Welcome

Daniel K. Moon

President and Executive Director

Environmental Business Council of New England
Thank you to our Co-Host
Program Introduction

Christian F. Capizzo

Program Chair & Moderator
Counsel
Partridge Snow & Hahn LLP
Update from the Rhode Island Department of Environmental Management

Janet Coit

Director

Department of Environmental Management

State of Rhode Island
Protecting our environment, growing our green economy
our mission

To protect, restore, manage, and promote Rhode Island’s environment and natural resources to preserve and improve our quality of life.

Our continued efforts and leadership at the State level are even more important now because of uncertainty at the Federal level about many programs that protect public health and the environment.
guiding priorities

As we continue to grow, innovate, and improve as a department, we remain focused on:

• Delivering quality service for our customers and stakeholders
• Promoting a healthy bay & communities
• Growing our state’s vibrant green economy
• Connecting people with the outdoors
• Acting on climate change
2019 DEM Budget Initiatives

Transforming State Parks

Enhancing Environmental Protection

OSPAR
Transforming Rhode Island State Parks

Budget Initiative 2019
9+ MILLION ANNUAL VISITORS

8,200+ ACRES OF PARK LAND ACROSS 67 AREAS

1,000+ CAMPSITES

200+ FISHING AREAS INCLUDING BOAT RAMPS

400+ MILES OF TRAILS FOR BIKING, HIKING & WALKING
KEY RECOMMENDATIONS

#1 Invest in Staffing & Operations

#2 Increase Financial Sustainability/Economic Potential

#3 Protect Assets and Infrastructure
Parks Initiative

• FY2020
  • 8 new positions: 2 business development, 5 maintenance, 1 administrative

• 2020 Bond Projects (potential – if approved)
  • New bathrooms at Pulaski, Haines and Colt
  • Bike path improvements
  • Major renovation at Goddard, Roger Wheeler, Brenton Point and Fort Adams
  • Campsite and cabin expansion
How it will be funded?

• Reduction in contractual services

• New Revenue
  • Business development office revenue
  • Modest fee increases
    • Beach parking
    • Camping, including tiered options
    • Site rental fees
Investing in Environmental Protection

- Oil Spill Preparedness and Response (OSPAR) Fund
- Funded through a fee on the import of petroleum into RI
- Funds response and emergency preparedness
Oil Spill Preparedness & Response Fund (OSPAR)

- 712 Emergencies in FY 17, including 558 oil spills
- Readiness; state of the art monitoring, analysis, and response equipment
- Funds extensive training and emergency preparedness exercises
- Supports Narragansett Bay Physical Oceanographic Real-Time System (PORTS)
- Supports habitat restoration
- Funds Narragansett Bay Water Quality monitoring
Increase Fees to Invest in Rhode Island

- Increase the fee from $0.05 to $0.10 per barrel
- In line with other states regionally

- Financially stabilize the fund
- Add 3 new staff positions to support regulation of land development - Storm water and Brownfields
- Allows investment in resiliency
Recent Enforcement Initiatives

• Single Walled Underground Tanks
  • Multi-year effort to educate operators on requirements
  • As of December 31, 2017, 32 non-compliant facilities
  • Penalties being assessed for those operating after deadline

• Storm Water: Compliance with Erosion & Sedimentation Controls
  • 15 inspections per month
  • 4 offices in Environmental Protection involved
  • Penalties for Non-Compliance, including failure to report start of construction
  • Expedited Citations and NOVs being used
Emerging Contaminants - PFAS

• Continuing to work with DOH on testing drinking water
• Sampling private wells in areas of concern
• Working with firefighters on foam management
  • Proper storage-containment
  • Concerns with locations for training
  • Retirement of old inventory
• Other routes of exposure- surface water
Governor’s Task Force on Tackling Plastics

- Executive Order signed by Governor Raimondo in July 2018
- Task Force Initial Meeting on October 5, 2018
- Overall:
  - 6 Task Force meetings
  - 13 Working Group Meetings
  - Involving 22 Task Force Members and 30+ other participants
- February 18, 2019: Submission of final report to Governor Raimondo
  - Immediate: 10 recommendations
  - Short Term (1-3 years): 11 recommendations
  - Long Term (3-5 years): 3 recommendations
Why Plastics?

- Plastic in litter is carried by storm water runoff to our rivers and seas
- 5 trillion pieces are now floating in the ocean
- 73% of beach litter is plastic
- Wildlife is entangled, or consumes, plastic wastes in the seas.
- 700 species of marine animals have been found to have eaten or been entangled in plastics
- By 2050, mass of plastic in the oceans will surpass the mass of fish
Major Themes from the Plastics Task Force

• Encourage and facilitate voluntary reduction of single-use plastics by establishing best practices, creating a recognition program, and piloting programs within State government to eliminate single-use plastics.
• Reduce the number of single-use bags in Rhode Island by establishing a ban on single-use plastic check-out bags and a fee on single-use paper check-out bags.
• Increase awareness of plastic pollution and recycling and its implications through educational initiatives
• Support innovation related, but not limited, to single-use disposables, that draws on the strengths of Rhode Island by involving businesses and academic organizations
responsible clean energy siting

1. Guidance via Pre-Apps
2. Compliance with wetland and stormwater regulations
3. Brownfields/landfill redevelopment
2018 green economy and clean water bond

$47.3 MILLION

LOCAL RECREATION: $5M
BIKEWAYS: $5M
OPEN SPACE: $2M
FARMLAND: $2M
BROWNFIELDS: $4M
COASTAL RESILIENCY & PUBLIC ACCESS: $5M
CLEAN WATER & DRINKING WATER: $7.9M
PROVIDENCE RIVER DREDGING: $7M
WWTF RESILIENCE: $5M
DAM SAFETY: $4.4M
RFP’s Scheduled to be rolled out…..

- **BROWNFIELDS**
  - July 2019

- **CLIMATE RESILIENCY**
  - September 2019

- **WWTF RESILIENCY**
  - September 2019

- **LOCAL RECREATION**
  - September 2019

- **OPEN SPACE**
  - June 2020
2019 Legislation (so far)

• Plastics- Bag & Polystyrene ban, straws, fuel and feedstock
• Professional Engineers as OWTS designers
• Global Warming Solutions Act
• Sustainability Standards
• Firefighting Foam
Rules and Regulations

- Refiling and Recodification
  - 184 sets of regulations/ 4,441 pages/ 3 years
  - Completed as of December 31, 2018

- New Rulemaking on the Horizon
  - Wetlands
  - Solid Waste-PFAS monitoring
  - Hazardous Waste-Pharmaceuticals
  - Hydrofluorocarbons (HFCs)-refrigerants, powerful GHG
Responding to Climate Change

RHODE ISLAND MANIFESTATIONS OF CLIMATE CHANGE

1. Sea Level Rise
2. Warming Air Temperatures
3. Warming Water Temperatures
4. Storm Frequency And Intensity
5. Changing Biodiversity
6. Precipitation and Inland Flooding
Measuring Progress on GHG Emissions

EC4 was charged with developing strategies to meet GHG reduction targets below 1990 levels:

- 10% by 2020
- 45% by 2035
- 80% by 2050

RIEC4 completed a GHG Emissions Reduction Report in December 2016 (www.climatechange.ri.gov)

One major takeaway – RI has a formidable challenge and leadership opportunity!

Viable pathways exist to achieve GHG targets:

- We are poised to exceed 2020 GHG target
- 2050 GHG target entails major, economy-wide energy transformation and innovation

RI’s biggest GHG source sectors:

- Transportation
- Electricity consumption
- Residential (thermal)

RIDEM charged with updating RI’s GHG inventory every 3 years – working on update now (due out December 2019)

*Other includes transmission/distribution, wastewater, agricultural, and land use/land use change/forestry
Volkswagen Settlement Funds

VW Group of America installed illegal software on 11M vehicles worldwide. **3,000** vehicles in RI were affected.

Increasing emissions up to 40% above the legal limits

**RIPTA’S Zero Emission Electric Bus Deployment**

- **3 Buses** delivered to RI in October 2018.
  - Buses will run on high density routes through communities adversely impacted by poor air quality.
- In following years, funds will be used to replace up to 20 diesel powered buses with zero-emission all electric buses.

**Light Duty Electric Vehicle Charging Stations**

- Nearly triple the number of public DC-Fast Charging Stations. (Currently 8 stations)
- Double the number of workplace, multi-unit dwelling, public Level-2 Charging Stations. (Currently 79 stations)
Nine States & D.C. to design REGIONAL approach to CAP GHG POLLUTION FROM TRANSPORTATION.

Goals of such program include:
- reducing climate changing pollution,
- creating economic opportunity,
- and improving transportation equity for currently underserved and overburdened populations.

Complete the policy design process by end-2019, after which each jurisdiction will decide whether to adopt and implement the policy.

www.transportationandclimate.org
Climate Resilience in Action

**Restoration of Sapowet Marsh Management Area**
(Tiverton)
To increase shoreline resilience & ensure public access

**Mid-Park Marine Education and Recreation Center**
(Fort Adams State Park)
Resilient design & “leading-by-example”

**Planning for Resilience**
Implications of Climate Change for RI Wastewater Collection and Treatment Infrastructure (2017)
In 2017, DEM released the study **Implications of Climate Change for RI Wastewater Collection and Treatment Infrastructure.**

Communities documented concerns which helped decision-makers appreciate the need for resilience upgrades.

Small-and-large-scale improvements have been enacted at wastewater treatment facilities in Westerly, Narragansett, Smithfield, Warren, and Warwick.

**Critical Infrastructure & Utilities Recommended Action:** Accelerate treatment system and pumping station hardening projects identified in Implications of Climate Change for RI Wastewater Collection & Treatment Infrastructure.

*Above: Operators at West Warwick Regional Wastewater Treatment Facility use a boat to assess plant damage after historic flooding in 2010.*

*Far Above left: The Warwick Wastewater Treatment Facility with an inundated pumping station in 2010.*

*Far Above Right: A newly elevated station in 2013.*
DEM is currently **evaluating Aboveground Storage Tanks (ASTs) for Pollution Prevention and Risk Preparedness** within high risk, flood-prone coastal communities subject to storm surge and sea level rise.

- Project identifies the locations of above-ground storage tanks, calculates the risk associated with facilities, and contacts and conducts voluntary audits at high-risk facilities.
- DEM will advise facilities on risk-reduction measures.

**Emergency Preparedness Action:**
Assist facilities in preparedness efforts to eliminate the cascading effects to other facilities and services, resulting in a more resilient community.

*ArcGIS rendering of the Port of Providence with 7-foot sea level rise.*
More on Energy, Climate Change, and Resiliency.....

On to the rest of the panel...
Update on Rhode Island’s Adaptation and Resiliency Programs

Shaun O’Rourke

Chief Resiliency Officer

State of Rhode Island
RESILIENT RHODY
AN ACTIONABLE VISION FOR ADDRESSING THE IMPACTS OF CLIMATE CHANGE IN RHODE ISLAND
Resilient Rhody

Strategy Goals

- Catalyze the planning and vulnerability studies already developed and move towards implementation
- Identify and prioritize resiliency actions the State can control to demonstrate progress and implementation
- Prioritize actions that promote cross-agency collaboration and support municipalities in resilience planning and project implementation
Westerly inundated with flood waters in 2010

RHODE ISLAND MANIFESTATIONS OF CLIMATE CHANGE

1. Sea Level Rise
2. Warming Air Temperatures
3. Warming Water Temperatures
4. Storm Frequency And Intensity
5. Changing Biodiversity
6. Precipitation and Inland Flooding
Resilient Rhody framework

Making the Case for Climate Resilience

RESILIENCE THEME: Emergency Preparedness

RESILIENCE THEME: Natural Systems

RESILIENCE THEME: Critical Infrastructure and Utilities

RESILIENCE THEME: Community Health and Resilience

Financing Climate Resilience Projects
Timeline of natural disasters and select state agency reports and tools
Resilient Rhody Actions

**Projects**
- Projects and processes that can be accelerated now and in the future with existing resources

**Policies**
- Policies in state control to drive climate adaptation across agencies

**Programs**
- Programs and initiatives developed by state agencies to assist municipalities and communities become more climate resilient

**Financing**
- Highlight existing and emerging financing mechanisms
Strategy Implementation

- Established the Resilient Rhody Implementation Core Team

- Finalizing a Resilient Rhody implementation plan

- Developing a priority action list for immediate implementation
  - Specific projects to align with actions across chapters and agencies
Strategy Implementation

EC4 Resilience Coordinators

- **Shaun O’Rourke**, RIIB, Chief Resilience Officer
- **Melinda Hopkins**, State Hazard Mitigation Officer, RIEMA
- **Laura Bozzi**, Climate Change Program Manager, RIDOH
- **Caitlin Chaffee**, Policy Analyst, CRMC
- **Liz Stone and Bill Patenaude**, RIDEM
- **Julia Gold**, Chief of Sustainability, Autonomous Vehicles, and Innovation, RIDOT
- **Carrie Gill and Barbara Cesaro**, OER
- **Jonathan Schrag**, DPUC
- **Bill Ash**, Managing Director of Financial Services
- **Caitlin Greeley**, Principal Planner, Statewide Planning (also rep. for DOA)
- **Laura Sullivan**, Assistant Chief, Office of Housing & Community Development
## Strategy Implementation

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Action</th>
<th>Agency/Org Leader</th>
<th>Implementation Goal - 1 YR</th>
<th>Implementation Goal - 3 YR</th>
<th>Implementation Goal - 5 YR</th>
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</thead>
<tbody>
<tr>
<td><strong>Critical Infrastructure and Utilities</strong></td>
<td></td>
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<tr>
<td>Drinking Water</td>
<td>1. Assist water suppliers in developing local Emergency Interconnection Programs to address supply vulnerability among small systems throughout the state. Emergency Water System interconnections provide redundancy of supply and the ability to address water emergencies rapidly and efficiently across water supply districts.</td>
<td>WRB w/ RIDOH Support</td>
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<tr>
<td>Drinking Water</td>
<td>2. Assess the vulnerability of near coastal drinking water reservoirs to storm surge and sea level rise.</td>
<td>RIDOH</td>
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<tr>
<td>Drinking Water</td>
<td>3. Advance common goal setting and communication between water suppliers that manage reservoirs and downstream municipalities. Ensure downstream flood mitigation via proactive spillway management without adverse impacts on safe yield.</td>
<td>RIDEM w/WRB Support</td>
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<tr>
<td>Drinking Water</td>
<td>4. Ensure that all major suppliers have current contingency contracts for the purchase of emergency supplies and have established emergency interconnection/distribution process.</td>
<td>WRB w/ RIDOH Support</td>
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<td>Wastewater</td>
<td>5. Accelerate treatment system and pumping station hardening projects identified in Implications of Climate Change for RI Wastewater Collection &amp; Treatment Infrastructure to include the installation of submarine doors, elevated, watertight protections of motor control centers; waterproofing and elevated instrumentation, windows, hatches, and vents; and installation of standby power systems.</td>
<td>RIDEM</td>
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Resilient Rhody Initiatives Underway
Resilient Rhody Municipal Resilience Program

- Developed in partnership between Rhode Island Infrastructure Bank and The Nature Conservancy
- The MRP is open to all 39 municipalities in Rhode Island
- The MRP will provide technical assistance to three selected municipalities to complete the “Community Resilience Building” process developed by TNC
- Municipalities will identify priority climate resilience projects
- Dedicated implementation funding will be available after successfully completing the “Community Resilience Building” process
Resilient Rhody Stormwater Accelerator

- Financing to accelerate implementation of stormwater initiatives through low-cost upfront capital
- Backed by a funding source that will eventually reimburse the project
- First projects in the Woonasquatucket River watershed are about to close with implementation complete by fall 2019
- Pipeline of ~$3M in projects over next 9 months
- Evaluating opportunity for deploying new and innovative financing for project implementation
Shaun O’Rourke

Director of Stormwater and Resilience, Rhode Island Infrastructure Bank
Chief Resilience Officer, State of Rhode Island
sorourke@riib.org
Update from the Rhode Island Office of Energy Resources

Carol Grant
Commissioner
Office of Energy Resources
State of Rhode Island

Environmental Business Council of New England
Energy Environment Economy
Clean
Reduce carbon-intensity of supply portfolio

Affordable
Consumer cost as a lens for all policies, from procurement to investment

Reliable
Invest in a diverse resource portfolio through infrastructure, supply and system redesign

Principles for Policy and Programmatic Decision-Making
CLEAN ENERGY LEADERSHIP

1000 MW GOAL
ROAD TO 1,000 MW

2016
100 MW Baseline

100 MW 200 300 400 500 600 700 800 900 1000 MW
ROAD TO 1,000 MW

- 2016 Baseline: 100 MW
- 2018 Current: 363 MW

100 MW | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 MW
ROAD TO 1,000 MW

2016
100 MW
Baseline

2018
363 MW
Current

2019
Revolution
Wind Farm
(+400 MW)

100 MW 200 300 400 500 600 700 800 900 1000 MW
2018 Qtr. 4

Clean Energy Portfolio

363 Megawatts

1,000 MW by 2020

11 MW 30 MW 35 MW 143 MW 144 MW

Small Hydro Offshore Wind Landfill Gas / Anaerobic Digestion Solar Onshore Wind

363 MW
RACE TO THE FINISH LINE

- 400 MW Clean Energy RFP
- Renewable Energy Fund
  - Brownfields
  - Carports
- Community Solar Expansion
- Renewable Energy Growth Program, 55 MW
- Solar siting
CLEAN ENERGY LEADERSHIP

ENERGY EFFICIENCY
RI RANKS #3 IN US FOR EFFICIENCY PROGRAMS

SOURCE: American Council for Energy-Efficient Economy
EFFICIENCY IS DRIVING THE LOCAL CLEAN ENERGY ECONOMY

$320 MILLION

In economic benefits in 2017

Every $1 invested puts $4.20 back into RI’s economy
WHAT’S NEW

Focus on schools

Evolving technologies
Benefits of Modernizing the RI Electric Grid

Build a flexible grid to integrate more clean energy.

The Governor’s goal of 1,000 megawatts of clean energy by 2020 will bolster our growing local clean jobs economy and help us meet state climate goals.

Control the long-term costs of the electric system.

Today’s electric grid is built for peak usage. That’s like constructing a 100-lane highway for Thanksgiving traffic. New technology provides us with more ways to right-size the system to Rhode Islanders’ needs.

Give customers more energy choices.

Clean energy technologies are more affordable now than ever. Our utility rules should allow consumers to access and enjoy creative solutions to manage their energy production and use.
PST
MILESTONES

November 2017
Phase One Report

August 2018
PUC approves PST National Grid Rate Case

Ongoing
PST Advisory Group

RHODE ISLAND
POWER SECTOR TRANSFORMATION

Phase One Report to
Governor Gina M. Raimondo

November 2017
CLEAN ENERGY LEADERSHIP

LEAD BY EXAMPLE
HIGHLIGHTS TO DATE
Offset 12% of state’s electricity consumption

Save $8 million over 20 years
A GAME CHANGER...

$91 million saved in energy costs

11 million metric tons in reduced emissions

270,000 homes powered (1/4 of RI’s electric use)
40-50 turbines, 8-10 MW each
800 construction jobs
50 permanent jobs
$40M port improvements
$250M local investment
QUESTIONS?

CAROL GRANT,
Commissioner
Rhode Island Office of Energy Resources
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www.energy.ri.gov
Energy Legislative Initiatives

Christopher Kearns

Legislative Liaison, Renewable Program, Energy Policy

Rhode Island Office of Energy Resources
Moderated Discussion

Moderator: Christian Capizzo
Partridge Snow & Hahn LLP

Panelists:

• Janet Coit, RI DEM
• Carol Grant, RI OER
• Shaun O’Rourke, State of Rhode Island
• Christopher Kearns, RI OER