

# SOLAR DEVELOPMENT ON LANDFILLS, IMPOUNDMENTS, BROWNFIELDS AND UTILITY CONTAMINATED SITES

January 28-29, 2021  
Online | Central Time

“*The EUCI conference on Solar Projects on Brownfield sites gave a detailed overview of issues and opportunities associated with these Developments!!*”

EPC Project Mgr, Consumers Energy

**PRE-CONFERENCE WORKSHOP**

**Fundamentals Of Financing Landfill Solar Development**

THURSDAY, JANUARY 28, 2021

**EUCI ONLINE CONFERENCE**

EUCI is pleased to offer this virtual conference on its online interactive platform. Enjoy a valuable learning experience with a smaller impact on your time and budget. You will gain new knowledge, skills, and hands-on experience from the convenience of your remote location.

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## OVERVIEW

With solar power now in the mainstream of energy resource development, the aggressive search for suitable greenfield sites has prompted savvy investors, project developers, suppliers, and power organizations to consider sites with less conventional development characteristics.

Ironically, these blemished sites areas often turn out to be attractive siting options for solar projects. Business is flourishing. Renewable energy policies, coupled with multiple tax and related financial incentives, contribute to the development appeal of these types of sites. Yet, there are special considerations applicable to closed landfill and brownfield sites as compared with greenfield locations.

This conference will examine the significant aspects of developing solar energy on landfills, brownfields and other contaminate sites. It will consider utility interconnection, engineering, permitting, environmental and regulatory, legal, risk and financing issues. Developers, regulatory officials, investors and legal specialists with expertise in this very special arena will conduct the program, using case studies and examples from successful projects.

## LEARNING OUTCOMES

The content is intended as a survey (fundamentals) event for utilities, project developers, regulators and community stakeholders in states that are just now beginning to turn their attention to this class of solar development.

Attendees will gain practical and technical skills that allow them to:

- Analyze PV technical and economic factors unique to landfills
- Design solar projects on these areas
- Assess the environmental engineering aspects of siting
- Identify interconnection considerations and constraints
- Evaluate the insurance and risk management connected to these projects
- Analyze landfill reuse permits
- Identify legal aspects of development and financing
- Evaluate the technical and practical considerations municipalities must consider when planning these projects



*“Speakers welcomed questions, which was helpful to fill in the gaps of presentations and the responses were candid.”*

Assistant General Counsel, SunEdison



*“This is the most focused and practical conference about landfills and development I have ever attended!”*

Chief Commercial Officer, Hanergy America

# AGENDA

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THURSDAY, JANUARY 28, 2021 – CENTRAL TIME

- 12:30 – 5:00 pm**      **Conference Timing**
- 12:15 – 12:30 pm**      **Log In**
- 12:30 – 12:45 pm**      **Overview & Introductions**
- 12:45 – 1:30 pm**      **EPA Landfill, Brownfield and Solar Program Support**  
This session will detail the U.S. Environmental Protection Agency's (EPA) ongoing initiative to encourage and facilitate renewable energy development on current and formerly contaminated lands, landfills and mine sites when such development is aligned with the community's vision for the site. The RE-Powering America's Land Initiative identifies the renewable energy potential of tracked EPA and state sites and provides useful resources for communities, developers, state and local governments and other interested stakeholders. The focus in this session will be on opportunities for future development, with supplemental information on the program's efforts to date and observed trends.
- 1:30 – 2:30 pm**      **Navigating the Permitting and Regulatory Process**
- Key permitting requirements
    - o Solid waste permits
    - o Zoning
    - o Environmental impact review
    - o Non-landfill brownfields
  - REC/SREC qualification
  - Liability issues and mitigation
  - Practical considerations
- 2:30 – 2:45 pm**      **Afternoon Break**
- 2:45 – 3:45 pm**      **Comparing Landfill/Brownfield to Greenfield PV Project Planning & Design Characteristics**
- Why landfills?
  - Permitting timelines
  - Site design
  - Settlement
  - Long-term O&M
  - Stormwater and remediation management
  - Utility interconnection process
- 3:45 – 5:00 pm**      **Site Preparation, Environmental Remediation and Engineering Considerations**  
As the numbers of brownfields and landfills multiply as solar project host sites, the engineering, environmental science and preparation practices particular to these contaminated properties advance as well. The choice of remediation methods, site engineering practices and applications, racking systems and foundations all can have profound effect on the risk mitigation and finance-ability of a project. This segment, conducted by site remediation specialists, will examine the critical knowledge needed by those interested in developing solar projects on these sites including:
- Site assessment, remediation and prep
  - Special landfill considerations
  - Foundation and racking systems' selection
  - Corrosion mitigation
  - Construction Best Practices
  - Risk and insurance
- 5:00 pm**      **Course Adjourns for Day**

# AGENDA

FRIDAY, JANUARY 29, 2021 | CENTRAL TIME

**8:30 am – 4:45 pm**      **Conference Timing**

**8:15 – 8:30 am**      **Log In**

**8:30 – 9:45 am**      **Project Development Expense Assumptions**

As with any development project, the numbers have to add up. This segment will provide pragmatic guidance, financial ranges and lessons learned by one of the solar landfill sector’s longest-standing development organizations, touching upon these critical elements:

- Due diligence
- System design
- Equipment selection
- Construction
- Commissioning
- Operation

**9:45 – 10:00 am**      **Break**

**10:00 am – 12:00 pm**      **Financing Overview and Metrics of Landfill-specific Solar Projects**

- Appraisal / valuation
- Tax equity considerations
- Renewable Portfolio Standards (RPS) incentives and penalties
- PPA terms and negotiation elements
- CapEx
- Hurdle rates
- Return on Investment (ROI)
- P90 scenarios
- Curtailment exposure and impact on financial performance
- Debt service coverage ratio (DSCR)
- Other considerations

**12:00 – 12:45 pm**      **Mid-day Break**

**12:45 – 2:00 pm**      **Why Do Landfill Projects Proliferate in Some States But Not Others?**

- Presence of state legislation
- Presence of tax, economic development and other incentives
- Structure of utility regulations and oversight
- Renewable energy mandates
- Environmental review, constraints and coordination
- How to “move the needle” in a state or community to improve development prospects



*“Great information for developers.”*

Owner/Principal, C&E Solutions LLC



*“EUCI developed a strong program of industry practitioners – well worthwhile.”*

Executive Vice President, groSolar

# AGENDA

FRIDAY, JANUARY 29, 2021 | CENTRAL TIME (CONTINUED)

**2:00 – 2:10 pm**

**Break**

**2:10 – 3:20 pm**

**Developing Project Collaborations**

- Distinguishing among various types of brownfields
  - o Landfills
  - o Superfund sites
  - o Government (often military) abandoned parcels
  - o Utility coal combustion residual (CCR) and other
- Comparing local, regional, state and federal project partners
- Building a Team
  - o EPC
  - o Finance and tax
  - o Legal
  - o Environmental
  - o Community stakeholders

**3:20 – 3:30 pm**

**Break**

**3:30 – 4:45 pm**

**Best Practices Roundtable: Project Developers and SMEs**

Project developers will engage in a roundtable discussion re: aspects of landfills and/or brownfields project development that prospective developers, utilities, investors, integrators, EPC providers and others will find instructive and insightful, addressing such facets as:

- Implications of election outcomes on renewable energy project financing
- Recently enacted and pending legislative measures relating to renewables
- Policy and regulatory developments
- Technology shifts and trends

**4:45 pm**

**Symposium Adjournment**



*“This was a very functional conference with industry leaders detailing interesting and demonstrative projects.”*

Senior Program Manager,  
ISM Solar Solutions



*“EUCI’s focused conferences afford those actively participating or looking to participate in solar/energy development the tools necessary to streamline processes and conduct business in the most efficient manner possible. I love EUCI’s focused conferences!”*

Vice President, Seminole Financial Services

## PRE-CONFERENCE WORKSHOP

# Fundamentals Of Financing Landfill Solar Development

THURSDAY, JANUARY 28, 2021 - CENTRAL TIME

<b>8:15 – 8:30 am</b>	<b>Log In</b>
<b>8:30 – 11:45 am</b>	<b>Workshop Timing</b>
<b>8:30 – 8:45 am</b>	<b>Overview &amp; Introductions</b>

## WORKSHOP AGENDA

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THURSDAY, JANUARY 28, 2021 - CENTRAL TIME

### **Solar Financing Components**

- Process and features
- Key players, roles and interests
- Due diligence requirements
  - Distributed-scale
  - Utility-scale
- Power purchase agreements (PPAs) financing issues
- Engineering procurement construction (EPC) financing issues
- Financial Sourcing
  - Sequence and staging
  - Operating revenues and expenses

### **Solar Development Driver: Investment Tax Credit**

- Genesis and history
- Criteria for
- Monetizing its application
- Most common transactional structure
- Treatment of depreciation
- Cash flow
- Return to tax equity investor

### **Examination of Transaction Structures**

- Partnership flip
- Sale-leaseback
- Lease pass-through
- Deciding on the best solution

### **Converting Financing Structures into Project Implementation**

This segment will review a solar landfill case study that illustrates how the financing elements above are translated into project development.

**11:45 am**                      **Workshop Adjournment**



## SUBJECT MATTER EXPERT INSTRUCTORS

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**Andrew Bernstein**

**Managing Partner, Kearsarge Energy**

**Annika Colston**

**President & Founder, AC POWER**

**Paul Curran**

**Managing Partner, BQ Energy**

**Chris Diaz**

**Co-CEO, Seminole Financial Services**

**James Duffy**

**Partner, Nixon Peabody LLP**

**Chad Farrell**

**Founder and CEO, Encore Renewable Energy**

**Tony Grappone**

**Partner, Novogradac & Company LLP**

**Michael Kuhn**

**Senior Vice President & Team Leader – Commercial Lending, Cambridge Savings Bank**

**Peter Lawrence**

**Director – Public Policy & Government Relations, Novogradac & Co LLP**

**Kevin Magayah**

**Vice President, CS Energy**

**Brian Morrissey**

**Managing Director, Citizens Solar**

**Michael Rauch**

**Director, BQ Energy**

**Lloyd Ritter**

**Founder & Managing Partner, Green Capitol LLC**

**Lora Strine**

**Coordinator – RE-Powering America’s Lands Initiative, U.S. Environmental Protection Agency (EPA)**

**Andrew Westhoven**

**Senior Project Manager, NJR Clean Energy Ventures (invited)**

## INSTRUCTIONAL METHODS

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Case studies, PowerPoint presentations, and panel discussions will be used in this program.

## IACET CREDITS

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EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

**EUCI is authorized by IACET to offer 1.1 CEUs for the conference ; 0.3 CEUs pre-conference workshop.**

## REQUIREMENTS FOR SUCCESSFUL COMPLETION

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Participants must login for the entirety of conference to be eligible for continuing education credit.

## ONLINE COURSE DELIVERY & PARTICIPATION DETAILS

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EUCI is pleased to offer this virtual course on its online interactive platform. Enjoy a valuable learning experience with a smaller impact on your time and budget. You will gain new knowledge, skills, and hands-on experience from the convenience of your remote location.

We will be using Microsoft Teams to facilitate your participation in the upcoming event. You do not need to have an existing Teams account in order to participate in the broadcast – the course will play in your browser and you will have the option of using a microphone to speak with the room and ask questions, or type any questions in via the chat window and our on-line administrator will relay your question to the instructor.

You will receive a meeting invitation that will include a link to join the meeting.

Separate meeting invitations will be sent for the morning and afternoon sessions of the course. You will need to join the appropriate meeting at the appropriate time.

If you are using a microphone, please ensure that it is muted until such time as you need to ask a question.

The remote meeting connection will be open approximately 30 minutes before the start of the course. We encourage you to connect as early as possible in case you experience any unforeseen problems.



# PLEASE SELECT

To Register Click Here, or

- BUNDLE PRICE: SOLAR DEVELOPMENT ON LANDFILLS, IMPOUNDMENTS, BROWNFIELDS AND UTILITY CONTAMINATED SITES ONLINE CONFERENCE AND PRE-CONFERENCE WORKSHOP**  
JANUARY 28-29, 2021: US \$1,695 (Single Connection)
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JANUARY 28-29, 2021: US \$1,295 (Single Connection)
- PACK OF 5 CONNECTIONS:** US \$ 5,180 (20% Discount)
- PACK OF 10 CONNECTIONS:** US \$9,065 (30% Discount)
- PACK OF 20 CONNECTIONS:** US \$15,540 (40% Discount)
- PRE-CONFERENCE WORKSHOP ONLY: FUNDAMENTALS OF FINANCING LANDFILL SOLAR DEVELOPMENT**  
THURSDAY, JANUARY 28, 2021: US \$495 (Single Connection)

*Recording: Each event is recorded, and will be available for three business days. For registrants only.*

### Mail Directly To:

PMA Conference Management  
405 Highview Rd  
Englewood NJ 07631  
201 871 0474  
Fax 253 663 7224  
register@pmaconference.com

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Energize Weekly is EUCI's free weekly newsletter, delivered to your inbox every Wednesday. We provide you with the latest industry news as well as in-depth analysis from our own team of experts. Subscribers also receive free downloadable presentations from our past events.

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### Online Course Delivery & Participation Details

See page 8 for information

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

Print Name

Job Title

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State/Province

Zip/Postal Code

Country

Phone

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### CREDIT CARD INFORMATION

Name on Card

Billing Address

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Billing City

Billing State

Exp. Date

Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx)

Billing Zip Code/Postal Code

**OR** Enclosed is a check for \$ \_\_\_\_\_ to cover \_\_\_\_\_ registrations.

### Substitutions & Cancellations

Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before December 18, 2020 in order to be refunded and will be subject to a US \$195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at 303-770-8800. EUCI reserves the right to alter this program without prior notice.

