



COMMONWEALTH OF MASSACHUSETTS

Charles Baker, Governor  
Matthew Beaton, Secretary  
Judith Judson, Commissioner

### Online Permitting Webinar for Municipalities

Martha Flynn, Assistant Commissioner, City of Cambridge Inspectional Services Department

Phoebe Walker, Director of Community Services, Franklin Regional Council of Governments

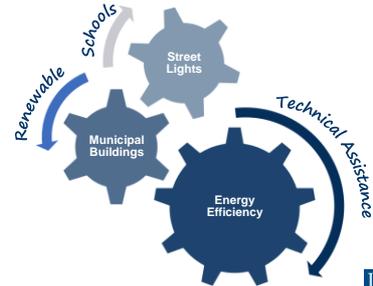
Mark Liffman, VP of Marketing, Business Development and Sales, Clean Power Research

Green Communities Division  
Webinar

December 16, 2015

## Green Communities Division

The energy hub for **all** Massachusetts cities and towns, not just designated "Green Communities."



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Outreach - Regional Coordinators

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:



WERO - SPRINGFIELD: Jim Barry  
[Jim.Barry@state.ma.us](mailto:Jim.Barry@state.ma.us)



NERO - WILMINGTON: Joanne Bissetta  
[Joanne.Bissetta@state.ma.us](mailto:Joanne.Bissetta@state.ma.us)



CERO - WORCESTER: Kelly Brown  
[Kelly.Brown@state.ma.us](mailto:Kelly.Brown@state.ma.us)



NERO - LAKEVILLE: Seth Pickering  
[Seth.Pickering@state.ma.us](mailto:Seth.Pickering@state.ma.us)



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Green Communities Division - Programs & Resources for Municipalities

- Green Communities Designation and Grant Program
- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Efficiency Assistance
- Energy Management Services Technical Assistance
- Mass Municipal Energy Group (MMEG)
- Website filled with tools & resources:  
[www.mass.gov/energy/greencommunities](http://www.mass.gov/energy/greencommunities)

Email updates via e-blasts – Sign up by sending an email to:  
[join-ene-greencommunities@listserv.state.ma.us](mailto:join-ene-greencommunities@listserv.state.ma.us)



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Recording & Presentation

- The webinar is being recorded and will be available on our website in approximately 48 hours at:  
<http://www.mass.gov/eea/energy-utilities-clean-tech/webinars.html>
- Click on the camera icon top right of your screen to save any slides for future reference
- Use the Q & A icon on your screen to type in questions
- The slide presentation will also be posted at:  
<http://www.mass.gov/eea/energy-utilities-clean-tech/webinars.html>



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Rooftop Solar Challenge II

Under the second round of Rooftop Solar Challenge (RSC), DOER working to continue to reduce soft costs and coordinate with other New England states to learn and disseminate best practices

- Permitting resources
- Zoning resources
- Community shared solar resources
- Interconnection resources
- Financing resources

<http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/sunshot-rooftop-solar-challenge.html>



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Poll Question 1

- Who is in the audience today?
  - Municipal officials
  - Municipal inspectors
  - Online permitting vendors
  - Other



Helping Massachusetts Municipalities Create A Cleaner Energy Future



7

Helping Massachusetts Municipalities Create A Cleaner Energy Future

## CITY OF CAMBRIDGE ONLINE PERMITTING



## Many reasons why the City of Cambridge decided online permitting was the best next step:



Helping Massachusetts Municipalities Create A Cleaner Energy Future



9

## Customer Service

- Apply online from office, home or department counter
- Eliminate traveling from one department location to another for pre-application sign-offs
- Digitally submit all documentation
- Fees automatically calculated
- Pay online
- Email updates of application status
- Receive issued permits by email



Helping Massachusetts Municipalities Create A Cleaner Energy Future



10

## Departmental

- Financial reconciliation
- Inspections entered real time on tablets in the field
- Immediate access to permit information by administrative staff
- Reporting
- Document/Data retention
- Reduction of paper and storage space



Helping Massachusetts Municipalities Create A Cleaner Energy Future



11

## The steps taken to implement online permitting:



Helping Massachusetts Municipalities Create A Cleaner Energy Future



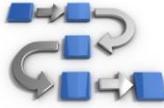
12

## Internal Process

IT Project Manager and ISD Staff worked together to determine the scope of work

Worked with staff to obtain knowledge of:

- Permit types
- Business process
- Data collection required
- Documents required
- Reports required
- Fees



Helping Massachusetts Municipalities Create A Cleaner Energy Future



13

IT Project Manager and ISD Staff worked together to:

- Investigated what products were available
  - Visited municipalities using a variety of programs
- Proceeded through the RFP process
- Worked with Project Manager and their staff from RFP winning company to create all aspects of the database/online program
- Implementation
- Data Conversion
- User acceptance testing
- User training/Train the Trainer
- Produce Instructional Videos for Applicants
- Go Live! (1 ½ years)



Helping Massachusetts Municipalities Create A Cleaner Energy Future



14

## How has online permitting been received during our first 3 years?



Helping Massachusetts Municipalities Create A Cleaner Energy Future



15

## Contractors/Licenses/Residents

- Applicants are required to apply for all permits and licenses online.
- The majority of applicants do apply online
- There are always the contractors/licensees that claim they are unable to use a computer or state that the Plumbing/Electrical Boards requires Cities & Towns accept paper applications.
- Administrative staff are extremely helpful to applicants via the phone, email and computers in our lobby



Helping Massachusetts Municipalities Create A Cleaner Energy Future



16

The City Inspectors include:

- Building
- Electrical
- Housing
- Plumbing
- Sanitary



### Result

- Were hesitant at first, but took to it very well. Of course we have our hiccups, but work our way through them.
- The Administrative staff work well with the program and appreciate all the work that went into the set-up.
- Continued daily IT support and upgrades



Helping Massachusetts Municipalities Create A Cleaner Energy Future



17

## Poll Question 2

- Does your town have online permitting options for solar PV?
  - a) Yes, for both building and electrical permits
  - b) Yes, but just for building permits
  - c) Yes, but just for electrical permits
  - d) No, neither our building or electrical permits are online



Helping Massachusetts Municipalities Create A Cleaner Energy Future



18



## Online Permitting in a Rural Regional Inspection Program

### Franklin County

- Franklin County is the most rural county in MA.
- 71,372 people, 725 square miles, 26 towns.
- Greenfield – 17,456 residents; Monroe – 121 residents.
- 22 of 26 towns have population under 5,000; 19 under 2,000; 8 under 1,000.



### Franklin Regional Council of Governments (FRCOG)



- Former county government, now a municipal voluntary membership organization.
- All former county towns are members
- Mission is to serve the region and the 26 municipalities of Franklin County.
- Services include:
  - Regional Planning Commission
  - Regional preparedness and emergency planning
  - public health/substance abuse prevention
  - Legislative advocacy
  - Municipal services – town accounting, health district, cooperative inspection



### FRCOG's Cooperative Inspection Program



- 45 year old program serving 15 towns with Building, Plumbing/Gas, and Wiring Inspection, and Zoning Enforcement
- 8 of the towns are Green Communities.
- FCCIP processes over 2,500 building, plumbing, and wiring permits annually
- Housed in the Olver Transit Center, a zero-net energy building



### Online Permitting at FRCOG

- Purchased platform from Full Circle Technologies
- Went live July 1, 2011
- All permits are applied for, reviewed, paid for, and approved online
- Signoffs from Boards of Health, Conservation Commissions, Fire Dept, etc assigned centrally at FRCOG
- Payment collected at FRCOG
- 3540 registered users, including homeowners, contractors, town officials



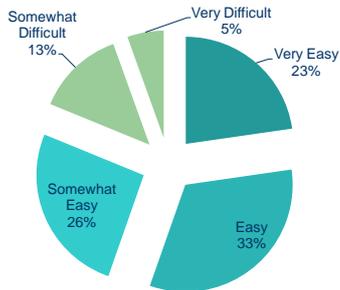
### Implementation Challenges

- Internet and computer access
- Low technological literacy of many users, esp. some contractors and some of the volunteer board members who review the applications
- Software glitches with timing out, uploading documents

Lesson Learned: Extensive TA needed – hired dedicated part time staff person, added “how-to” documents to web site.



## Customer Survey – How easy is it to use?



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Positive Feedback

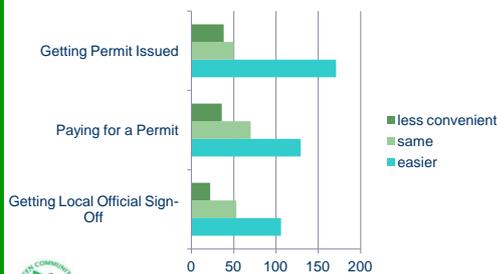
- Contractors found it even easier than other respondents (58%)
- 66% of respondents said that getting answers to their questions was somewhat to very easy.
- Over 75% of respondents said they complete the application process in half an hour or less.
- The vast majority of respondents reported that the current system is more convenient for paying for a permit.



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## How does the new system compare to the old one?



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## User Comments



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Recommendations

- Explore multiple options for software
- Understand your users limitations and needs
- Don't assume the software developers understand your world
- Over-communicate
- Invest in robust customer support



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Poll Question 3

- What is the biggest barrier to implementing online permitting in your municipality?
  - a) Cost
  - b) Stakeholder resistance
  - c) Broadband limitations
  - d) Employee resistance
  - e) Fear of job elimination
  - f) Other



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## PowerClerk Permit

Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the Commonwealth or DOER.

Mark Liffmann, VP Sales & Marketing  
Clean Power Research  
December 16, 2015

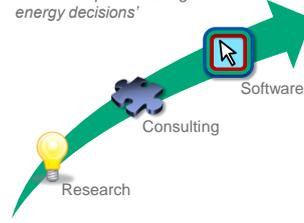


Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Clean Power Research\*

Founded in 1998 with the mission to 'power intelligent energy decisions'



<b>SOLAR PREDICTION</b> <i>Most widely used solar resource database</i>
<b>ENERGY VALUATION</b> <i>&gt;30 million solar estimations performed</i>
<b>PROGRAM OPTIMIZATION</b> <i>&gt;8 GW of renewable projects processed</i>

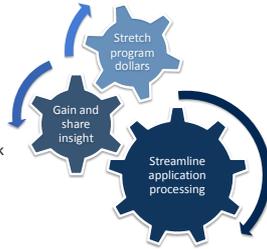


Helping Massachusetts Municipalities Create A Cleaner Energy Future



## The Creation of PowerClerk

- CPR background was incentive and program *design*
- Customer pain point was prog. *operations*
- Customers asked us to build PowerClerk Incentives
- SunShot Incubator 8 award: commercialization of PowerClerk Interconnect
- SunShot Incubator 10 award: streamlining permitting



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## PowerClerk Permit Value Proposition

- Take permitting online and streamline processes
- Modular approach
- Implement quickly
- Cost effective for all size jurisdictions
- Self service configuration
- Integrates easily with other systems



Helping Massachusetts Municipalities Create A Cleaner Energy Future



34

## What We've Heard from Administrators

- **Need for Transparency**
  - Status updates require many calls, emails
  - Who owns project review for each project?
- **Reporting Challenges**
  - 15 minutes per application to transcribe from PDF or paper
  - Manual data entry => errors/duplicates
  - Wet ink signatures require additional truck roll
  - Difficult to report on installed systems from disparate databases
- **Managing Change**
  - Permit programs constantly evolving
  - Delays common for IT changes to backend systems



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## PowerClerk Capabilities

- Stepwise Process



- Self-Service Program Design
- Clearly Codified Calculations
- Transparent Statuses
- Auto Communications & Deadlines
- eSignatures
- Application Programming Interface

Incentive: \$45,000.00  
 \$1.75/W-DC (up to \$45,000) (Expires 4/30/2025)  
 Hide Details  
 Incentive Amount: Incentive Rate x System AC Rating After  
 \$1.75 x 277.00 W x 0.988 = \$394,738.27  
 Limit Exempt Amount to \$45,000.00: **\$45,500.00**

Full Name: Jeff Ressler Initials: JR  
 Digitally signed by Jeff Ressler DN: cn=Jeff Ressler, o=DOER, email=jressler@doer.state.ma.us



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Status Transparency



Welcome, cpadmin@cleanpower.com | Log Out

HOME PROGRAM DESIGN ADMIN SETTINGS CPU ADMIN SUPPORT

NET ENERGY METERING APPLICATION Change Program

New NEM Application (10kW)

Project #	Current Status	Current Status Timestamp	Operation date	PV System Nameplate Rating
NEM-0005	Approved for Signing	10/14/2014	10/31/2014	5.1
NEM-0004	Application in Process	10/13/2014	10/31/2014	5.1
NEM-0003	Permission to Operate	10/09/2014	10/31/2014	5.1
NEM-0002	Approved for Signing	10/03/2014	10/31/2014	7.0
NEM-0001	Awaiting Documentation	10/03/2014	10/31/2014	5.05
	Unsubmitted	10/03/2014		
	Unsubmitted	10/09/2014		
	Unsubmitted	10/14/2014		

Project # Current Status Current Status Timestamp Operation date PV System Nameplate Rating

Clean Power Research © 2014 Clean Power Research



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## PowerClerk by the Numbers

380,000 applications submitted online  
8 GW of capacity

2,250,000+ electronic documents stored  
8.5 million+ pieces of paper saved

60+ programs for PV, solar hot water, wind and hydro

28 utilities and agencies use PowerClerk



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## Questions?

- Emma Krause - [emma.krause@state.ma.us](mailto:emma.krause@state.ma.us)
- Martha Flynn - [mflynn@cambridgema.gov](mailto:mflynn@cambridgema.gov)
- Phoebe Walker - [Walker@frcog.org](mailto:Walker@frcog.org)
- Mark Liffmann - [mliffmann@cleanpower.com](mailto:mliffmann@cleanpower.com)



Helping Massachusetts Municipalities Create A Cleaner Energy Future

