

Processes and Issues for Siting Solar Facilities

David Tancabel

Director

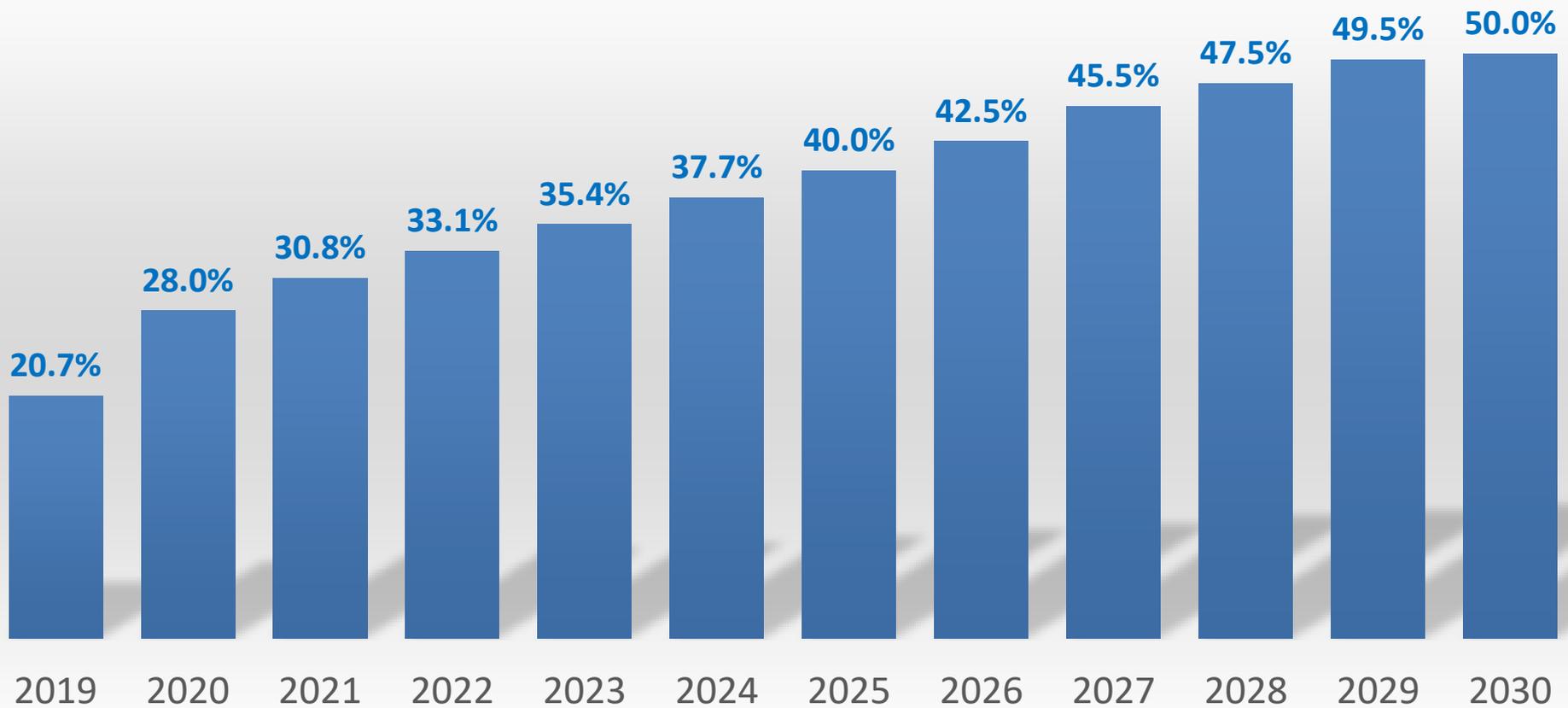
Power Plant Research Program
Department of Natural Resources

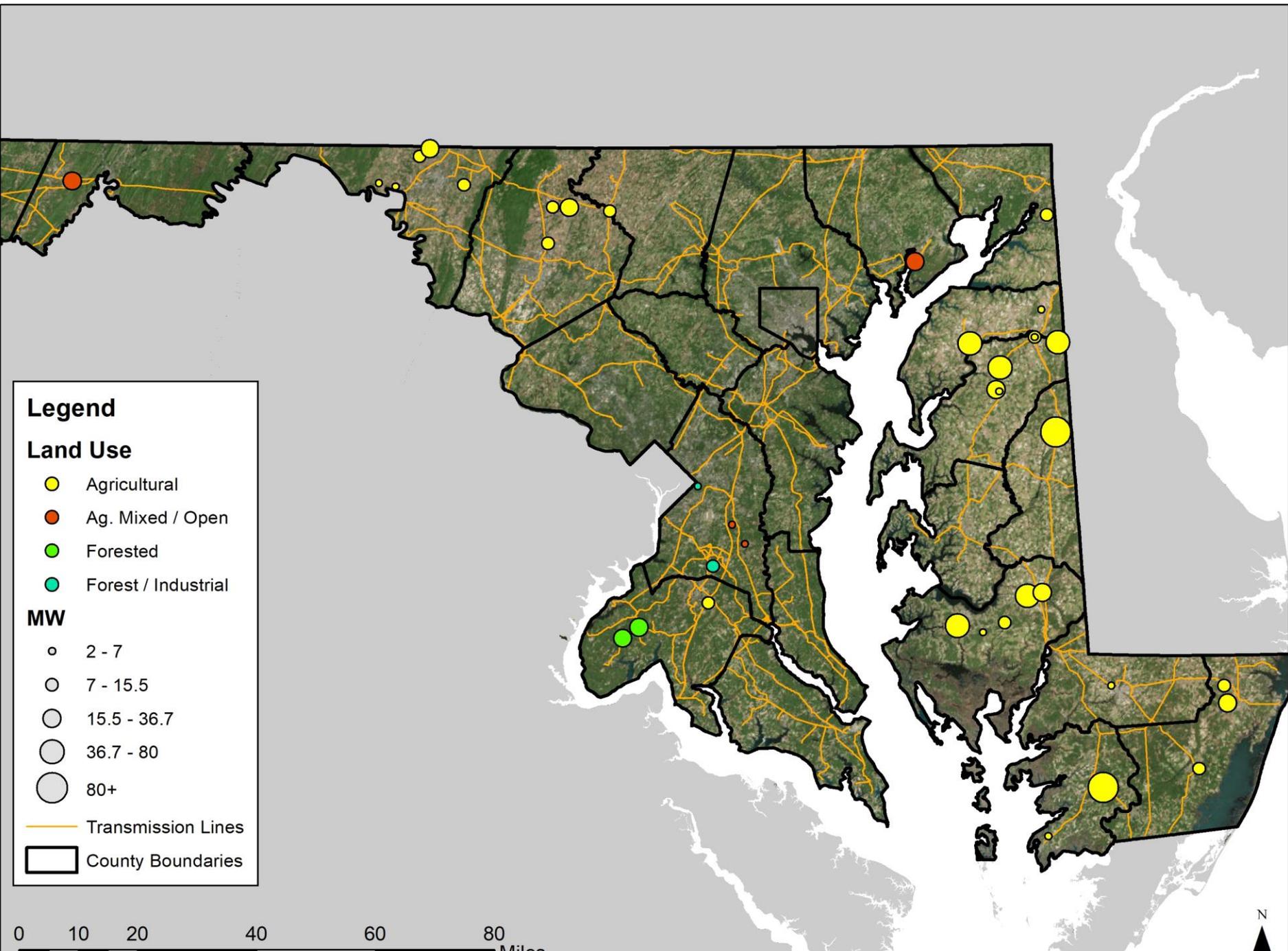
Agenda



- Maryland Renewable Portfolio Standard (RPS)
- Solar Siting in Maryland
- Certificate of Public Convenience and Necessity (CPCN) Process
 - County / Citizen Involvement
- Siting Concerns
- SmartDG+
- Pollinator-Friendly Designation
- New Developments

2019 Clean Energy Jobs Act: Renewable Goals (%)





Legend

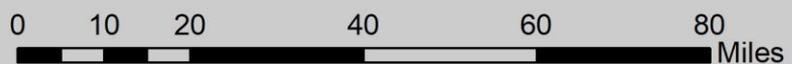
Land Use

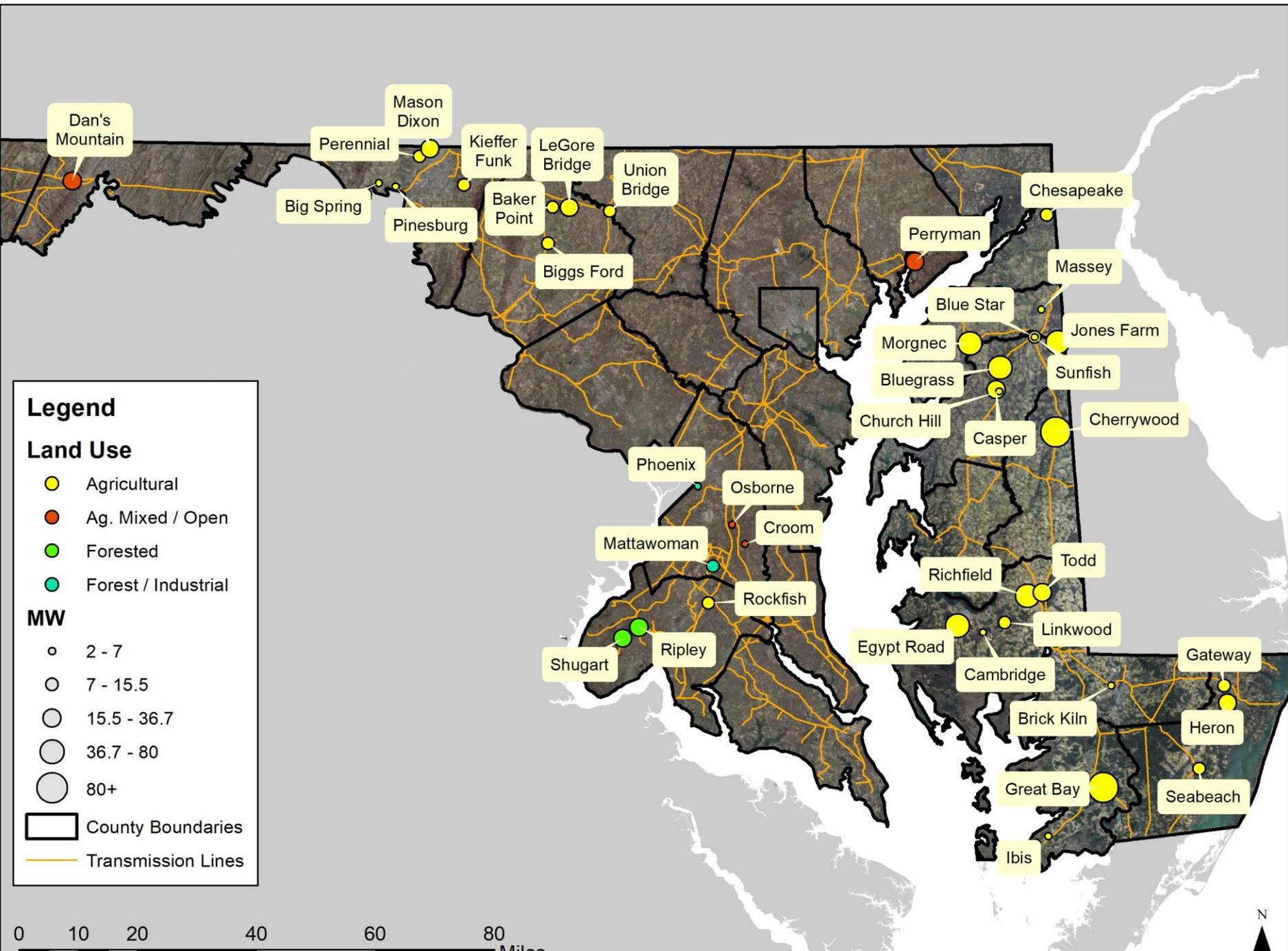
- Agricultural
- Ag. Mixed / Open
- Forested
- Forest / Industrial

MW

- 2 - 7
- 7 - 15.5
- 15.5 - 36.7
- 36.7 - 80
- 80+

- Transmission Lines
- County Boundaries





Dan's Mountain

Perennial

Mason Dixon

Kieffer Funk

LeGore Bridge

Union Bridge

Pinesburg

Baker Point

Biggs Ford

Perryman

Chesapeake

Massey

Blue Star

Jones Farm

Morgnec

Sunfish

Bluegrass

Cherrywood

Church Hill

Casper

Phoenix

Osborne

Croom

Mattawoman

Richfield

Todd

Rockfish

Linkwood

Shugart

Ripley

Egypt Road

Cambridge

Gateway

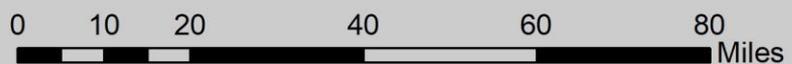
Brick Kiln

Heron

Great Bay

Seabeach

Ibis



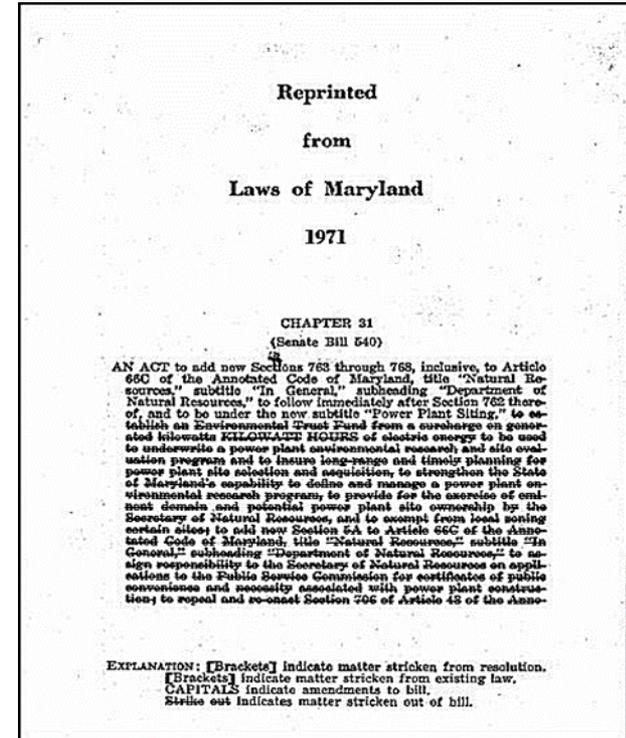
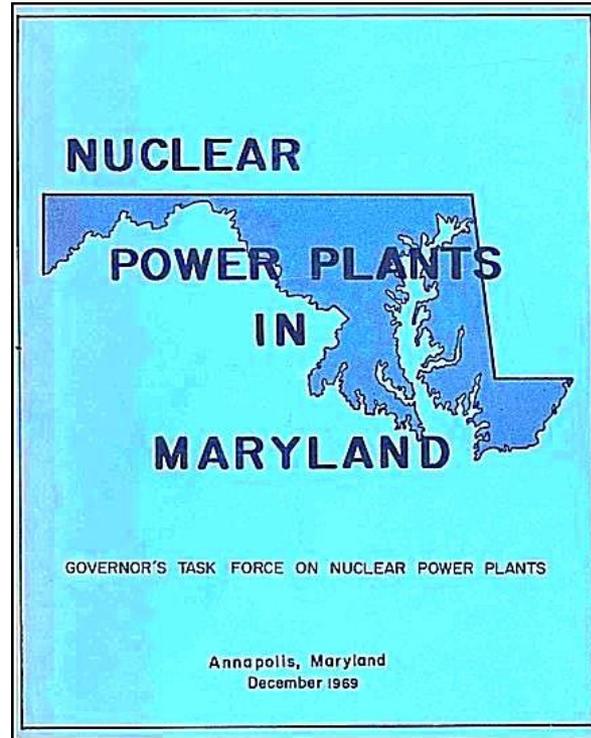
Required Permits and Approvals



To construct and operate a new power plant in Maryland (>2 MW) or a transmission line (>69 kV) a person must obtain:

- PJM Interconnection Agreement
- Public Service Commission Certificate of Public Need and Necessity (CPCN)
- Other State and Federal Permits
- County Permits

1971: The Power Plant Siting Act



Concerns over the ability of the State to provide significant technical review of the impacts of the proposed Calvert Cliffs Facility

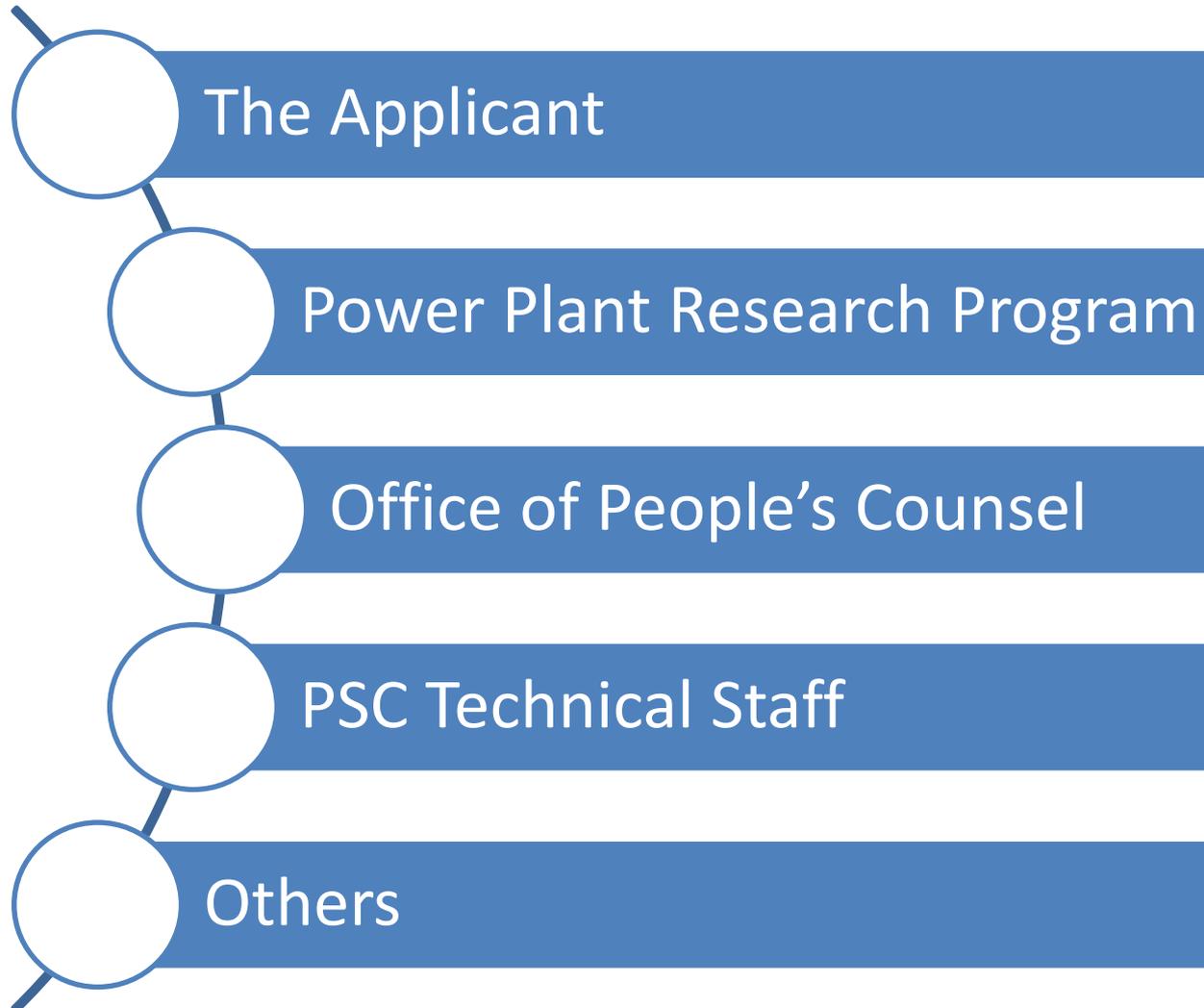
resulted in

Then Governor Mandel's 1969 Task Force Report on Power Plant Review

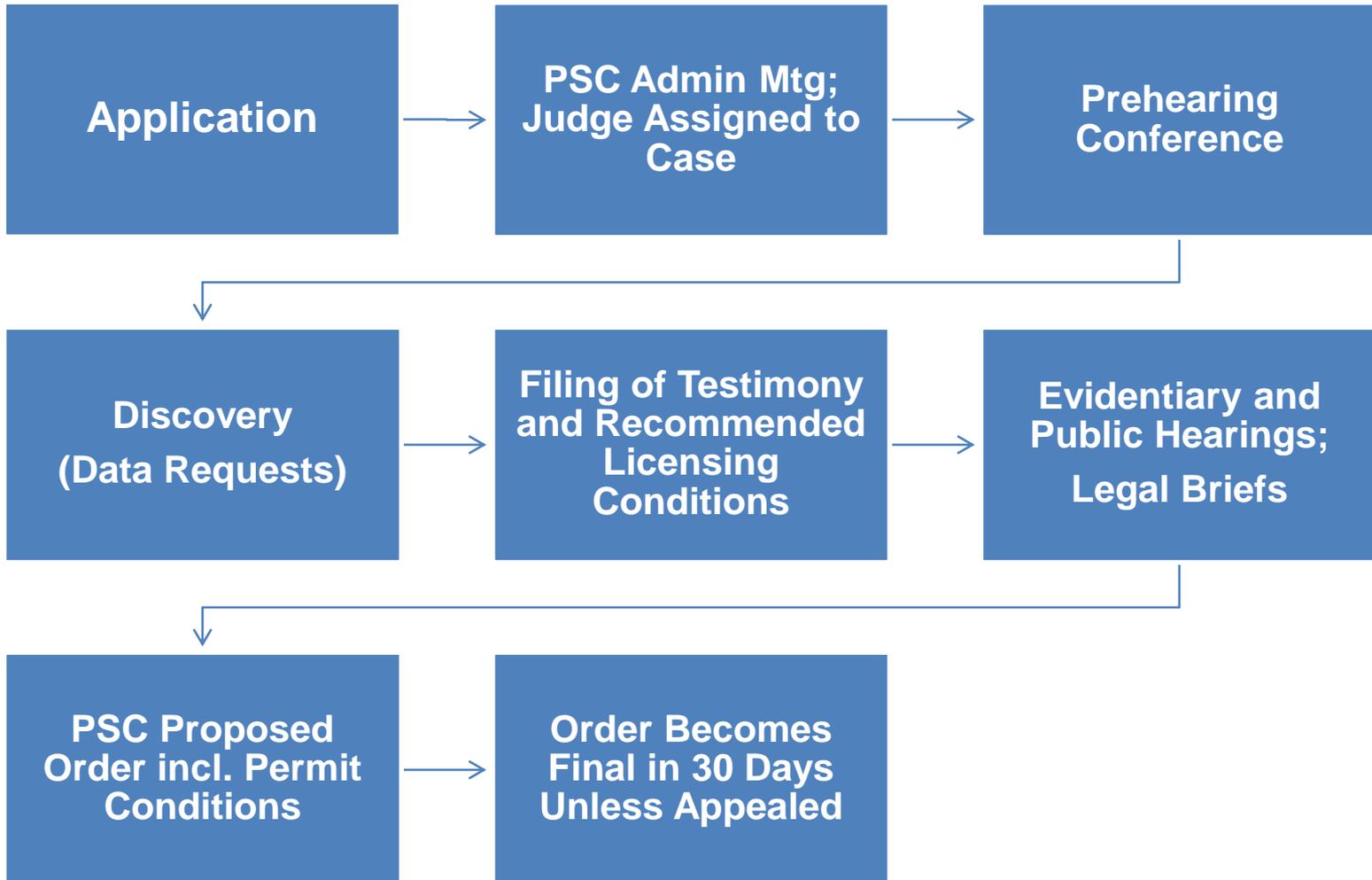
The Passage of The Power Plant Siting Act of 1971

Ultimately resulting in

CPCN Adjudicatory Parties



CPCN Process



PPRP Coordinates With 7 State Agencies



Coordinated review concludes with a joint secretarial letter to the Public Service Commission, transmitting

- Project Assessment Report
- Recommended Licensing Conditions for the CPCN
- Testimony

7 Secretaries Letter and Recommended Licensing Conditions and PPRP PAR



PPSE-PB-1

PPRP

DNR Exhibit _____ (js04)



STATE OF MARYLAND

Sincerely,

The Honorable Glenn F. Ivey
Chairman
Public Service Commission
6 St. Paul Center
Baltimore, Maryland 21202

Re: Case No. 8838

Dear Chairman Ivey:

In accordance with Section 3- in Section 7-207 and 7-208 of the Public Service Commission recommendation in Case Number 8838, the Maryland Department of Environment, Agriculture, Transportation, and Planning Office of Planning and the Maryland Department of the Environment conditions relate to the application for the Prince George's County to construct a Sanitary Landfill near Upper Marlboro.

As set forth more fully in the attached recommendations as conditions of the landfill gas collection at the Brown Station County Correctional Center. Four energy projects are proposed for the project. Electricity generated from the project will be sold to the Utility Regulatory Policies Act. The project will be flared, while providing needed electricity.

Based on our review of the application and the attached recommendations as conditions of the landfill gas collection at the Brown Station County Correctional Center, we have concluded that the site is suitable for the proposed project in accordance with all applicable environmental regulations. The attached recommendations as conditions of the landfill gas collection at the Brown Station County Correctional Center are based on the information provided in the Review Report for the Brown Station County Correctional Center supplied as an exhibit in this proceeding. The attached recommendations and conditions for the project.

Henry A. Virts
Department of Agriculture

Richard C. Mike Lewin
Department of Business and
Economic Development

Ronald Young
Office of Planning

John D. Porcari
Department of Transportation

Frederick H. Hoover, Jr.
Maryland Energy Administration

Jane T. Nishida
Department of the Environment

Dr. Sarah J. Taylor-Rogers, Ph. D.
Department of Natural Resources

DNR Exhibit _____ (js03)

**Recommended Licensing Conditions
PSC Case No. 8838
Brown Station Road Landfill Generator**

General Requirements

1. Except as otherwise provided for in the following provisions, the application for the Certificate of Public Convenience and Necessity (CPCN) is considered to be part of this CPCN (certificate) for the Prince George's County Brown Station Landfill Project. The application consists of the original application received by the Maryland Public Service Commission (PSC) on March 22, 2000. Construction and operation of the facility shall be undertaken in accordance with the CPCN application and subsequent amendments. If there are any inconsistencies between the certificate conditions specified below and the application, the conditions in this certificate shall take precedence. In the application, estimates of dimensions, volumes, emission rates, operating rates, feed rates and hours of operation are not deemed to constitute enforceable numeric limits except to the extent that they are necessary to make a determination of compliance with applicable regulations.
2. If any provision of this certificate shall be held invalid for any reason, the remaining provisions shall remain in full force and effect, and such invalid provision shall be considered severed and deleted from this certificate.

Air Quality Requirements

3. Representatives of the Maryland Department of the Environment, Air and Radiation Management Administration (ARMA) shall be afforded access to the Brown Station Landfill property at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the certificate. The Permittee shall provide such assistance as may be necessary to effectively and safely conduct such inspections and evaluations by representatives of the Department, that may include but need not be limited to the following:
 - a) inspecting construction authorized under this certificate;
 - b) sampling any materials stored or processed on site, or any waste, or discharge into the environment;
 - c) inspecting any monitoring or recording equipment required by this certificate or applicable regulations;



Impact Assessment



How does the design, construction and operation of power plants and transmission lines impact Maryland's environmental, socioeconomic and cultural resources?

Impact Assessment



- Biological impacts to water quality, wetlands, forests, wildlife and aquatic resources
- Economic and fiscal impacts, including job creation and protecting prime farmland
- Transportation impacts during construction, and after construction to passing cars and planes
- Visual impacts to neighboring properties
- Impacts to cultural, historical and aesthetic sites
- Water and sewer utility impacts
- Fire safety considerations

CPCN Conditions



- Vegetative Buffers and Setbacks
- FCA
- RTE
- Wetlands Impacts
- Glint/Glare
- MHT
- Decommissioning

PSC Determination



Public Utilities Articles § 7-207(e): The PSC must give due consideration to the following:

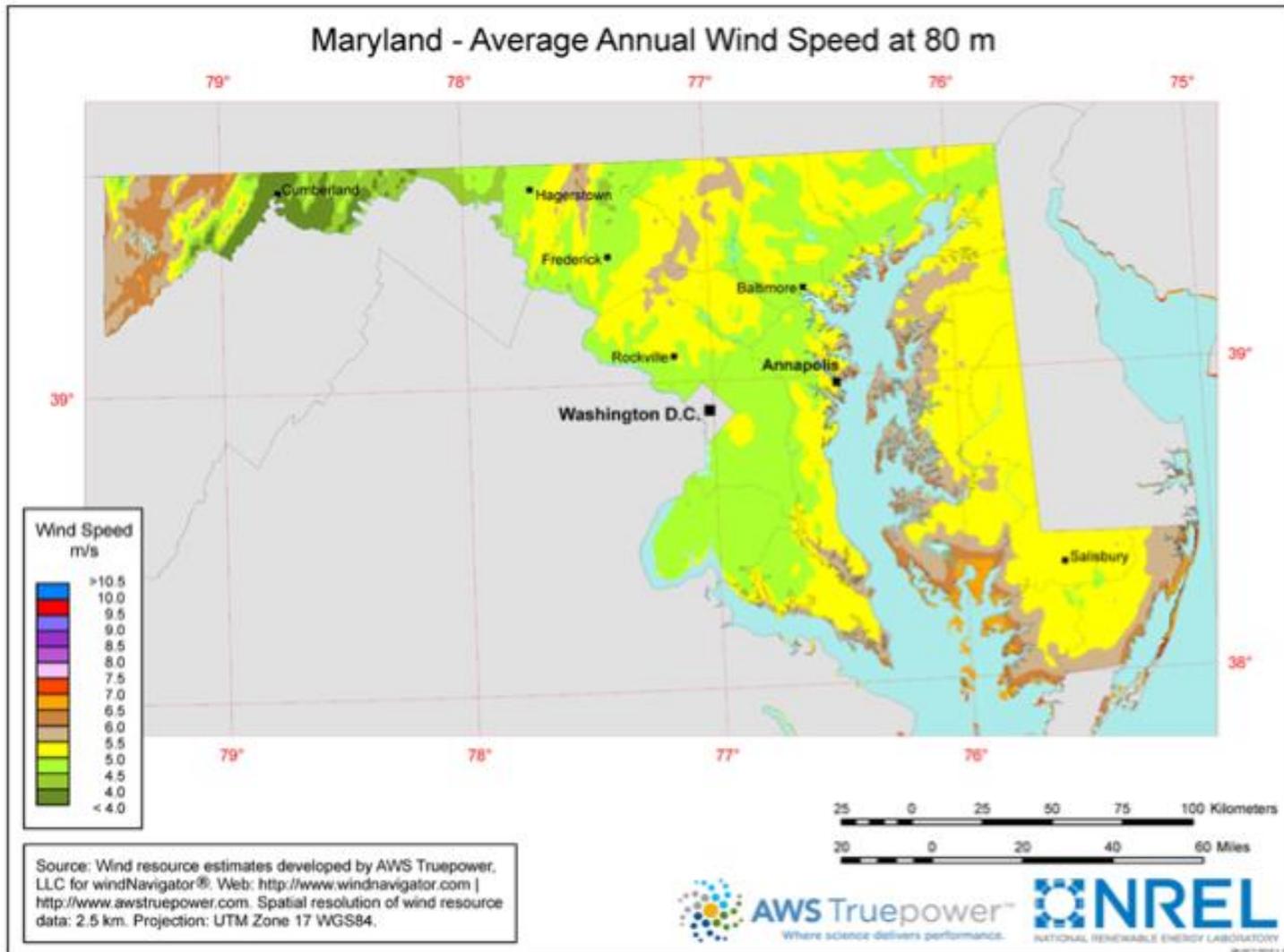
- (1) The recommendation of the governing body of the county or municipal corporation
- (2) The effect of the generating station on:
 - (i) Stability & reliability of the grid;
 - (ii) Economics;
 - (iii) Esthetics and historic sites;
 - (iv) Environmental;
 - (v) Safety (e.g., aviation safety)
- (3) Consistency with comprehensive plan / zoning; efforts to resolve any issues presented by a county.

Smart Siting

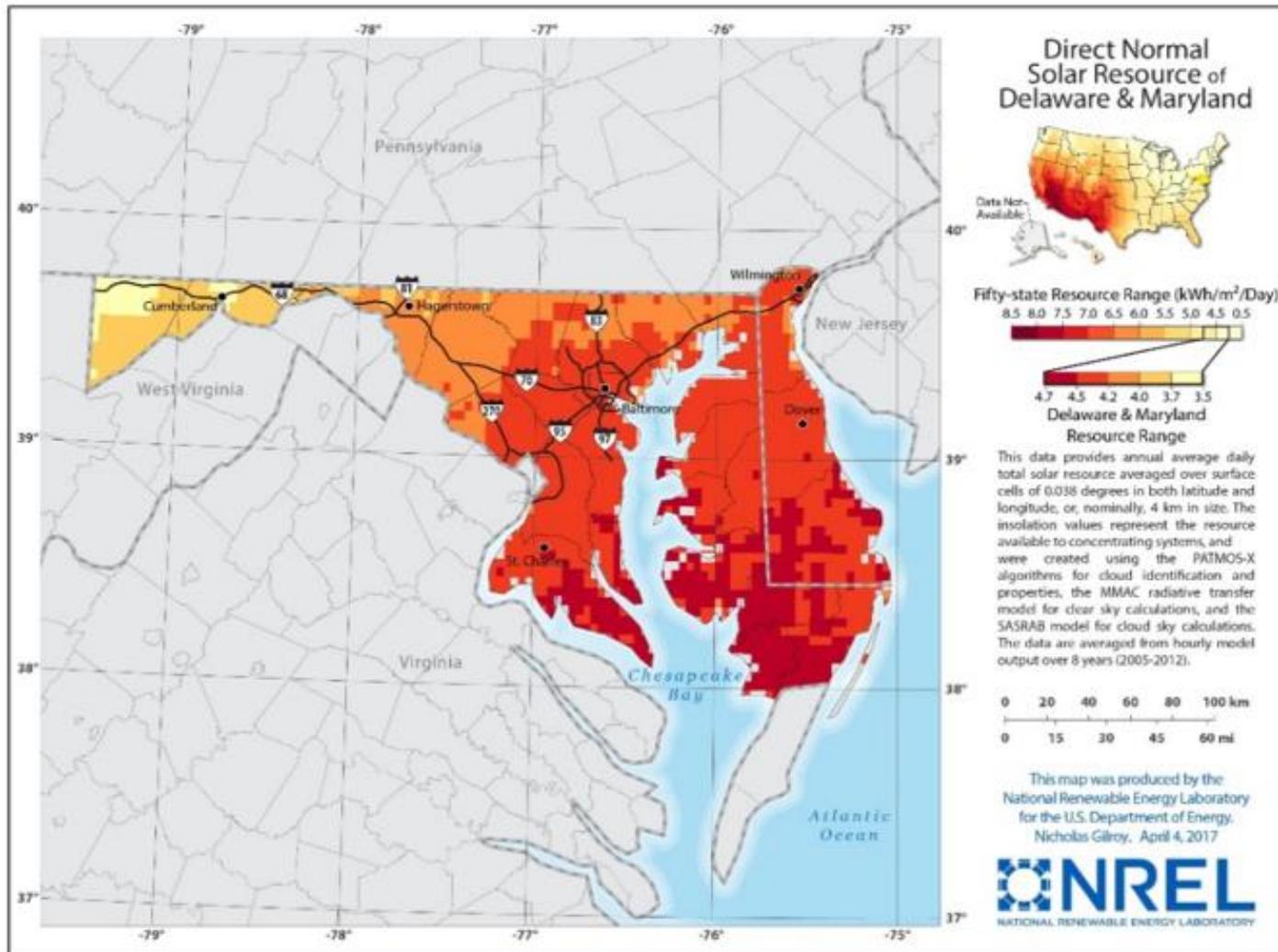


Maryland
Energy
Administration

Renewable Resource Availability - Wind



Renewable Resource Availability - Solar



SmartDG+

Purpose



- SmartDG+ is a free, online, GIS-based screening tool sponsored by MEA and PPRP.
- It is intended to help developers and officials identify areas for the location of new wind and solar projects in Maryland.
- Focus is for projects greater than 2 MW—i.e., excludes rooftop solar siting options.

SmartDG+ Development Process



- Met with county and utility officials to discuss local priorities and policies of relevance
- Evaluated electrical lines throughout Maryland
- Gathered publicly available data on barriers to project construction

SmartDG+

Data Layers



Infrastructure

Proximity

- Electricity lines

Renewable Resource

Availability

- Viable wind speeds
- Solar

Land Suitability

- Protected areas
- Flood zones
- Land cover/land use
- Airports
- DOD no-go zones
- County zoning

SmartDG+

Additional Screens



- County-level zoning
- County-level protected areas
- NAS Patuxent River Protected Areas
- MALPF easements
- Forested lands

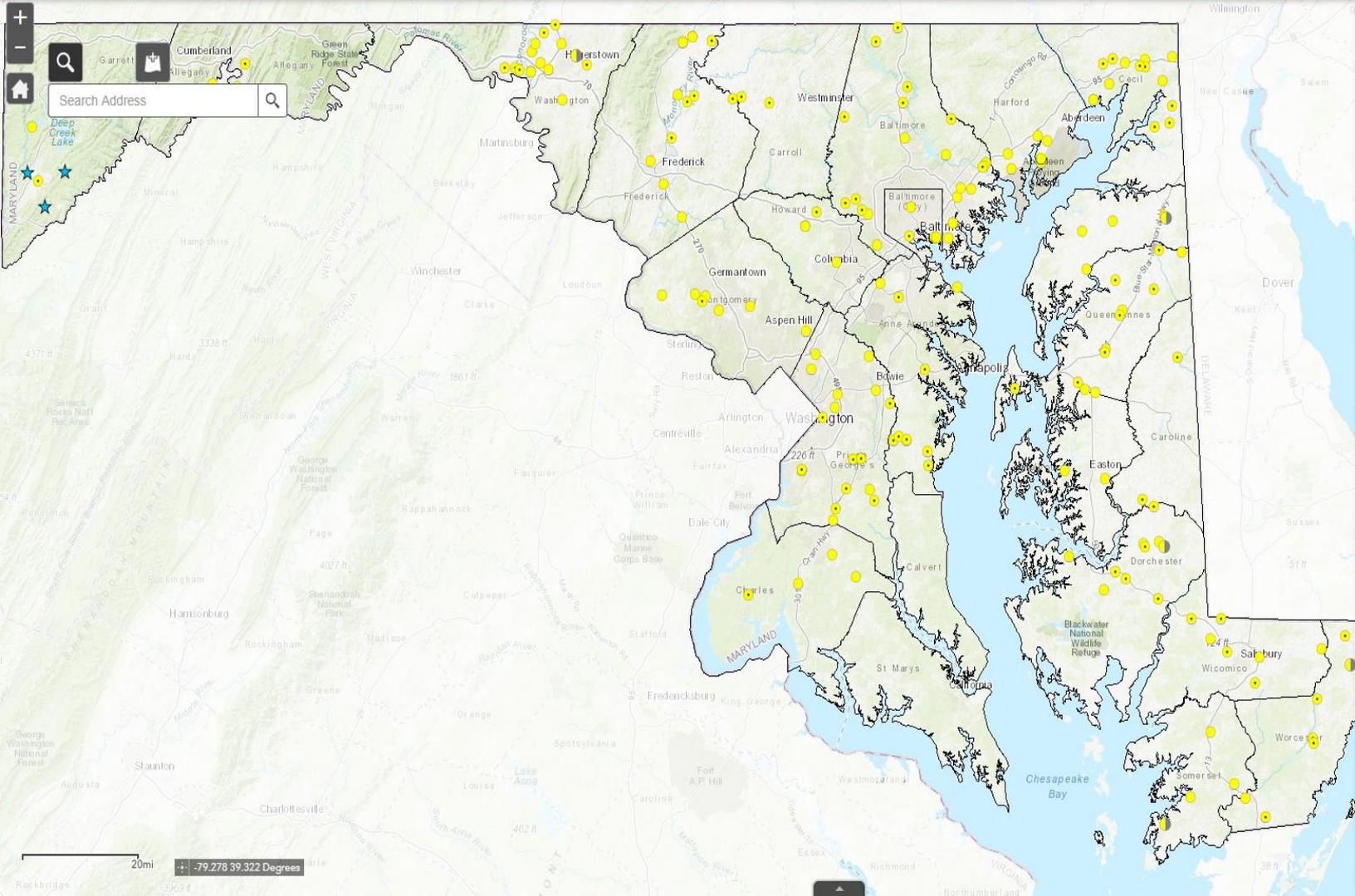
SmartDG County Zoning Guide



- The County Zoning Guide is a compilation of all relevant county zoning language that addresses renewable energy projects that are 2 MW or above.
- A link to the guide is found on SmartDG+ homepage.
- The document is currently being updated to maximize user-friendliness.

County Zoning 2018	
<u>County:</u> Allegany	<u>Last Updated</u> 9/23/2018
<u>Zoning Regulations as of:</u> 4/24/2017	
<u>Solar</u>	<p>Large-scale solar projects are referred to as "primary use" solar energy systems in Allegany County's zoning code.</p> <p>Chapter 360: Land Development, Part 4 Zoning. Definition for "SES" and "SES as Primary Use" (Section 360-59). Supplementary use regulations for "SES as primary use" (Section 360-109). Table of Permissible Uses (Attachment 2 - Table 1).</p>
<u>Wind</u>	<p>For Allegany County, Industrial Wind Farms are defined as a cluster of Industrial Wind Energy Conversion Systems (IWECS). Both IWECS and Industrial Wind Farms have the same zoning regulations.</p> <p>Chapter 360: Land Development, Part 4 Zoning. Definition for "IWECS", "Industrial Wind Farms", "Wind Energy Device", and "Wind Turbine" (Section 360-59). Supplementary use regulations for IWECS (Section 360-107) and Industrial Wind Farms (Section 360-108). Table of Permissible Uses (Attachment 2 - Table 1).</p>
<u>Small Solar</u>	<p>Small-scale solar projects are referred to as "accessory projects" in Allegany County's zoning code. Solar Energy Systems (SES) utilizing thermal production energy are also classed under accessory use for our purposes.</p> <p>Chapter 360: Land Development, Part 4 Zoning. Definition of "SES" (Section 360-59). Supplementary use regulations for residential use (Section 360-111) and nonresidential use (Section 360-112) of accessory SES. SES utilizing thermal production of energy (Section 360-112). Table of Permissible Uses (Attachment 2 - Table 1).</p>
<u>Small Wind</u>	<p>The Allegany County zoning code does not have specific zoning districts designated for small-scale/accessory wind projects. However, the zoning code does mention information regarding the height and setback distance of these projects.</p> <p>Chapter 360: Land Development, Part 4 Zoning. Definition for Domestic Wind Energy Device, Wind Energy Device, Wind Turbine, Agricultural Wind Energy Devices (Section 360-59). Description of 'Special Setback and Height Requirements' for Wind Energy Conversion Systems (Attachment 3 - Table 4).</p>
<u>General Generation</u>	<p>There are no mentions of zoning guidelines for other types of renewable generation.</p> <p>No document available for viewing.</p>
<u>Comprehensive Plan</u>	<p>There are no explicit mentions in Allegany County's CMP of recommendations for land use or facilitating the development of large-scale renewable energy facilities.</p> <p>No important land use definitions, stipulations, or recommendations pertaining to large-scale renewable energy facilities within document.</p>
<u>Other DG</u>	<p>The Allegany Board of County Commissioners passed legislation in March of 2017 allowing business owners in the county to take advantage of Maryland's Commercial Property Assessed Clean Energy (MD-PACE) program.</p> <p>Maryland Commercial Property Assessed Clean Energy (MD-PACE) program website.</p> <p>Allegany County does not have available electronic versions of the MD-PACE legislation.</p>

SmartDG+ Example Product



Legend

Smart DG+ (Expand to see Data Layers)

Current Wind & Solar Projects (1+ MW)

- Solar Site - Operational
- Solar Site - Proposed
- Solar Site - Under Construction
- Wind Site - Operational

Development



- Perennial
- Biggs Ford
- Executive Order 01.01.2019.09
 - Governor's Task Force on Renewable Energy Development and Siting

Resources



More information available at the Power Plant Research Program website:

www.dnr.maryland.gov/pprp

Program Contact:

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