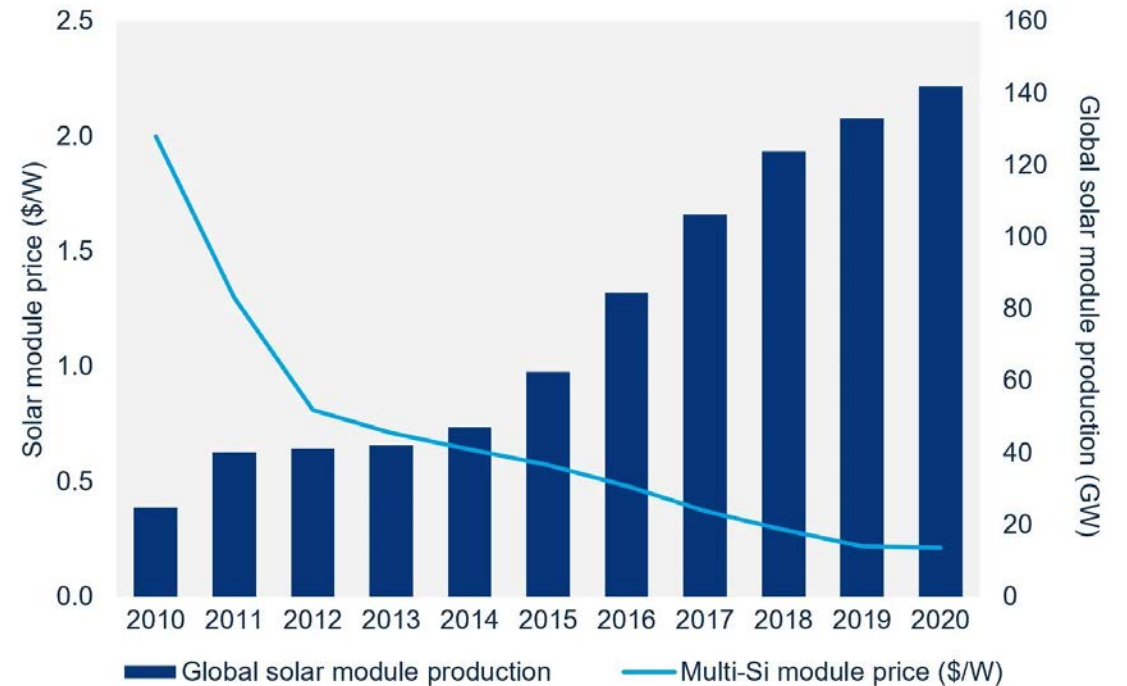
Guiding clients through the process of developing and executing energy & sustainability strategies

- » Part of the **NextEra Energy** family of companies, the largest producer of solar and wind energy in the world
- » Named Top 20 Global Innovator by Fortune with \$50B in infrastructure investments planned in U.S. through 2022
- » In-house energy experts with over 100 combined years of experience within the top energy companies in the U.S.
- » Holistic approach to shaping a client's strategy while remaining supplier & technology agnostic



# Why Solar for NH Counties and Municipalities?

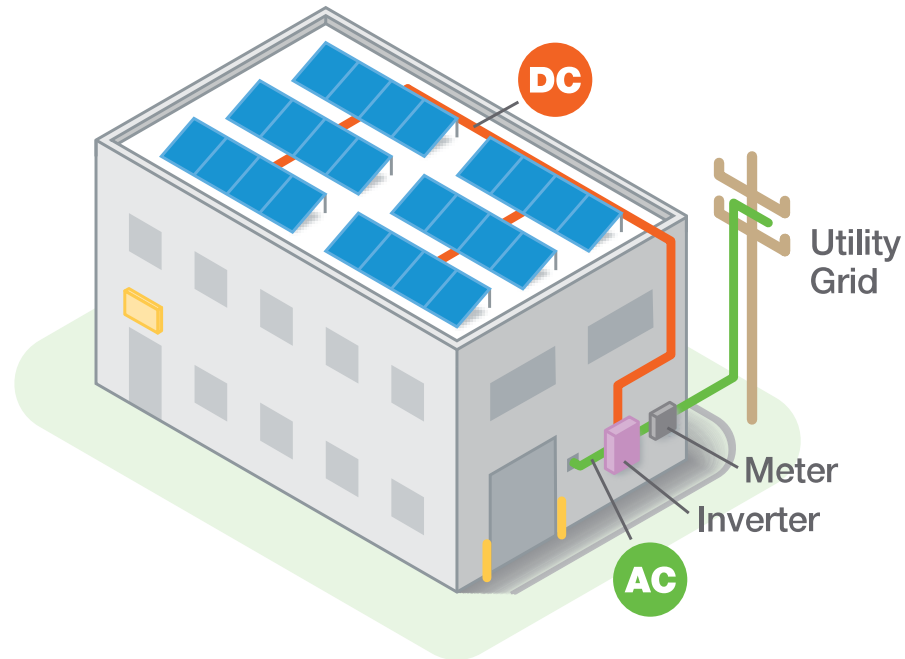
- » Sustainability planning is becoming “table stakes” for businesses and municipalities
- » Safe, well-understood, reliable technology can have significant economic benefits
- » Cost is significantly lower today, and there are many ways to purchase or finance solar systems
- » Long term control over energy spend and budget predictability
- » Demonstrates commitment to doing the right thing for your constituents



1) Source: [Wood Mackenzie](#)



# How Does Solar Energy Work?



A basic understanding of how solar works and its relationship to the grid is helpful

- » Solar panels absorb the sun's energy
- » Energy is converted into Direct Current (DC) electricity and sent to an inverter
- » The inverter converts the Direct Current to Alternating Current (AC) and connects to a meter
- » Excess power is sent to the electric grid, resulting in a net metering credit
- » Power is continually supplied by the utility, even when the solar array is producing
- » Distributed resources help the grid

# Types of Onsite Solar Arrays

Rooftop



Ground Mount



Canopy



# Onsite Renewable Energy Solutions

## Onsite Solar: Factors to Consider

Consider the feasibility of onsite solutions for your organization in advance:

### Real Estate

- » Available property for size of project, such as
  - greenfield
  - carport
  - existing buildings

### Financial

- » Onsite projects need to have a positive payback period over the term of the deal.
- » Depending on how the project is contracted (e.g., PPA vs. cash), the payback period may be longer and have different tax implications.

### Market

- » The economics of onsite renewables range depending on utility territory, state level and federal wholesale power market dynamics — all of which should be considered in the financial analysis of any proposed project.



# Onsite Solar Benefits



Big savings for County or Municipality

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Hedge against future energy rates

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Solar systems last 25+ years

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Reducing County's or Municipality's carbon footprint



# Paying for a Solar System

- » There are many ways to finance a solar array, each with its own pros and cons
- » Projects *must* have economic value and risk mitigation properties to be considered

	PPA	Cash
+	<ul style="list-style-type: none"><li>» No capital expenditures</li><li>» Third party monetizes tax benefit</li><li>» No O&amp;M or ownership risk</li><li>» There are buyout provisions</li></ul>	<ul style="list-style-type: none"><li>» Owner gets all the tax attributes (ITC/Depreciation) and any environmental credits</li><li>» Long term cash flows are significant</li><li>» Projects typically “cash flow”</li><li>» System O&amp;M is required, but low risk and very manageable</li></ul>
-	<ul style="list-style-type: none"><li>» Long term contract</li><li>» “Take or Pay” structure</li><li>» Some economic risk relative to utility pricing</li><li>» Generally, less savings over time</li><li>» Likely not available or expensive given small size, credit</li></ul>	<ul style="list-style-type: none"><li>» Requires upfront capital</li><li>» Requires some operational attention</li><li>» EPC (installer) selection and construction process will require attention</li></ul>

# Usource Onsite Solar Process



## Consultation

## Assessment

## RFP Process

## Energy Impact Analysis

## Cash Flow Analysis

- » We conduct an energy strategy consultation with you to understand your goals and objectives and help determine the ideal renewable energy solution for your organization
- » We assess the feasibility of each renewable energy option (both onsite and offsite) and provide recommendations on which would best achieve your desired results
- » As an independent consultant, we will develop a Request for Proposal (RFP) on your behalf, then review offers gathered from numerous renewable energy service providers
- » We provide a renewable energy impact analysis to compare past energy usage to future state — once you are leveraging renewable energy
- » We will provide a cash flow analysis report showing the impact of renewable energy on your organization's bottom line

Questions  
welcome.  
Thank you!



**Maureen Callahan**

Director, Client Engagement

Maureen.Callahan@UsourceEnergy.com  
603.957.8412

Maureen brings extensive gas and electric account management and consultative experience to Usource through various roles at Massachusetts Electric, TXU Energy and Liberty Utilities. Maureen develops energy procurement and management strategies with mid to large-size commercial and industrial consumers of electricity and natural gas throughout New England. Maureen is a graduate of the School of Industrial Management at Worcester Polytechnic Institute and holds a degree in Public Relations from Humber College in Ontario, Canada. She is a Certified Energy Professional, is an active member of the New England Women in Energy and the Environment ([NEWIEE](#)) and the Association of Energy Engineers ([AEE](#)), and serves on the energy committee of the [Business and Industry Association of NH](#).



**Steve Birndorf**

Director, Renewable Energy Consulting

Steve.Birndorf@NextEraEnergy.com  
415.378.5885

Steve has more than 20 years of professional experience and is a seasoned energy and clean-tech executive with a foundation in consulting and analysis. Prior to joining our team, he developed commercial solar projects for a national developer and later founded and built a commercial solar group for another. Steve has developed, financed and advised on commercial and industrial solar projects, primarily to private industry, municipalities, schools, agriculture, and water agencies. Steve graduated from the University of Pennsylvania and earned an MS and MBA from the University of California at Berkeley.

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# Community Solar

## No need for roof or land space

There is no on-site construction. You tap into solar energy savings from panels located off site in a different location.

## Reduced energy bills

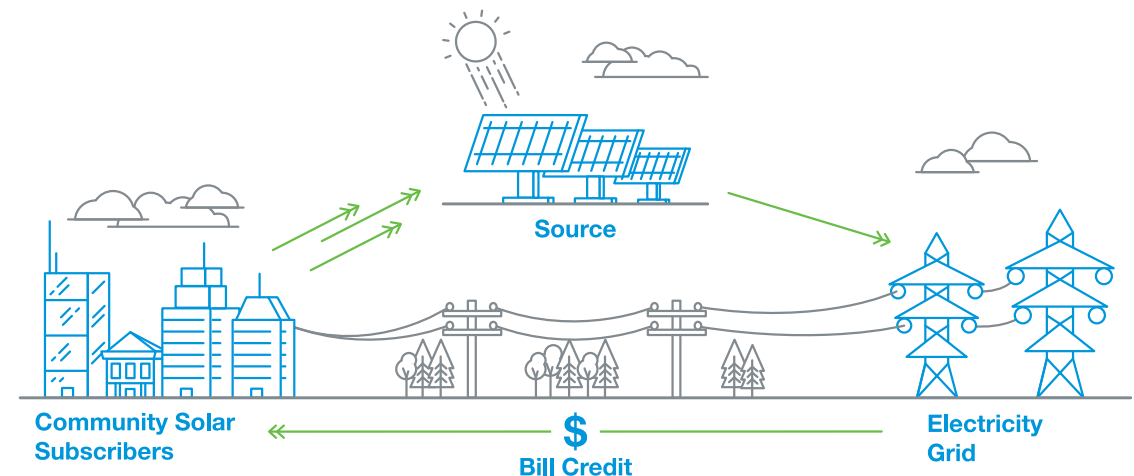
As soon as you are a project subscriber, you get a direct discount on your electricity bill every month of approximately 10%.

## No upfront costs

There is no out of pocket expense. You subscribe to a community solar program and save on your bill — you do not purchase panels.

## Environmental and community support

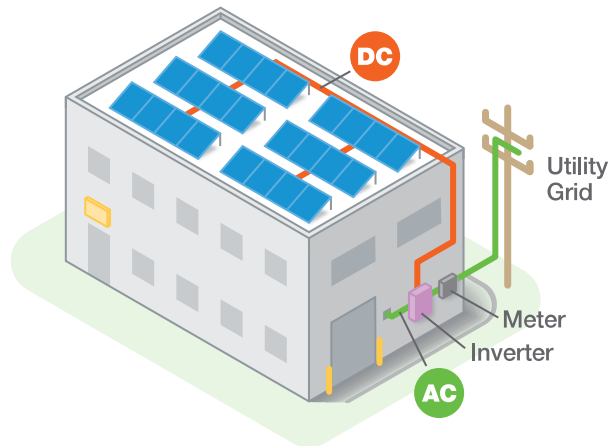
Participating in Community Solar promotes solar and renewable development locally, demonstrates your commitment to clean energy, and supports the local economy.



# Onsite Solar vs. Community Solar

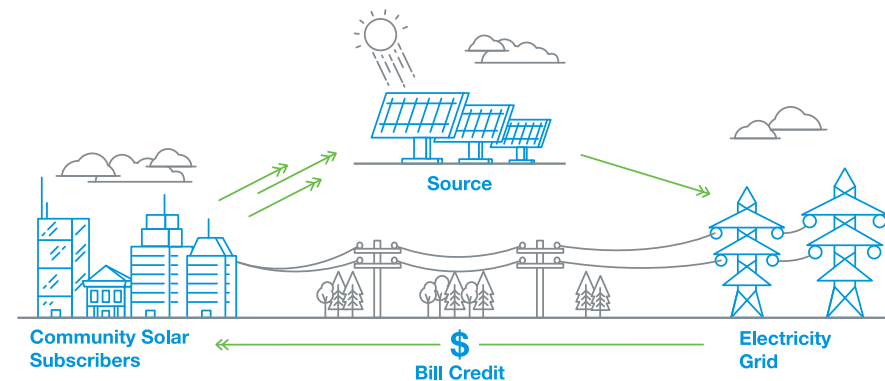
## Onsite Solar or Distributed Generation (DG)

- » Located physically onsite (i.e. on the roof)
- » “Behind the meter”
- » Direct offset of local energy consumption
- » Can be owned (tax benefits, O&M), or
- » Leased (third-party ownership)



## Community Solar

- » Located elsewhere (i.e. not on your property)
- » Financed by developers
- » Organizations “subscribe” to the array as “offtake”
- » Subscribers don’t receive electrons, they receive bill credits
- » Not a robust program in NH





# Renewable Energy Credit Market Update

- » Purchasing Green-e® RECs has historically been the easiest and most cost-effective way for an organization to meet renewable energy and sustainability goals
- » Over the past fifteen months, the cost of a Green-e® Any Certified REC has **risen from \$1 per REC to almost \$8 per REC**
- » Just **two years ago**, the same RECs were selling at closer to **\$0.50** each
- » This steady price increase has seen a substantial price jump in August 2021, a change that has significantly disrupted the market
- » Carbon offsets can be a cost-effective option for making environmental claims in addition to or in place of purchasing RECs



**700%**

increase in price of a  
Green-e® Certified REC  
in the past 15 months

# The Value of Bidding

## Client Success Story:

## Large University Saves Millions with Solar RFP Process

### Strategize

- » Leveraged energy analytics to employ strategic insight into the sustainability and economic objectives of adding a solar resource into the University's electricity procurement portfolio
- » Identified key criteria for energy evaluation:
  - geographic considerations
  - environmental additionality
  - contract terms
  - electricity volumes
  - price tradeoffs
  - technological options
- » Interpreted the impacts of changing state and ISO rules for renewable energy

### Analyze

- » Utilized our RFP bid platform to obtain proposals from several solar developers
- » Worked with several developers to clarify, refine, and evaluate the bids based on the project criteria and collaborated with the University to help make the ideal selection
- » With a developer selected, provided insights into the critical areas to be addressed in the PPA in order to position the University to meet its objectives and manage risks



### Total Savings:

**\$8,394,000**

through Usource RFP process

**10%**

of annual electricity use provided by solar system

**40%**

of annual electricity needs met by local renewable power sources (solar & hydro)