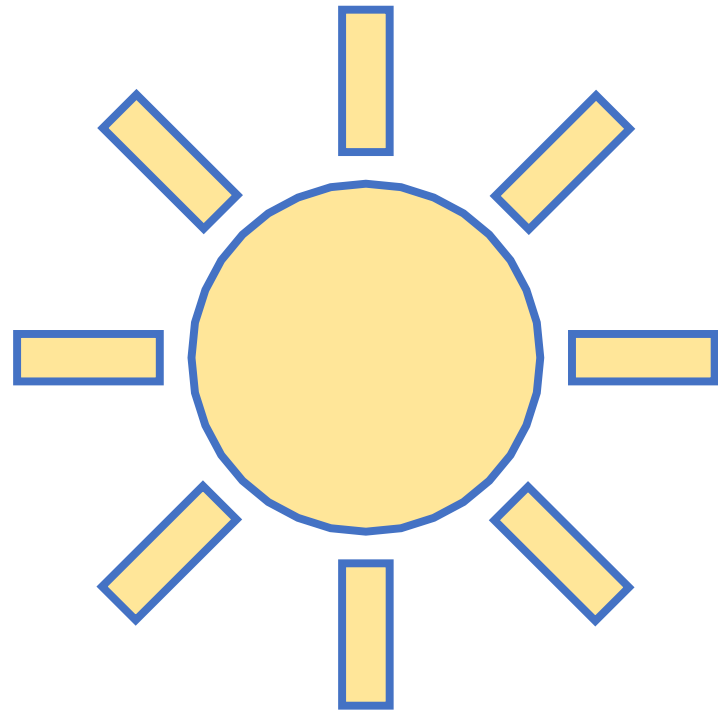


# Landfill Solar Project Update

February 10, 2020



## Project Review Team:

Nathan Poore—Town Manager

Pete McHugh—Finance Director

Jay Reynolds—Public Works Director

Kimberly Darling—Energy and Sustainability Coordinator

Adam Cote—Attorney, Drummond Woodsum

# Brief Background

- **2015-2016**—feasibility of project with engineering firm
  - Waiting for law changes (system size and metering barriers)
- **2018-2019**—new legislation passed
- **October 2019**—pre-bid presentation to Town Council, and RFP released
- **November 2019**—proposals due, review team formed
- **December 18, 2019**—letter requesting more information from companies
- **January-February 2020**—proposal review and presentation to Town Council

# Components of RFP

- Background Information
- Project Scope and Standards
- Qualifications and Experience
- Proposed Project Costs
- Submittal Requirements and Timeline
- Selection Criteria

# RFP Attachments

- **Appendix A— Photovoltaic solar array feasibility study Woods Rd. landfill to include:**
  - Memorandum titled “Suggested Natural Resources Studies and Preliminary Analysis of Potential State and Federal Permitting Requirements”
  - Memorandum titled “Geotechnical/Landfill Assessment for a Solar Installation at the Woods Road Landfill”
  - Memorandum titled “Electrical Generation/Interconnection Assessment for a Solar Installation at the Woods Road Landfill”
  - PUC Chapter 324—Forms and Agreements: Level 2, Level 3 and Level 4 Interconnection Application
  - Memorandum titled “Delineation of Protected Natural Resources at Falmouth Transfer Station Property”
  - 900KW AC Single Line Diagram
  - US Fish and Wildlife Service: Review of threatened and endangered species
  - Maine Dept. of Agriculture, Conservation, and Forestry: Review of rare botanical features
  - Maine Historic Preservation Commission: Review of site for historical significance.
  - Maine Department of Environmental Protection: Guidance document for installing solar panels on a closed landfill
- **Appendix B— Falmouth’s electricity totals and associated costs**
- **Appendix C— Project proposal form**
- **Appendix D—Maine Department of Environmental Protection: landfill closure certificate**
- **Appendix E—Landfill closure site plan: As-built/Record Drawing**

# The Proposals

- We received 9 proposals, but one did not meet our minimum RFP requirements. We analyzed the remaining 8
- Proposals ranged in a variety of financing models:
  - Direct ownership
  - Lease Agreements
  - Power Purchase Agreements (with and without escalators)
- Proposals ranged in net benefit:
  - \$517,389 - \$1,995,655 (over 20 years)

# Legal Review

- Maine's Regulatory Landscape is Now More Favorable Towards Solar
  - LD 1711: modernizes net metering, calls for PUC to procure long term solar contracts
  - LD 1494: increases Renewable Portfolio Standards leading to development of up to 500 MW of new solar projects
- What does this mean for Falmouth landfill?
  - More attractive investment for developers
  - Increased opportunity to take advantage of net energy billing
  - Likelihood of incentives going away?

# Financial Analysis

- Evaluated the 8 RFP responses that met RFP minimum requirements using the following assumptions:
  - Assumed maximum annual system production of 1,385,509
    - System size based on 70% of Town and Wastewater annual usage (1,979,000 kWh)
  - Assumed .5%/year reduction in system production
  - Assumed the Net Energy Billing rate increases 2% per year
  - PPA pricing contained in the proposals
    - Range of options from 20 year fixed, 2% escalators, percent of NEB rate
  - All initial responses did not turn Renewable Energy Credits over to the Town
  - Tangent had the best overall net benefit to the Town over the 20 year period of \$1,995,000
    - Average annual credits of \$99,780 or 42% of our annual average bill of \$235,600

# Financial Analysis

## RFP Responses

<b>Vendor</b>	<b>Initial Annual Production</b>	<b>Net Benefit</b>	<b>NOTES</b>
Tangent 3	1,385,436	2,511,064	PPA price fixed for 20 years, RECs @ \$.0285/kWh for 20 years
Tangent	1,385,436	1,995,655	PPA price fixed for 20 years
Tangent 2	1,385,436	1,953,234	PPA price fixed for 20 years, RECs @ \$.0285/kWh for 5 years
EDF	1,385,436	1,568,791	PPA price fixed for 20 years
Renewable Energy Partners	1,385,436	1,571,341	PPA price increases 2%/yr
Revision	1,385,436	1,361,306	PPA price fixed for 20 years
HEP	1,385,436	1,044,542	PPA price increases 2%/yr
Citizens	1,385,436	1,020,930	PPA price = 75% Tariff Rate
AC Power	1,385,436	1,020,930	PPA price = 75% Tariff Rate
Soltage	1,385,436	517,389	PPA price 89% tariff rate



# Financial Analysis

- Town asked Tangent to provide a scenario where they would turn ownership of the renewable energy credits over to the Town
  - PPA price was increased \$.009/kWh which increased the total purchase price of the net energy billing credits by \$238K
    - In order to monetize renewable energy credits, the RECs would need to be sold in the REC marketplace
      - Town could sell directly or through an agent who would charge a commission
      - REC market is potentially volatile and could change significantly over 20 years
    - RECs were evaluated based on current market value
      - Used 2 scenarios: market stays as is for 20 years and market stays as is for 5 years
        - Tangent assumed the 5 year market in their analysis
      - 20 year scenario had net benefit of \$2.5 million, 5 year had net benefit of \$1.9 million

# Staff Recommendation

- Selling renewable energy credits involves risk. We could certainly benefit but we could also risk known fixed revenues. Our investment policy is based on not risking public money and we believe that an investment in a solar project at the land fill should be consistent with that philosophy.
- If we pursued a project with selling renewable energy credits, it would take 5 to 6 years to equal the rate of return with a partnership that forgoes selling renewable energy credits.

The Staff Project Review Team is recommending the Council authorize staff to develop a contract with Tangent without the option for the Town to sell renewable energy credits.