



Solar Power at Maryland DOT



About MDOT

BUSINESS UNITS

The Secretary's Office (Headquarters)

Aviation Administration

Highway Administration

Motor Vehicle Administration

Port Administration

Transit Administration

Transportation Authority

Annual Energy Consumption

UTILITY

 395,000 MWH

 35M

 275K MT CO₂E

SOLAR

 2,300 MWH

 265K

 1.6K MT CO₂E

Why Solar?



SOCIAL

Reliable and resilient energy source
Improved public health

ENVIRONMENTAL

Greenhouse gas emission reduction
Water pollution reduction

ECONOMIC

Local, well-paying jobs
Affordable, stable energy prices

State & Federal Incentives



RENEWABLE PORTFOLIO STANDARD

50% by 2030

14.5% solar carve out



GREENHOUSE GAS REDUCTION ACT

40% by 2030



COMMUNITY SOLAR



NET METERING



ENERGY ADMINISTRATION GRANTS



INVESTMENT TAX CREDIT

30% until 2019 - 26% until 2020 - 22%
until 2021 - 10% thereafter



5-YR MODIFIED ACCELERATED COST RECOVERY SYSTEM (MACRS)



Master Services Agreement

- DESIGNED TO PROMOTE INNOVATION AND COMPETITION
- 5-YEAR CONTRACT, 2-YEAR RENEWAL
- QUALIFY MASTER CONTRACTORS
- SECONDARY COMPETITION FOR TASKS
- POWER PURCHASE & LICENSE AGREEMENTS (25-YEAR TERM)
- ENERGY PERFORMANCE, STORAGE, MICROGRIDS, ELECTRIC VEHICLE CHARGING
- BUYOUT OPTION
- COOPERATIVE AGREEMENT





Task Order Process

- ✓ MDOT SELECTS SITE(S) AND RELEASES TASK ORDER RFP TO MASTER CONTRACTORS
- ✓ MASTER CONTRACTORS ANALYZE SITES AND SUBMIT PROPOSAL
- ✓ MDOT AWARDS TO MASTER CONTRACTOR WITH MOST ADVANTAGEOUS PROPOSAL
- ✓ MASTER CONTRACTOR FINANCES, DEVELOPS, DESIGNS, CONSTRUCTS, COMMISSIONS, OPERATES, MAINTAINS AND DECOMMISSIONS
- ✓ MDOT PROVIDES THE LAND AND PURCHASES SOLAR POWER, OR COMMUNITY BUYS POWER

Benefits

DEVELOPER

Receives all tax incentives (ITC & MACRS)

Long-term agreement with MDOT to buy energy produced

MDOT

Zero upfront capital cost

Full utilization of Federal tax incentives (ITC & MACRS)

Favorable fixed electricity rate

License revenue (Community Solar, EV chargers)


Solar Renewable Energy Credits (SRECs)






Task Orders Underway


6 MDOT MTA LIGHT RAIL PARK & RIDES

 5 MW, 6,835 MWH/YR,
4,833 MT CO₂E/YR

2 MDTA PARK & RIDES

 1.5 MW, 2,050 MWH/YR,
1,450 MT CO₂E/YR

13 ADDITIONAL MDOT MTA PARK & RIDES READY

 14 MW, 19,137 MWH/YR,
13,533 MT CO₂E/YR

Sites Under Review

 AIRPORT

 PORT

 TRANSIT-ORIENTED
DEVELOPMENT

 NOISE BARRIERS

 UNIMPROVED LAND



Timeline

APRIL 2016

- Secretary authorized evaluation

JULY 2016

- Request for Information released

OCTOBER 2016

- Secretary approved project
 - *No upfront capital
 - *No impact to operations

DECEMBER 2016

- Governor's Office approved project

JUNE 2017

- Request for Proposal released

AUGUST 2017

- Proposals received

FEBRUARY 2018

- Master Contract awarded





COMPETING USE OF PROPERTY

STRUCTURAL INTEGRITY OF EXISTING INFRASTRUCTURE

SAFETY & SECURITY

UTILITIES

SIGNAGE

OPERATION & MAINTENANCE

CHESAPEAKE BAY WATER QUALITY TREATMENT

INTERCONNECTION

Challenges



Lessons Learned (so far)

- ☀ EXISTING LEASES & BONDS
- ☀ SUPPORT FROM OTHER STATE AGENCIES
- ☀ OUTREACH TO OTHER STATE DOTs
- ☀ STATE-WIDE BULK ENERGY PROCUREMENT
- ☀ LEGAL SUPPORT - PROCUREMENT, ENERGY, REAL ESTATE
- ☀ MULTI-DISCIPLINE TEAM
- ☀ TECHNICAL EXPERTISE
- ☀ EXISTING INTERNAL APPROVAL PROCESSES
- ☀ SEPARATE ELECTRIC VEHICLE CHARGING

Contact

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