



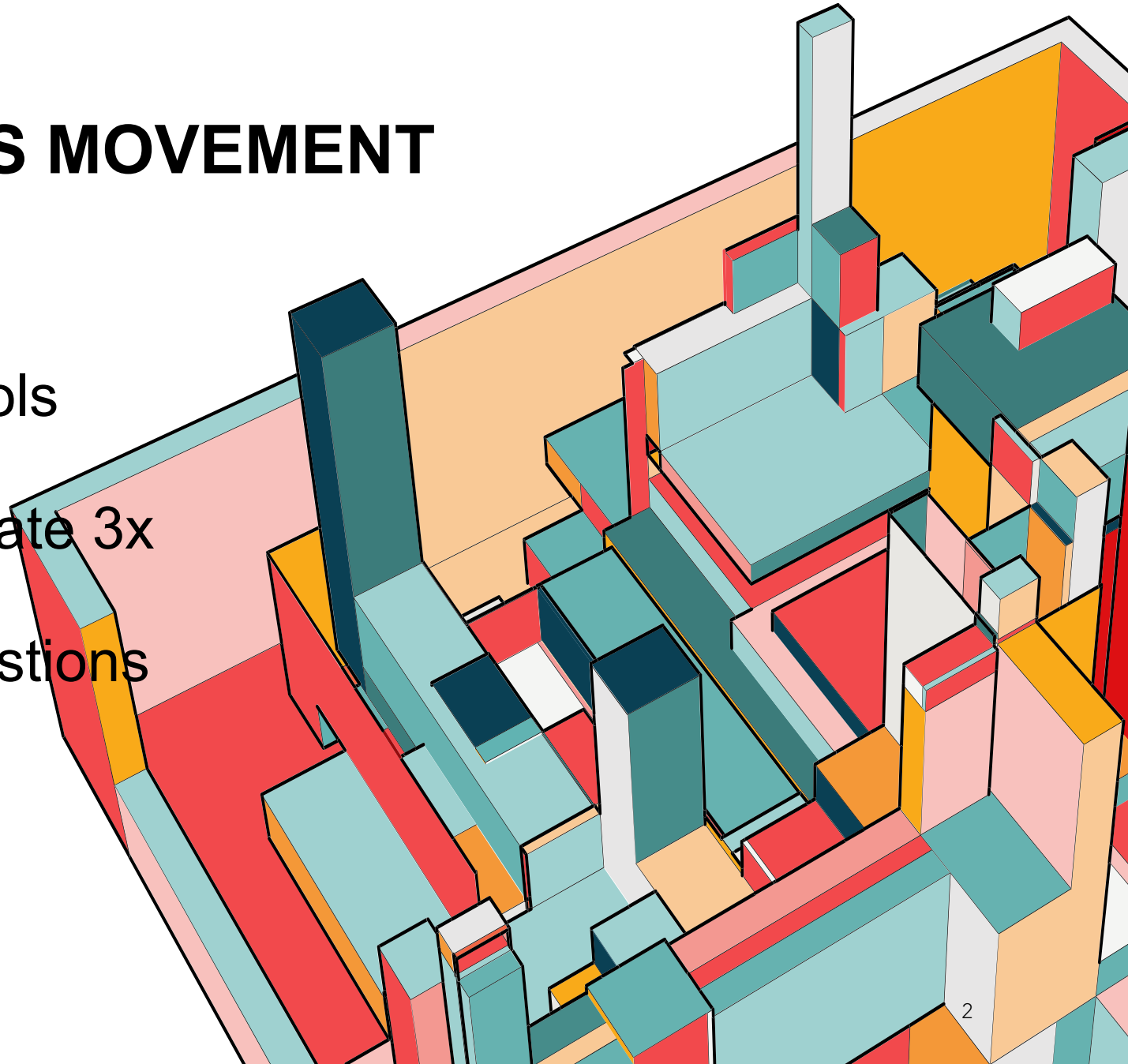
# IMPLEMENTATION: THE SOLAR IN SCHOOLS MOVEMENT

Tuesday September 20, 2022  
Anaheim Convention Center Anaheim, CA



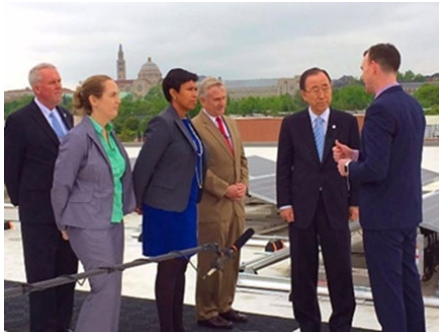
# IMPLEMENTATION: THE SOLAR IN SCHOOLS MOVEMENT

- I. The Movement
- II. Status of Solar and Schools
  - ✓ G180 Report Card 2022
- III. Implementation – Accelerate 3x
  - ✓ Refresh tools
- IV. Next Steps, Action & Questions



# I. WHY SCHOOLS AND CLEAN ENERGY?

*Education teaches the Past, understands Today and prepares for the Future*



Demand from students, teachers, parents and school boards. ESG Goals



Lessons available nationally  
Over 100,000 K-12 Schools  
9% with solar.  
Additional  
4,000 Colleges  
and University Campuses



School District  
Portfolios offer sites  
for:  
Onsite - BTM  
Offsite - Virtual

*The opportunity is Now, the demand is Now, the next step is Accelerated Implementation.*

## Lesson 1: An Array of Benefits

- Energy Awareness
- Energy Savings
- Careers and Job Creation
- Educational Opportunities
- Environmental Stewardship
- Community Resilience
- Economic Growth & IRA
- Affordable
  - ✓ Cheapest form of energy



*Education teaches the Past, understands Today and prepares for the Future*

## The Past

### Unlimited Resources

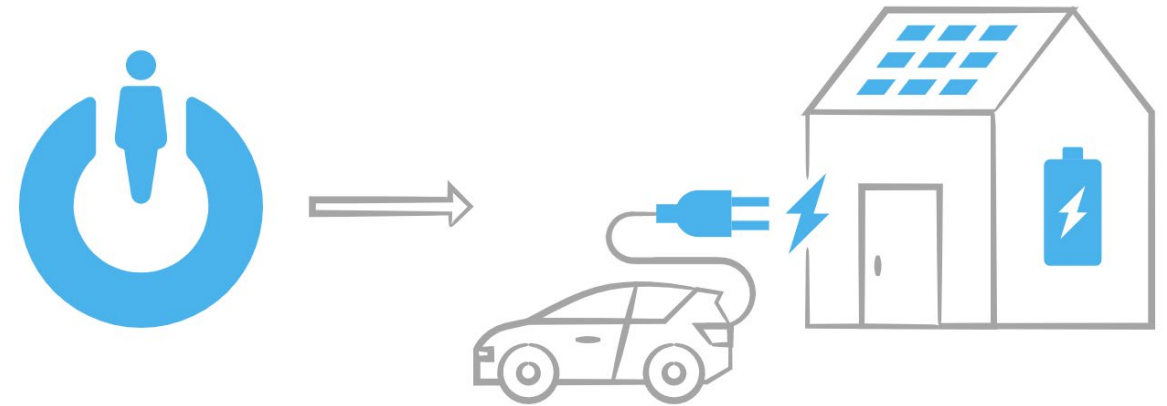
Historically, we've experienced entitlement to unlimited fossil fuels for how we power our homes, communities and transportation with casual focus on clean energy.



## The Movement Today

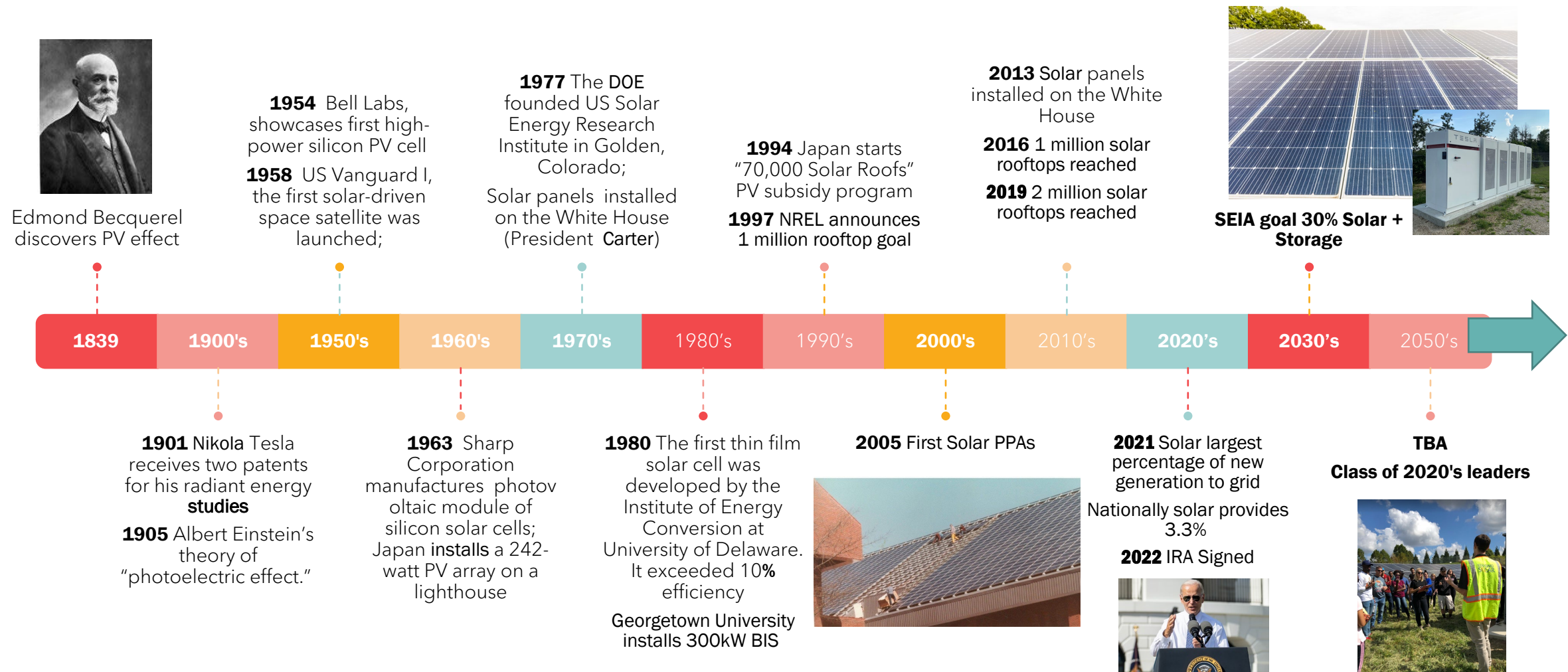
### Resource Management

Today, a new reality is taking hold, unlocked by innovation and the arrival of low-cost solar power and electric vehicles to the mass market. We can now experience the benefits of greater use of electric power and take direct actions that accelerate our transition to a clean energy sustainable growth economy.





# LESSON 2: HISTORY OF SOLAR, FUNDAMENTALS FOR GROWTH A HISTORY MADE FOR TODAY AND THE FUTURE



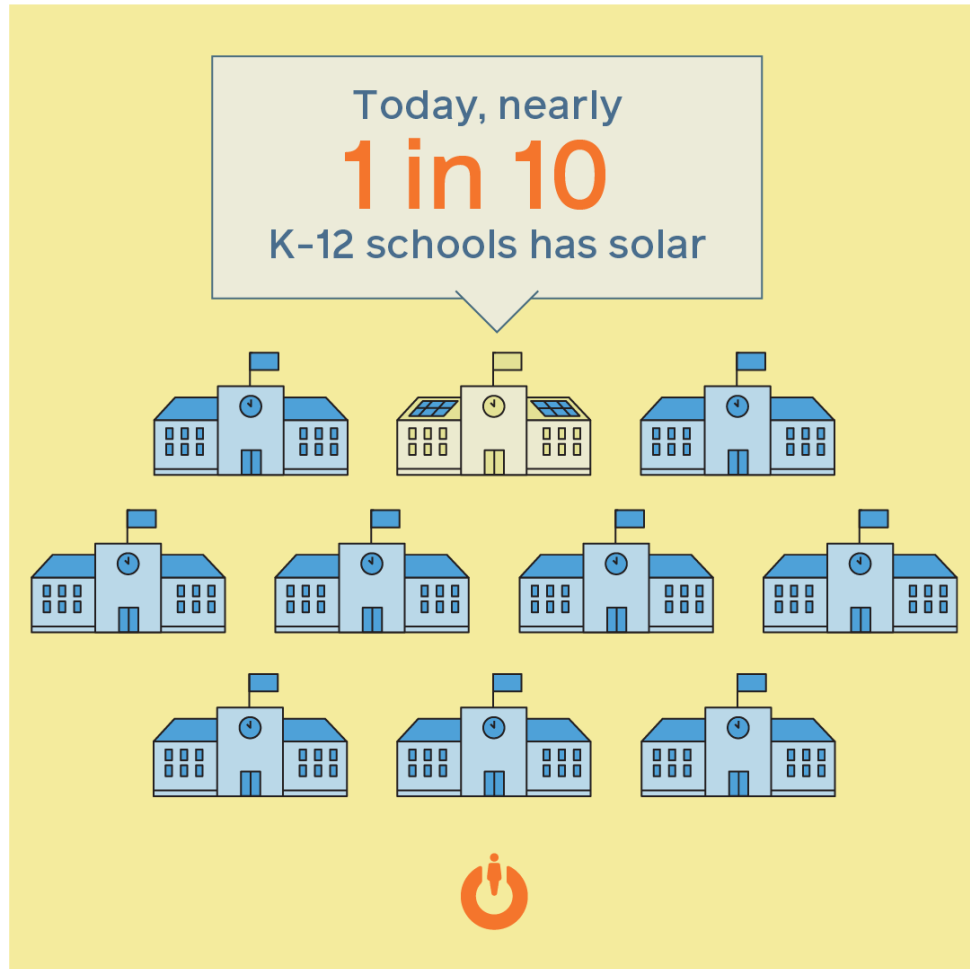
## II. STATUS OF SOLAR AND SCHOOLS

# SOLAR IN SCHOOLS REPORT 2022 OVERVIEW

Growth of Solar at Schools is Nationwide



# Report Card on Solar at Schools





# Report Card on Solar at Schools

## The State of Solar Adoption by U.S. K-12 Schools

DATA IS CUMULATIVE THROUGH END OF 2021

8,409

NUMBER OF  
SCHOOLS WITH SOLAR

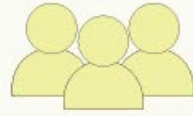
9%

PERCENTAGE OF  
SCHOOLS WITH SOLAR



**CUMULATIVE SOLAR  
CAPACITY**

1,644 MEGAWATTS (MW)



**STUDENTS ATTENDING  
A SOLAR SCHOOL**

6,118,335



**NUMBER OF SCHOOL  
DISTRICTS WITH SOLAR**

2,538

**AVERAGE  
SYSTEM SIZE  
PER SCHOOL**

193 KILOWATTS (kW)

**PERCENTAGE OF  
STUDENTS ATTENDING  
A SOLAR SCHOOL**

12%

**PERCENTAGE OF  
SCHOOL DISTRICTS  
WITH SOLAR**

19%

# Report Card on Solar at Schools

## State Rankings for Cumulative Solar Capacity on K-12 Schools

### TOP 10 STATES Head of the Class

STATE	TOTAL kW
CALIFORNIA	703,507
NEW JERSEY	194,388
ARIZONA	127,225
MASSACHUSETTS	77,629
ILLINOIS	56,237
INDIANA	50,809
CONNECTICUT	49,731
NEW YORK	44,975
VIRGINIA	43,845
WASHINGTON	29,415

### TOP 5 STATES Most Improved

STATE	2-YEAR GROWTH (kW)
WASHINGTON	8.3X
WISCONSIN	3X
ILLINOIS	2.8X
ARKANSAS	2.7X
VIRGINIA	2X

Five states doubled their installed solar capacity during 2019-2021.

### BOTTOM 10 STATES Needs Tutoring

STATE	TOTAL kW
SOUTH DAKOTA	0
NEBRASKA	19
ALABAMA	28
ALASKA	38
NORTH DAKOTA	80
WYOMING	230
RHODE ISLAND	366
LOUISIANA	390
IDAHO	601
MONTANA	747

## State Rankings for Distribution of Solar Schools

### TOP 10 STATES Number of Solar Schools

STATE	#
CALIFORNIA	2,819
NEW JERSEY	662
ILLINOIS	508
ARIZONA	411
MASSACHUSETTS	309
NEW YORK	281
FLORIDA	281
CONNECTICUT	279
WISCONSIN	225
MARYLAND	188

### TOP 10 STATES Percentage of Solar Schools

STATE	%
HAWAII	40%
DISTRICT OF COLUMBIA	30%
CONNECTICUT	28%
CALIFORNIA	27%
NEW JERSEY	26%
NEVADA	24%
VERMONT	20%
ARIZONA	18%
MASSACHUSETTS	17%
MARYLAND	13%

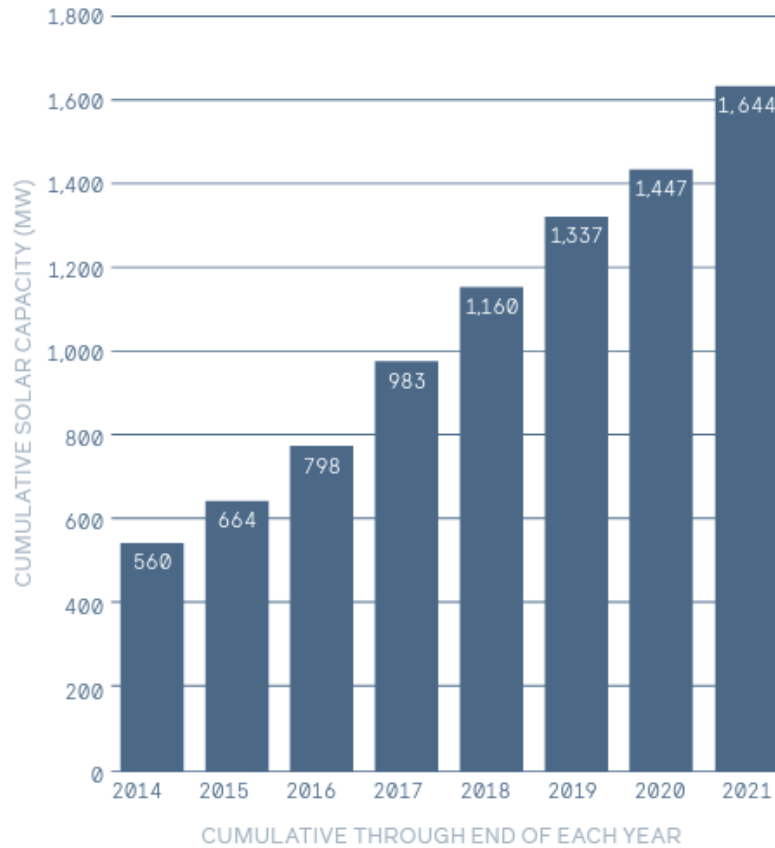
### TOP 5 STATES Most Improved

STATE	2-YEAR GROWTH (#)
CALIFORNIA	389
WISCONSIN	77
CONNECTICUT	74
VIRGINIA	65
ILLINOIS	53

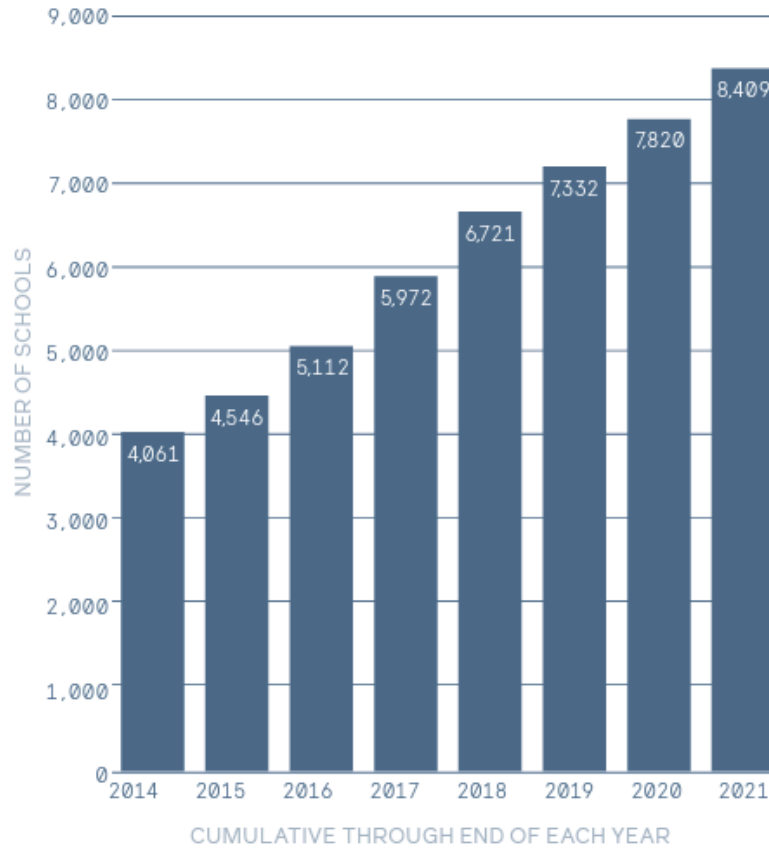
Five states added over 50 new solar schools each during 2019-2021.

# Nationwide Growth of Solar at Schools

**FIG 1**  
**GROWTH IN CUMULATIVE SOLAR CAPACITY AT SCHOOLS**



**FIG 2**  
**GROWTH IN NUMBER OF SOLAR SCHOOLS**



Since the start of 2015, the cumulative solar capacity at K-12 schools has **tripled** and the number of schools with solar has **doubled**.

# III. IMPLEMENTATION 3X – ACCELERATING PROJECTS



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## Winning Awards

Developer/EPC tools



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## Recycling Development Funds

Portfolio sales



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## Repeat 3x

Add additional scope  
as sites become ready.

Schools as a  
community resource



## LESSON 3: THE TIME IS NOW



***"The cost of doing nothing is huge, Central Banks are recognizing the cost of doing nothing."***

***"Doing nothing is not an option – However the opportunity of doing something is where we have to be. We are doing it in Maryland."***

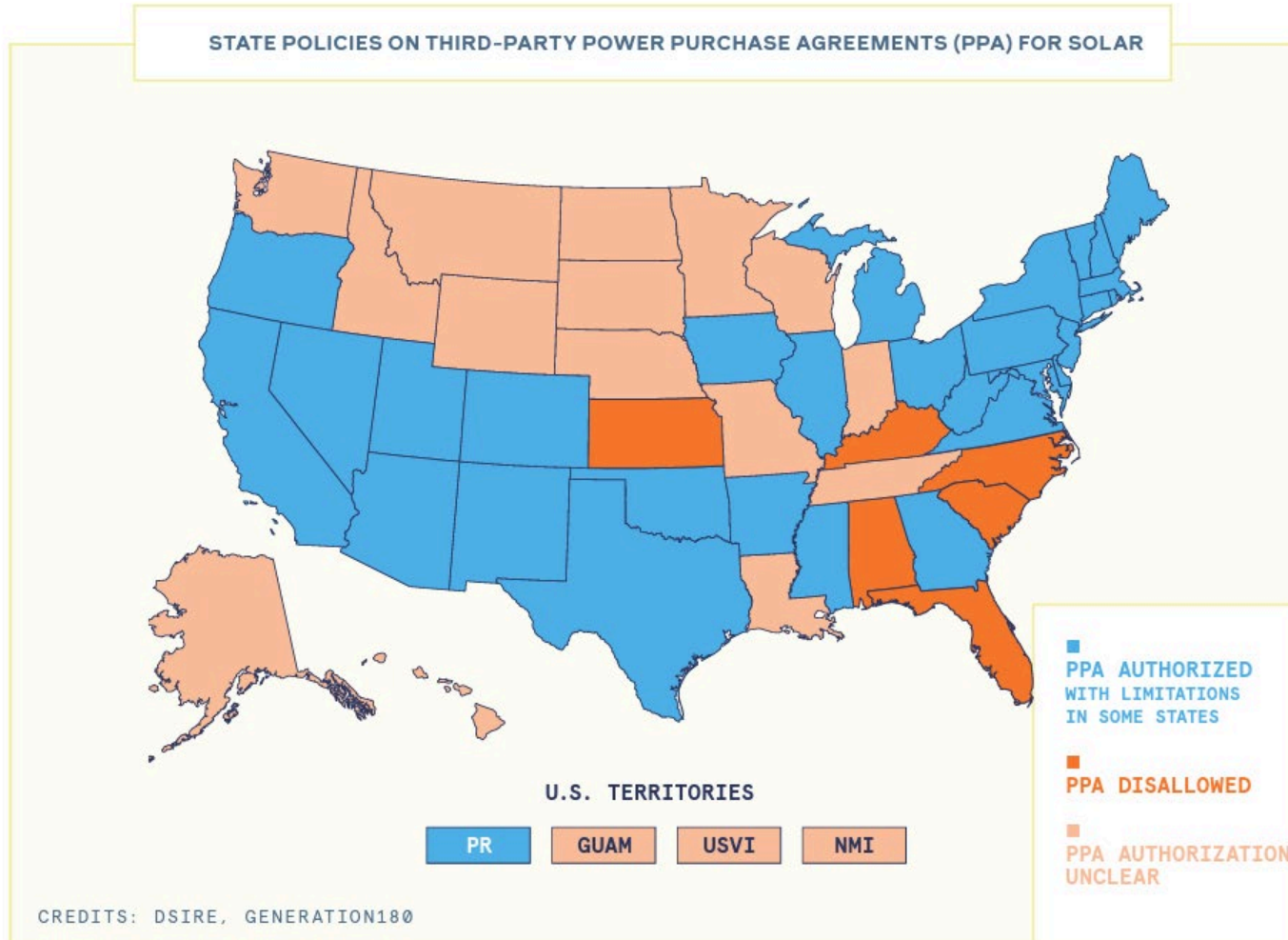
Senator Chris Van Hollen

MD Clean Energy Center Summit October 2019

## Schools are in good company – global demand is accelerating

- At the COP26 climate conference in Glasgow...**Major firms pledge to start buying low-carbon materials and technologies**
- 52% of Americans agree they have personally experienced the effects of global warming Yale Program on Climate Change Communication, Survey from Sept. 10-20, 2021
- Inflation Reduction Act 2022
- RE+ annual conference
- Record interconnection queues
- Getting to net zero
- Technology here today – Storage, EVs, Efficiency

# Funding for Solar – Accelerating 3x with the IRA



30 states, plus D.C. and Puerto Rico, allow third-party power purchase agreements

# Implementation: Funding for Solar

## Benefits of Typical Solar PPAs:



**ZERO**

Up-front capital  
costs



**ZERO**

Maintenance  
costs



**LOWER**

Electricity  
rate

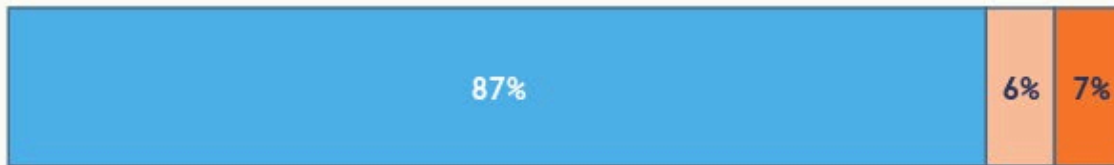
**Schools save money with solar.  
No upfront cash required.**



# Funding for Solar - PPAs deliver

## HOW K-12 SCHOOLS PAY FOR SOLAR

CUMULATIVE SOLAR CAPACITY BY FINANCING TYPE

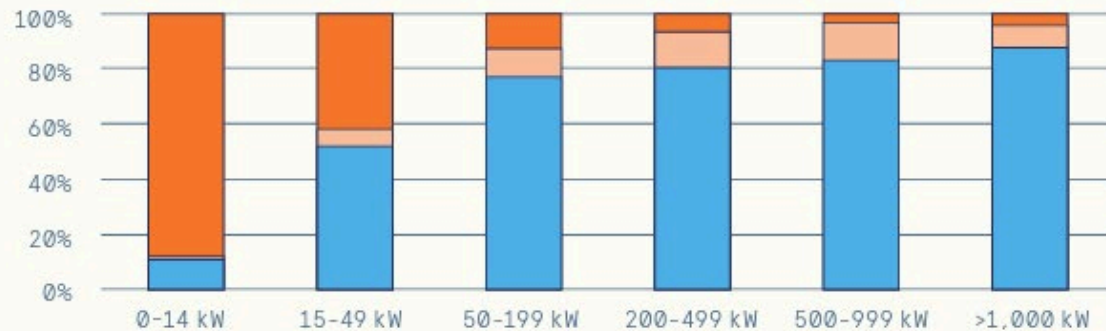


■ **THIRD PARTY OWNERSHIP**  
 •PPA/LEASE  
 •OFF-SITE  
 COMMUNITY SOLAR  
 •ENERGY SERVICE AGREEMENT

■ **DIRECT OWNERSHIP**  
 •CASH  
 •LOAN  
 •BOND

■ **DIRECT OWNERSHIP**  
 •GRANTS  
 •DONATIONS  
 •GOVERNMENT FUNDS

SCHOOL SYSTEM SIZE DISTRIBUTION BY FINANCING TYPE



87% of solar capacity installed by K-12 schools is funded through Third-Party Ownership



# ACCELERATE IMPLEMENTATION 3X - WINNING AWARDS WITH APPROVED READY TO-GO FUNDING

**1**

Bring agreements to school boards that scale with scope to accelerate implementation

**2**

Demonstrate ability to deliver a team of experienced and ready solar school partners

**3**

Simplify selection approvals with the safety of long-term project funding owner operators

# LESSON 4: WHERE TO ACCELERATE...

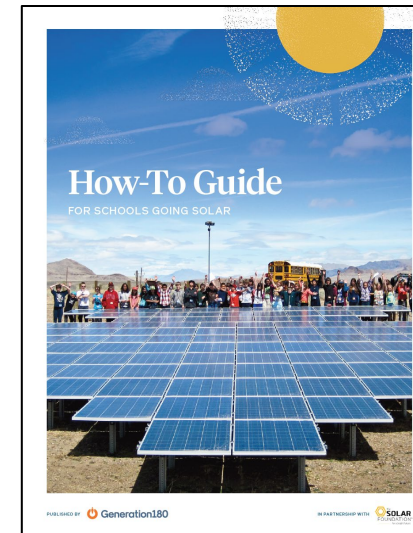
Here's where you come into the picture: the new energy reality means you can choose to take direct action on clean energy. You can play a meaningful role—now more than ever. **Your energy matters-Accelerate.**

Generation180.org



1. Organize your PPA portfolio awards to monetize & recycle development cash
2. Keep moving @ 3x, New project flow, Know your schools
  - The roofs & parking lots
  - Supplement with offsite
  - Leverage the IRA – Refresh your tools
  - School goals - ESG
    - Net Zero
    - Storage Tech
    - GHG Targets

*Know your schools, Refresh your tools*





# THANK YOU

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[www.standardsolar.com](http://www.standardsolar.com)



# RESOURCES & LESSONS

Solar in Schools Report [www.Generation180.org](http://www.Generation180.org)

Map of US K-12 Schools with Solar [Solar for All Schools - Generation180](http://SolarforAllSchools-Generation180.org)

[Education Statistics: Facts About American Schools \(edweek.org\)](http://edweek.org)

LESSON 1: AN ARRAY OF BENIFITS

LESSON 2: HISTORY OF SOLAR, FUNDAMENTALS FOR TODAY

LESSON 3: THE TIME IS NOW

LESSON 4: ACCELERATE 3X...REFRESH YOUR TOOLS