Solarize CNY Initiative

RFP for Solar Photovoltaic Projects

Abundant Solar Power Inc.

May 25th, 2017

Abundant Solar Energy Inc.

Abundant is an independent solar power producer based in Canada and the United States

- Abundant originates, develops, constructs, owns and operates solar assets in Canada and the US
- Ontario Feed-In-Tariff program
  - Approximately 30 MW of Asset under Management
  - Approximately 40 MW awarded and under construction
  - 100 MW application (over 200 projects) submitted in November 2016 (contract anticipated to be awarded in 2017

Experienced executive team

- Executives have over 50 years of combined experience in the renewable energy industry
- Developed over 100 MW of solar assets for $2 billion fund
- Wealth of experience in Public Utility, Telecom and Financing

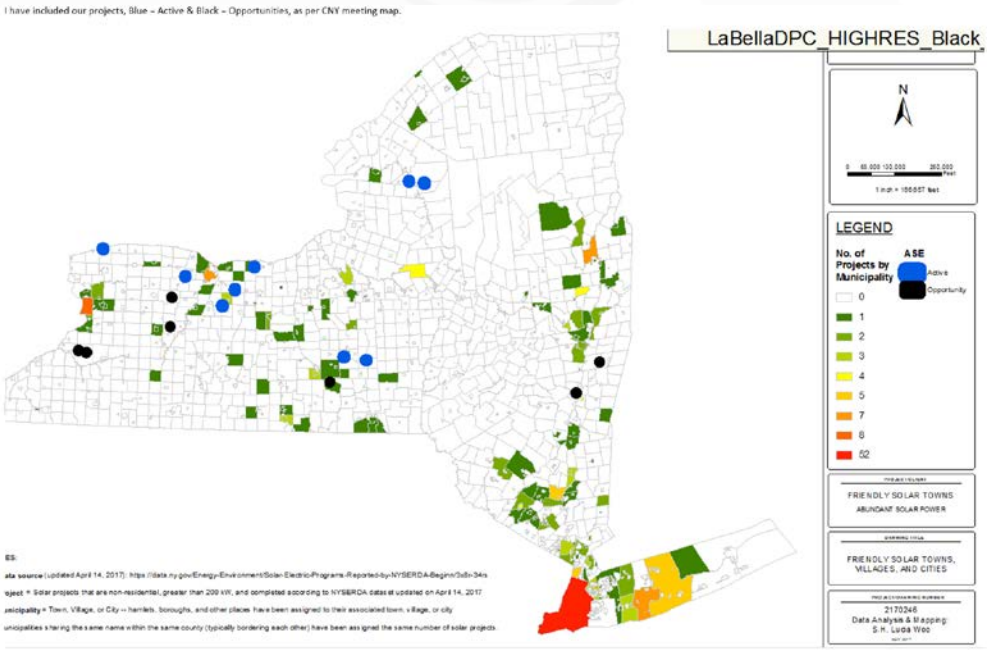
Leading Canadian solar developer

- Focused on Commercial & Industrial and Community solar segments
- Managing over $50 million of development equity capital
- Total developed and completed capital value of $180 million

Key Facts – Abundant Solar Energy	
Established	2013
Headquarters	Toronto, Canada
US Offices	Rochester, New York
Employees	25
Asset Management	25MW/$75MM

Abundant Solar Power Inc.

- Abundant Solar Power Inc. is a wholly owned subsidiary of Abundant Solar Energy Inc.
- It is a US incorporated company registered in Delaware.
- Abundant Solar Power Inc. is currently developing 28 MWs of Community Solar projects in the US., in addition to the Solarize CNY projects.



US Opportunities

US Net Metering and Community Solar

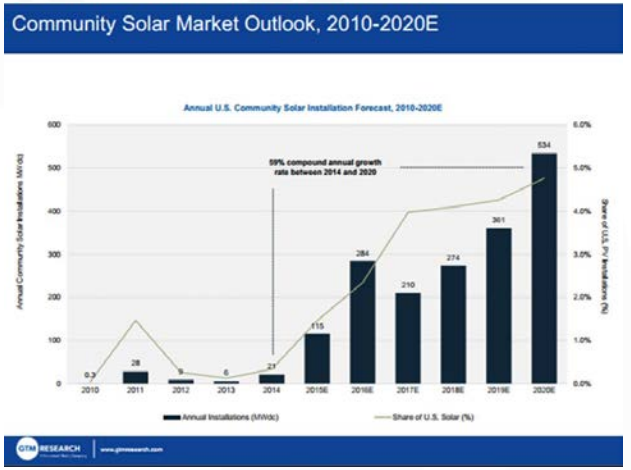
- US Federal Investment Tax Credit of 30% of eligible project costs
- Community Solar will represent half of the US new PV market by 2020
- Sustainable business model embedding into local communities, using local suppliers, local employees, and local green power savings
- Projects at 2 MW leverages economies of scale, but speed to market

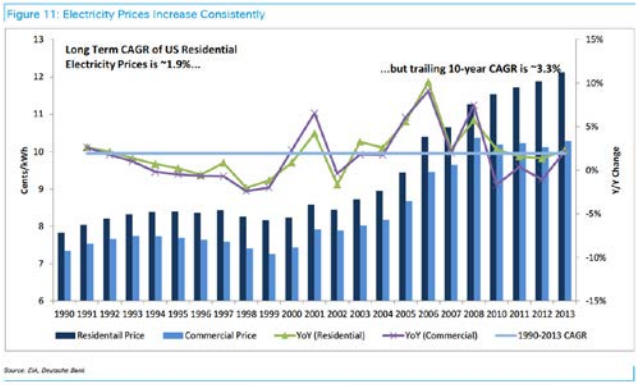
New York

- 18 MW – 8 projects under development in Community Solar
- 20 MW landfill projects under development
- NYSERDA MW Block grants

Maryland

- 3 year Community Solar Pilot program
- 8 MW – 4 projects under negotiation
- SRECS at $10-$15 per MWh

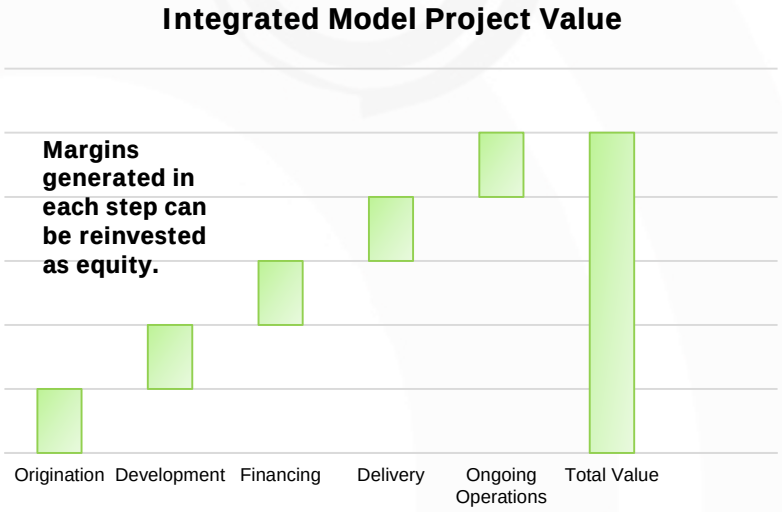




The Abundant Business Model

Fully Integrated Business Model

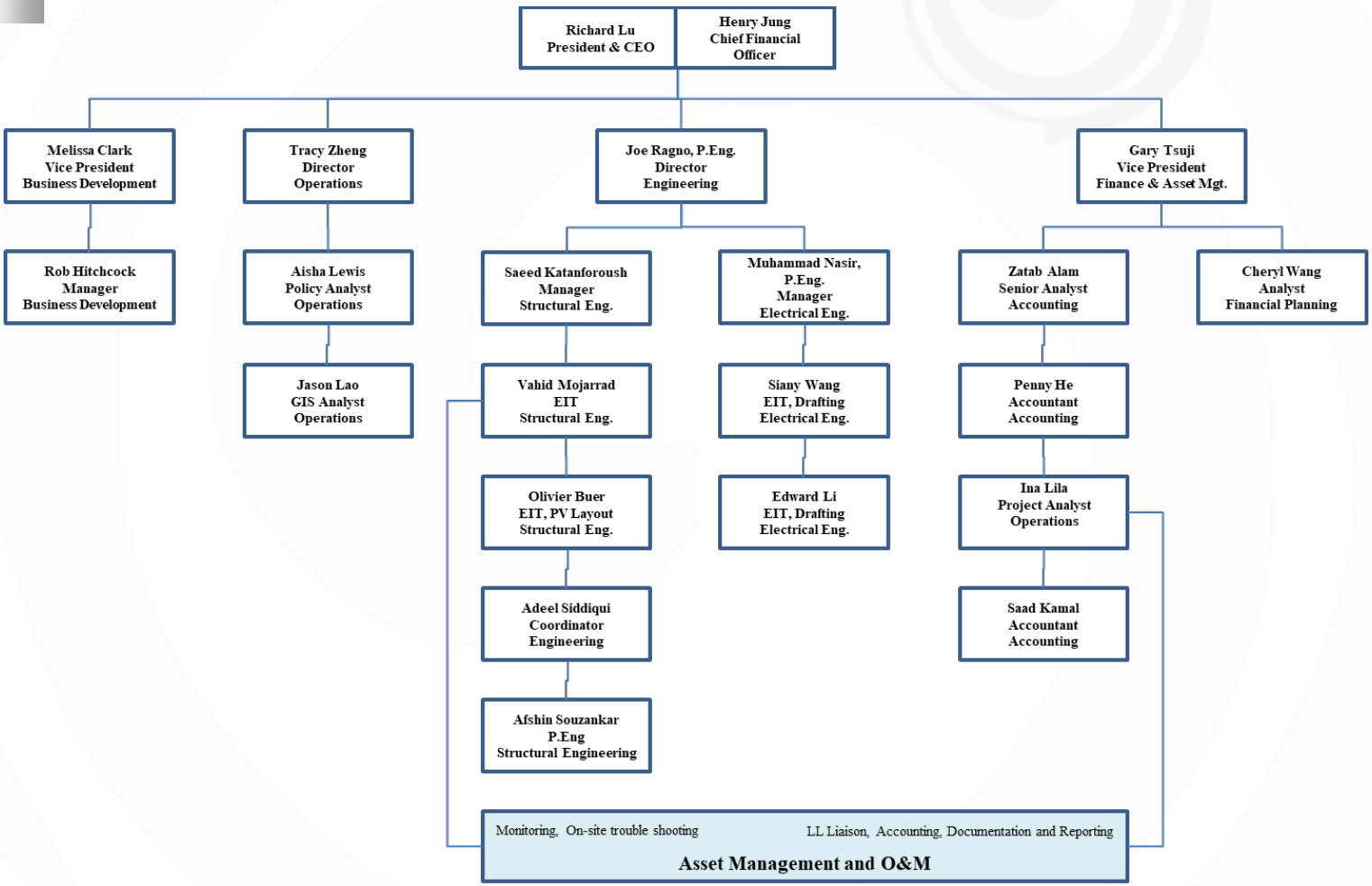
- Origination
  - Analysis and Intelligence
  - Partnerships
- Development
  - Site control, municipal zoning & permits
  - PPA/FIT contract application
- Financing
  - Equity, construction, ITC and long term financing
- Delivery
  - Engineering, Procurement and Construction
- Power production & ongoing operations
  - Asset Management and Operations & Maintenance



20+ Year Cash Flows

- Long term asset ownership
- Long term asset management
- Long term O&M

The Abundant Team



FIT 2 Projects

328 Passmore Ave, Toronto
Project Size: 298 kW DC

2562 Stanfield Rd, Mississauga
Project Size: 480 kW DC

1205 Corporate Dr, Burlington
Project Size: 599 kW DC

50 McCleary Ct, Vaughan
Project Size: 237 kW DC

FIT 2 Projects

931 Equestrian Ct, Oakville
Project Size: 299 kW DC

120 Van Kirk Dr, Brampton
Project Size: 450 kW DC

651 Harwood Ave N, Ajax
Project Size: 599 kW DC

60 Bertal Rd, Toronto
Project Size: 159 kW DC

FIT 2 Projects

541 Conlins Rd, Scarborough
Project Size: 240 kW DC

150 Telson Rd, Markham
Project Size: 120 kW DC

62 Selby Rd, Brampton
Project Size: 500 kW DC

53 Empey St, Brandford
Project Size: 90 kW DC

FIT 2 Projects

39 Craig St, Brandford
Project Size: 180 kW DC

420 Passmore Ave, Scarborough
Project Size: 240 kW DC

FIT 3.1 Projects

61 Middlefield Rd, Scarborough
Project Size: 600 kW DC

211 Bowes Rd, Vaughan
Project Size: 180 kW DC

245 Industrial Parkway S, Aurora
Project Size: 300 kW DC

311 Bowes Rd, Vaughan
Project Size: 600 kW DC

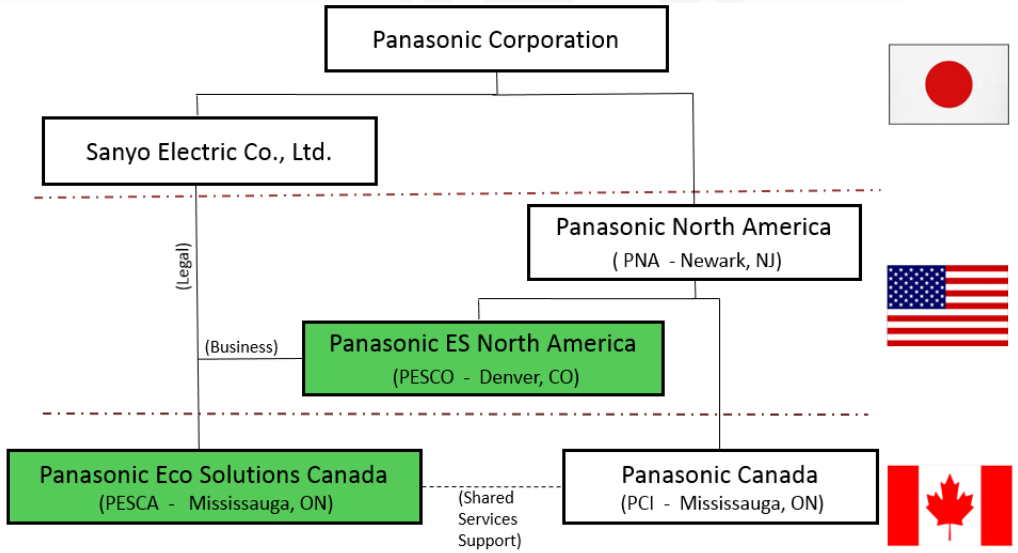
FIT 3.1 Projects

10 Centennial Rd, Orangeville
Project Size: 360 kW DC

314 Inshes Ave, Chatam-Kent
Project Size: 300 kW DC

Abundant's Partners

- Panasonic Eco Solutions
- PNC bank
- Nixon Peabody
- NY based engineers:
  - Central New York based engineers - TBD
  - Labella associates, D.P.C.
  - Larsen Engineers

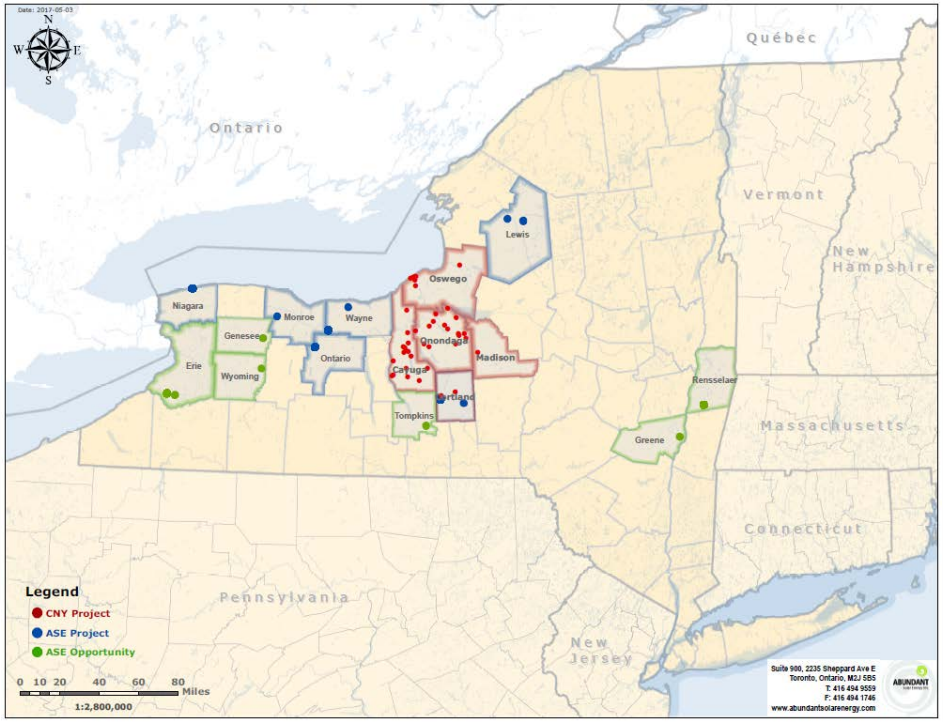


Phase 1: Site Origination

- **Determine principal points of contact**

- **Solidify the commitment of Participating municipal Organizations through:**
  - Letter of Intent
  - Site lease or purchase agreement
  - Power Purchase Agreement (PPA)
  - State Environmental Quality Review (SEQR) approvals (Lead Agency declaration)
  - Zoning Board approvals/permits
  - Planning Board approvals/permits
  - Town Board approvals/permits (construction permits)

- **Streamlining: timeline/steps in working with participating municipalities**



Phase 2: Project Development

- **Project Management:**
  - TeamGantt
  - **The specific roles for each member of the team**
- **NYSERDA Grant Application**
  - General Application Items: Project Contacts (Payee, Customer, Contractor), Site Address, Project Information, Project Components, Project Financials
  - Required Documents
    - Coastal Zone Determination
    - Interconnection Application with completed Utility preliminary review including interconnection viability.
    - SEQRA Submission
    - **SEQRA Lead Agency Attestation**
    - Site Plan with Aerial Photo
    - Proof of Payment for CESIR
    - Other Documents
- **Site permitting (**zoning, planning, town board, …)
- **SEQRA, NYSDEC,**
- **CESIR (**Coordinated Electric System Interconnection Review**)**
- **PPA (**Power Purchase Agreement**)**

Phase 2: Project Development – PPA

- **Net Metering: Produce power on-site to offset tenant power consumption from the grid**

- **Where solar power sites produce more power than on-site usage, the community could benefit from the solar system (Community Solar)**

- **Abundant Solar creates financial structure to sell solar power to communities:**
  - Anchor PPA:
    - Each site needs an Anchor tenant that purchase 40% of the total power generated.
    - Credit worthiness of Anchor tenant
    - Term of 20 years
  - Commercial and Residential Mass Market PPA:
    - Project pool of subscribers: average residences use 7,200 kWh/yr.
    - Waitlist of subscribers: each site requires the sale of 110 -120% of the power generated
    - Housing authorities - LMI considerations

Phase 2: Project Time Line (TeamGantt)

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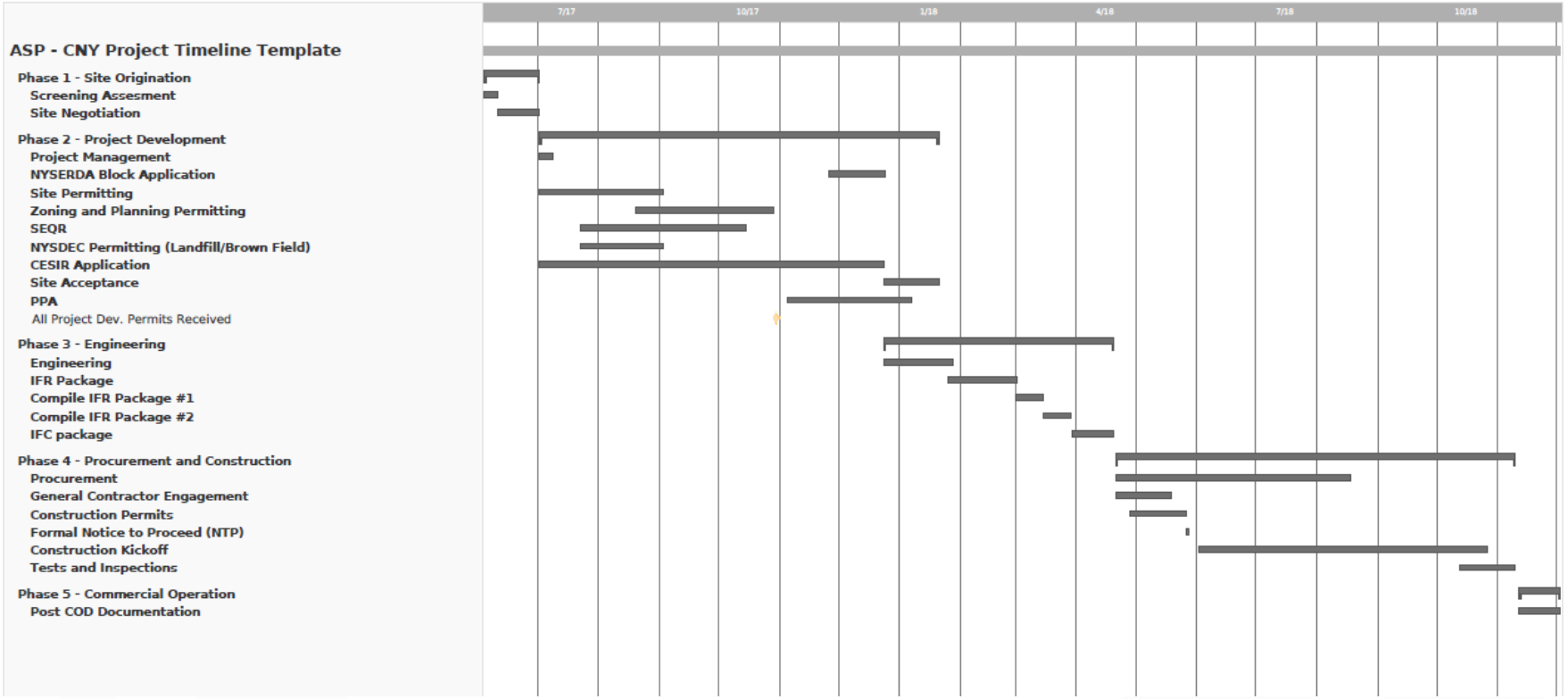


- **An 18 months of working together to deliver a solar PV project.**

Phase 2: Project Financing

- **Financing Strategy**
  - Sponsorship equity (Abundant & other investors)
  - Construction financing with global EPC
  - 80% non-recourse long term project debt (ITC and Debt)

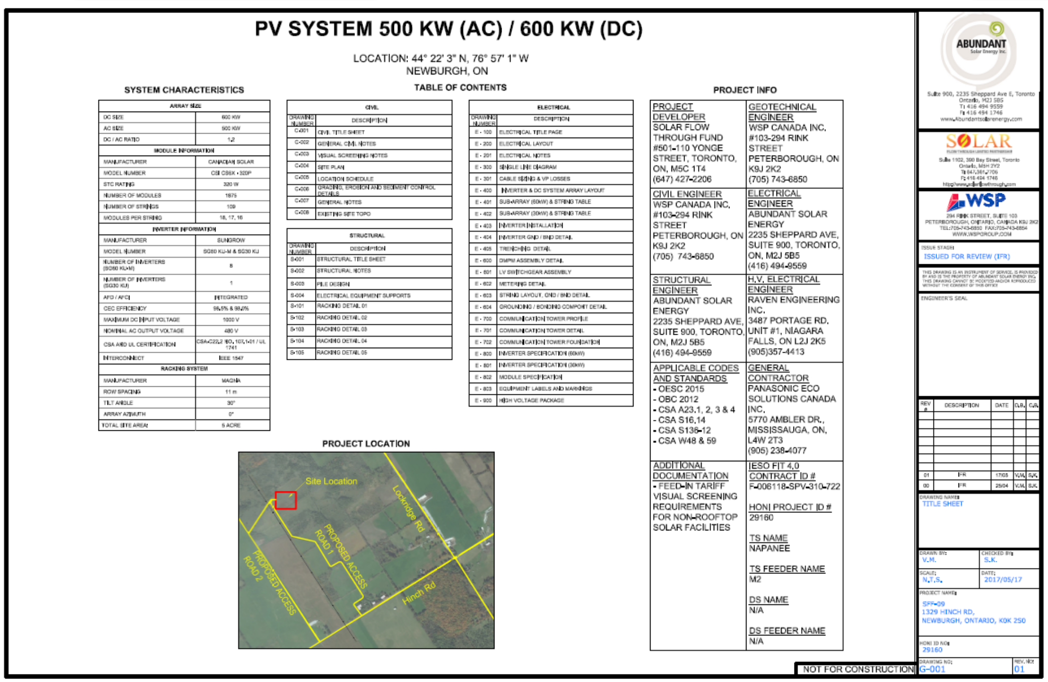
- **Project Security**
  - 20 year municipality backed PPA
  - Long term warranty on equipment and investment grade suppliers
  - Operations & Maintenance and Asset Management agreements

Capital Financing History

2012:	$ 2,857,000
2013:	$10,000,000
2014:	$ 9,868,000
2015:	$13,519,000
2016:	$15,000,000
Total:	**$51,244,000**

Phase 3: Engineering

- Engineering design in collaboration with NYS engineers
- Solar PV system production analysis: Helioscope and PVsyst modeling
- Site access, survey, geotech, assessments, and final site layout
- Construction package Issue for Review (IFR)
- Construction package Issue for Construction (IFC)



PV SYSTEM 500 KW (AC) / 600 KW (DC)

LOCATION: 44° 22' 3" N, 76° 57' 1" W
NEWBURGH, ON

SYSTEM CHARACTERISTICS

ARRAY SIZE	
DC SIZE	600 KW
AC SIZE	500 KW
DC / AC RATIO	1.2
MODULE INFORMATION	
MANUFACTURER	CANADIAN SOLAR
MODEL NUMBER	CSI CS6X - 320P
STC RATING	320 W
NUMBER OF MODULES	1875
NUMBER OF STRINGS	109
MODULES PER STRING	18, 17, 16
INVERTER INFORMATION	
MANUFACTURER	SUNGROW
MODEL NUMBER	SG60 KU-M & SG30 KU
NUMBER OF INVERTERS (SG60 KU-M)	8
NUMBER OF INVERTERS (SG30 KU)	1
AFD / AFCI	INTEGRATED
CEC EFFICIENCY	98.5% & 98.0%
MAXIMUM DC INPUT VOLTAGE	1000 V
NOMINAL AC OUTPUT VOLTAGE	480 V
CSA AND UL CERTIFICATION	CSA-C22.2 NO. 107.1-01 / UL 1741
INTERCONNECT	IEEE 1547
RACKING SYSTEM	
MANUFACTURER	MAGNA
ROW SPACING	11 m
TILT ANGLE	30°
ARRAY AZIMUTH	0°
TOTAL SITE AREA:	5 ACRE

TABLE OF CONTENTS

PROJECT LOCATION

PROJECT INFO

PROJECT DEVELOPER SOLAR FLOW THROUGH FUND #501-110 YONGE STREET, TORONTO, ON, M5C 1T4 (647) 427-2206	GEOTECHNICAL ENGINEER WSP CANADA INC. #103-294 RINK STREET PETERBOROUGH, ON K9J 2K2 (705) 743-6850
CIVIL ENGINEER WSP CANADA INC. #103-294 RINK STREET PETERBOROUGH, ON K9J 2K2 (705) 743-6850	ELECTRICAL ENGINEER ABUNDANT SOLAR ENERGY 2235 SHEPPARD AVE, SUITE 900, TORONTO, ON, M2J 5B5 (416) 494-9559
STRUCTURAL ENGINEER ABUNDANT SOLAR ENERGY 2235 SHEPPARD AVE, SUITE 900, TORONTO, ON, M2J 5B5 (416) 494-9559	H.V. ELECTRICAL ENGINEER RAVEN ENGINEERING INC. 3487 PORTAGE RD, UNIT #1, NIAGARA FALLS, ON L2J 2K5 (905)357-4413
APPLICABLE CODES AND STANDARDS - OESC 2015 - OBC 2012 - CSA A23.1, 2, 3 & 4 - CSA S16.14 - CSA S136-12 - CSA W48 & 59	GENERAL CONTRACTOR PANASONIC ECO SOLUTIONS CANADA INC. 5770 AMBLER DR., MISSISSAUGA, ON, L4W 2T3 (905) 238-4077
ADDITIONAL DOCUMENTATION - FEED-IN TARIFF VISUAL SCREENING REQUIREMENTS FOR NON-ROOFTOP SOLAR FACILITIES	IESO FIT 4.0 CONTRACT ID # F-006118-SPV-310-722 HONI PROJECT ID # 29160 TS NAME NAPANEE TS FEEDER NAME M2 DS NAME N/A DS FEEDER NAME N/A

NOT FOR CONSTRUCTION

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F: 416 494 1746
http://www.solarflowthrough.com

WSP
294 RINK STREET, SUITE 103
PETERBOROUGH, ONTARIO, CANADA K9J 2K2
TEL:705-743-6850 FAX:705-743-6854
WWW.WSPGROUP.COM

ISSUE STAGE:
ISSUED FOR REVIEW (IFR)

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ENGINEER'S SEAL

REV #	DESCRIPTION	DATE	D.B.	C.B.
01	IFR	17/05	V.M.	S.K.
00	IFR	25/04	V.M.	S.K.

DRAWING NAME: TITLE SHEET

DRAWN BY: V.M.
CHECKED BY: S.K.
SCALE: N.T.S.
DATE: 2017/05/17

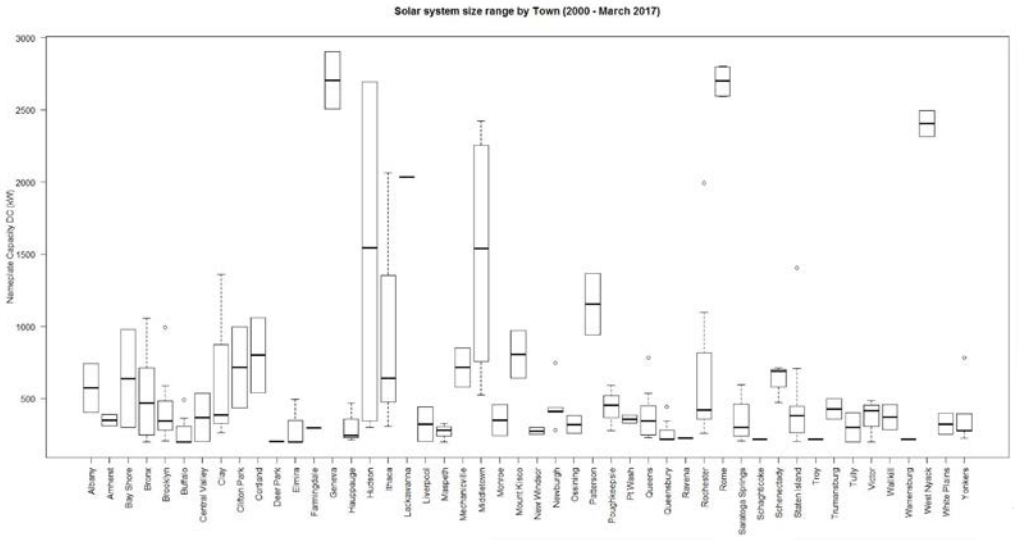
PROJECT NAME:
SFF-09
1329 HINCH RD,
NEWBURGH, ONTARIO, K0K 2S0

HONI ID NO: 29160

DRAWING NO: G-001
REV. NO: 01

Phase 4: Construction

- **General Contractor Engagement**
  - 80% of the on-site personnel are from local communities
  - Source major equipment and system components from local US and North American suppliers in support of the project economics
- **Construction Permits to meet the local requirements**
- **Construction kick-off with all stakeholders**
- **Construction QA, QC, and oversights**
- **AHJ inspections and acceptances**
- **Utility final grid connection and acceptance**



Phase 5: Commercial Operation

- **Financial closing**

- **O&M**
  - Remote monitoring 24/7
  - Local trucks and skilled trades for pro-active maintenance and emergency response requirements.
  - Remote efficiency monitoring and fiscal management by HQ team
  - Ongoing monitoring feeds subscriber site informatics

- **Asset Management**
  - Abundant will perform all asset management responsibilities

Closing Discussion & Next Steps

- Designate points of contacts for each participating organization
- Align on common agreements with individual site participants
  - Three party Letter of Intent: Solarize CNY, Participating Organization, and Abundant.
  - Site Lease
  - Zoning, Planning and Town permits
  - SEQR Lead Agency declaration
- Complete aggregation of due diligence documents for each site (list available).
- Establish project timelines, individual TeamGantt chart and project management structures.

Thank you