February 23, 2023

5 Things to Know About Maryland's Climate Solutions Now Act

Presented by BGE Large Customer Services
Agenda

1. Welcome
2. Safety and DEI Message
3. 5 Things to Know About MD Climate Solutions Now Act
4. Real Time Update on MD Legislative Session
5. Q&A Session
6. Closing
Safety Message

1. **Identify Stress Patterns** – Write down what happens, how you react and how you calm down. (For some this may look like journaling)
2. **Take care of yourself** – Exercise, eat right and get enough sleep. (This may look different for all of us, listen to your body)
3. **Plan a Getaway** – My personal favorite. Use your vacation days – you earned them!
4. **Learn to relax** – Look into meditation and deep breathing exercises.
5. **Get Help** – Reach out to Supervisors, family/friends or seek a counselor to help you develop coping mechanisms.
D E I: Advocating for Diversity, Equity, Inclusion and Belonging

Ask yourself every day: Am I allowing people to bring their whole selves to work?

Despite our roles and titles, we all have the obligation to help people feel they belong to the workplace and build inclusive workplaces with the diversity they represent.

Cultivating a workplace culture of belonging is a journey, not a destination. It takes patience, commitment, endurance, self-education, and tenacity. The journey begins with you and your willingness to embrace the everyday actions you can take, no matter what your role or title.

DIVERSITY, EQUITY, INCLUSION, AND BELONGING

**DIVERSITY ASKS**
WHO IS IN THE ROOM?

**EQUITY ASKS**
WHO IS TRYING TO GET IN THE ROOM BUT CAN'T – AND WHAT ARE THE BARRIERS?

**INCLUSION ASKS**
HAVE EVERYONE'S IDEAS BEEN HEARD, RESPECTED, AND UNDERSTOOD?

**BELONGING ASKS**
IS EVERYONE FEELING VALUED THROUGH POSITIVE CONNECTIONS WITH OTHERS AND ABLE TO BRING THE AUTHENTIC SELF TO WORK?

Become Inclusive Leaders, despite our roles or title
5 Things to Know about Maryland’s Climate Solutions Now Act

Entrepreneur in Residence, Strategy
The Clean Energy Transformation has Begun

- Climate Solutions Now Act (CSNA) set a formal net zero emissions goal for Maryland in 2022
- Maryland’s Governor Wes Moore has also committed to clean energy in Maryland

“Clean energy will not just be part of our economy; clean energy will define our economy.”

-Maryland Governor Wes Moore in his inaugural address
Maryland’s Decarbonization Goal is Net Zero (and Soon)

THE CLIMATE SOLUTIONS NOW ACT (CSNA) of 2022 SETS THE TARGETS:

- 60% Greenhouse Gas emissions (GHG) reduction by 2031
- Net zero emissions by 2045

Maryland’s Emissions Footprint
Total Statewide Net Emissions 64.4 million metric tons CO2e (all sectors/fuels)
Other Focus Areas for the State from 2022 Legislation

Building Electrification
- 2023 report to evaluate all-electric building code, decarbonizing buildings
- Energy Performance Standards for new and existing buildings

EmPOWER Maryland
- Energy efficiency & demand response
- Reaching underserved customers
- Greenhouse gas reductions

Electric School Buses
- $50M in rebates to cover incremental electric cost
- Utilities leverage bus batteries through vehicle-to-grid tech for resilience

Electric Distribution System Planning
- Reduce GHGs
- Improve energy efficiency
- Incorporate storage
- Increase use of DERs including electric vehicles
There are Different Pathways to Achieve Net Zero GHGs

- E3 worked with Exelon and BGE experts to develop three scenarios that achieve a 60% reduction in economy-wide emissions by 2030 and net-zero by 2045 in BGE Territory.
- Each scenario adopts a different philosophy of how Maryland and BGE can achieve net zero across all sectors, expanding on past work MD has done for buildings
  - Scenarios 2 and 3 test the contribution of an integrated energy system, meaning they rely on a combination of electric and gas delivery infrastructure to achieve decarbonization.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>1) Limited Gas</th>
<th>Integrated Energy System Scenarios</th>
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</thead>
<tbody>
<tr>
<td>Description</td>
<td>High-electrification and shift away from delivered gas</td>
<td>2) Hybrid: Leverage an increasingly clean system, electrification, and gas network</td>
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<tr>
<td></td>
<td></td>
<td>3) Diverse: Adds gas heat pumps and network geothermal</td>
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<tr>
<td>Buildings</td>
<td>Electrification</td>
<td>Electrification with gas/electric hybrid heating</td>
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<tr>
<td>Industry</td>
<td>Electrification</td>
<td>Electrification and alternative fuels</td>
</tr>
<tr>
<td>Transportation</td>
<td>Light duty vehicle electrification with alternative fuels for medium and heavy-duty vehicles</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>Zero-carbon electricity by 2045</td>
<td></td>
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<tr>
<td>Other Sectors</td>
<td>66% reduction by 2045</td>
<td></td>
</tr>
<tr>
<td>Incremental Cost 2020-2045</td>
<td>$52 Billion</td>
<td>$38 Billion</td>
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<tr>
<td>Overall Risk Level</td>
<td>Highest</td>
<td>Moderate</td>
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Excerpt from E3 analysis

% GHG Reductions in 2045 (vs. 2006)

- Buildings: 57-69%
- Transportation: 81-85%
- Electricity: 100%
- Other Sectors: 66%
Key Criteria for a Successful Clean Energy Transition

- Constructability
- Affordability
- Customer Choice
- Energy Security
- Advancing Technology
- Equity

The Analysis Finds that the Integrated Energy System Scenarios are the Most Viable

GHG Emissions Reductions by Sector

*Diverse Scenario*
BGE’s is pursuing an optimized approach to decarbonization, ensuring value for our customers.

**Key Elements of Decarbonization**

- As the generation stack in Maryland becomes increasingly clean, BGE building electrification program converts space heating to high efficiency heat pumps with gas backup
- Transportation electrification program accelerates and expands
- Continued aggressive investment in energy efficiency, demand response, and managed charging strategies
- Requires significant investments in the electric grid to manage the increasing peak and annual loads as we rapidly transition to winter peaking
- Gradual conversion to decarbonized fuels – biogas, synthetic gas, and hydrogen – substituting for conventional natural gas
- Evaluate emerging technologies including gas heat pumps, networked geothermal, and more
- Pursue policy/regulatory enablers required to support the transition to a clean economy

BGE will engage over the next two years in the array of state working groups and task forces charged with developing Maryland’s roadmap for decarbonization. We will work closely with stakeholders to propose solutions which benefit our customers and manage transitional risks.

**Modernizing Energy Delivery Systems**

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What can we all do?

Plan

Partner

Innovate

Advocate
Questions?
Thank you