



## Battery Energy Storage Systems

City Council Work Session June 9, 2026

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# What are Battery Energy Storage Systems (BESS)

## Definition and Function

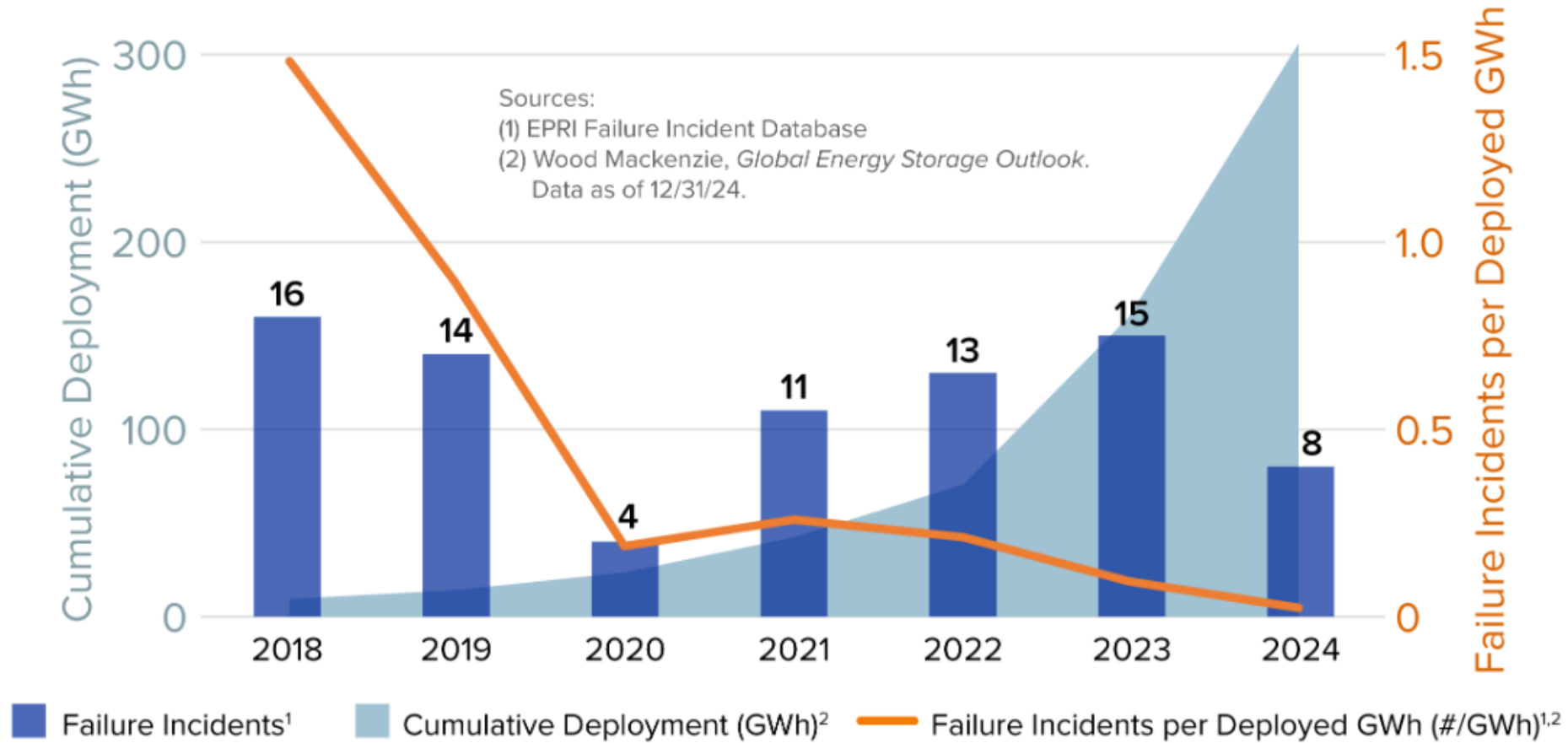
BESS store electrical energy from the grid or renewable energy source for later use, providing flexible power management.

- Increasing Electricity Demand
- Shift from Fossil Fuels
- Benefits of Battery Storage
- Immediate System Impact



# Risks and Safety

## Global Grid-Scale Storage Deployment and Failure Statistics



# Federal Guidelines

National Fire Protection Association Guidance

Environmental Protection Agency

National Electrical Code

Occupational Safety and Health Administration

American National Standards institute

Underwriters Laboratories



# Washington

Washington State Fire Code

Washington State Building Code

Washington State Energy Code

Department of Ecology

Department Labor and Industries

Energy Facility Site Evaluation Council



# Neighboring Jurisdictions

## Thurston County model code

- Before adopting, other standards need to be considered:
  - Tiering thresholds
  - Permit Pathways
  - Allowed Zoning Districts
  - Setbacks and other adjacent use issues



# A Balanced View for Tumwater – Comprehensive Plan

- The Climate Element promotes energy resilience and expansion of renewable energy systems.
- The Utility Element encourages coordination with private utilities and supports the adoption of clean energy technology.
- The Land Use Element directs development to ensure compatible adjacent land uses.



# What This Could Look Like in Tumwater

## Considerations:

- Energy storage capacity and use
- Physical scale
- Accessory vs. Primary Use

## Other Factors:

- Adjacent supportive facilities
- Incompatible land uses nearby
- Parcel sizes



# Tier 1 – Residential Scale Systems



- Storage Capacity: 0-80 kWh
- Scale: gym bag to small refrigerator
- Limited to 20 kWh per installation by NFPA
- WA State Fire Code restricts residential use

# Tier 2 – Medium Scale Systems



- Storage Capacity: 80-600 kWh
- Scale: Refrigerator to several shipping containers
- Capable of serving business or community centers or hubs
- Allowed under WA State Fire Code for non-residential uses

# Tier 3 – Utility Scale Systems



- Storage Capacity: greater than 600 kWh
- Scale: varies
- Capable of supporting a substation
- Additional requirements under WA Fire Code

# Council Direction Requested:

## Option A

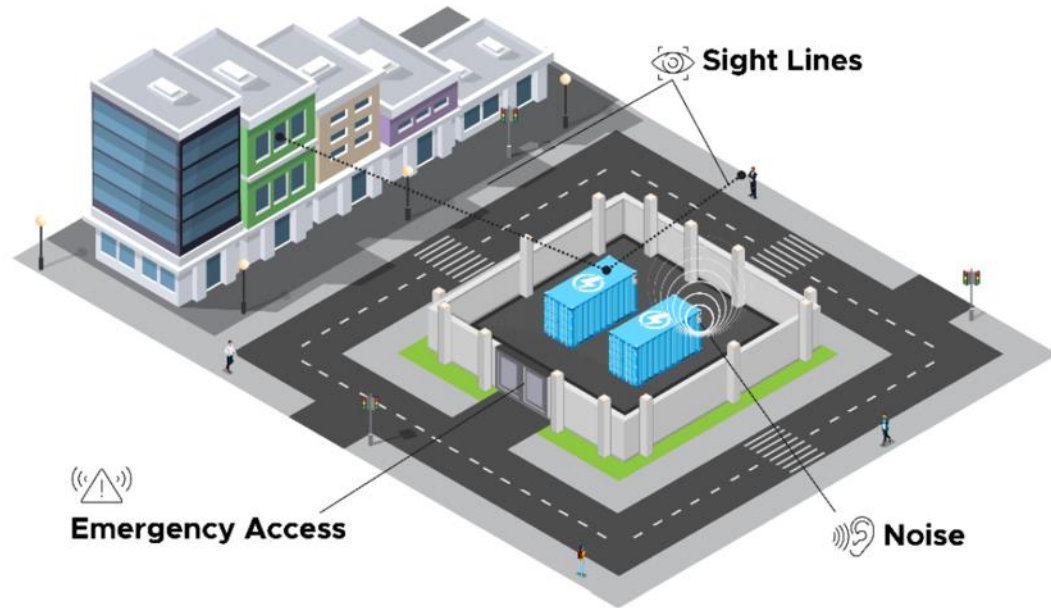
- Prepare code amendments for battery energy storage systems (BESS) that are equal to or more restrictive than state regulations.
- Updates would include TMC Titles 15 Building and Construction and Title 18 Zoning.

## Option B

- Do not to prepare local code amendments for battery energy storage systems (BESS).
- Permitting for all battery energy storage systems would continue to occur through existing Washington State Department of Labor and Industries and the Energy Facility Site Evaluation Council, and is not at the discretion of local authorities.



# Zone Districts and Setbacks



## Option A:

- Limited to zones depending on use and capacity
- Setbacks can be tailored depending on adjacent parcel use

## Option B:

- No zone considerations
- Setbacks are standardized no consideration for adjacent parcel use

# Proposed Fire Safety Regulations

## Option A:

- Prohibit Battery energy storage systems in basements.
- Residential scale: Labor and Industries permits and inspects.
- Medium scale: Fire Marshal or designee review and approval.
- Utility scale:
  - Develop emergency management plan with fire department.
  - Fire Marshal or designee review and approval.

## Option B:

- Battery energy storage systems may be installed in basements
- No Fire Marshal review for medium scale.



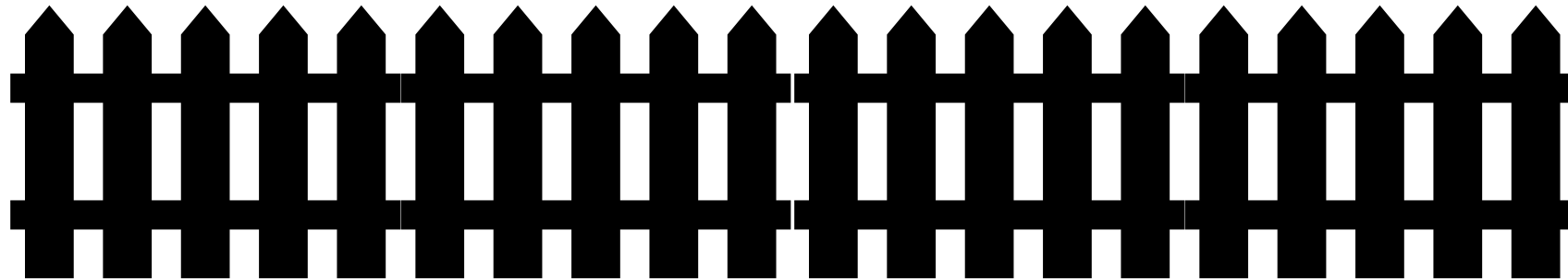
# Proposed Screening and Fencing

## Option A:

- Fencing and screening scaled to each tier
- Aligned with existing requirements in Citywide Design Guidelines

## Option B:

- Fencing only required for utility scale systems
- Screening not required at any scale



# Proposed Decommissioning and Ownership Changes

## Option A:

- Residential scale: no decommissioning standards.
- Medium scale: require recycling electronic equipment.
- Utility scale:
  - require decommissioning plan,
  - bonding and
  - electronics recycling, and
  - ownership change requirements reported with annual fire inspections.

## Option B:

- No electronic recycling requirement.
- No bond requirement.
- No ownership change requirement reported with annual fire inspections.



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## Option A

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## Option B

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# Thank you!

## Comments and questions:

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