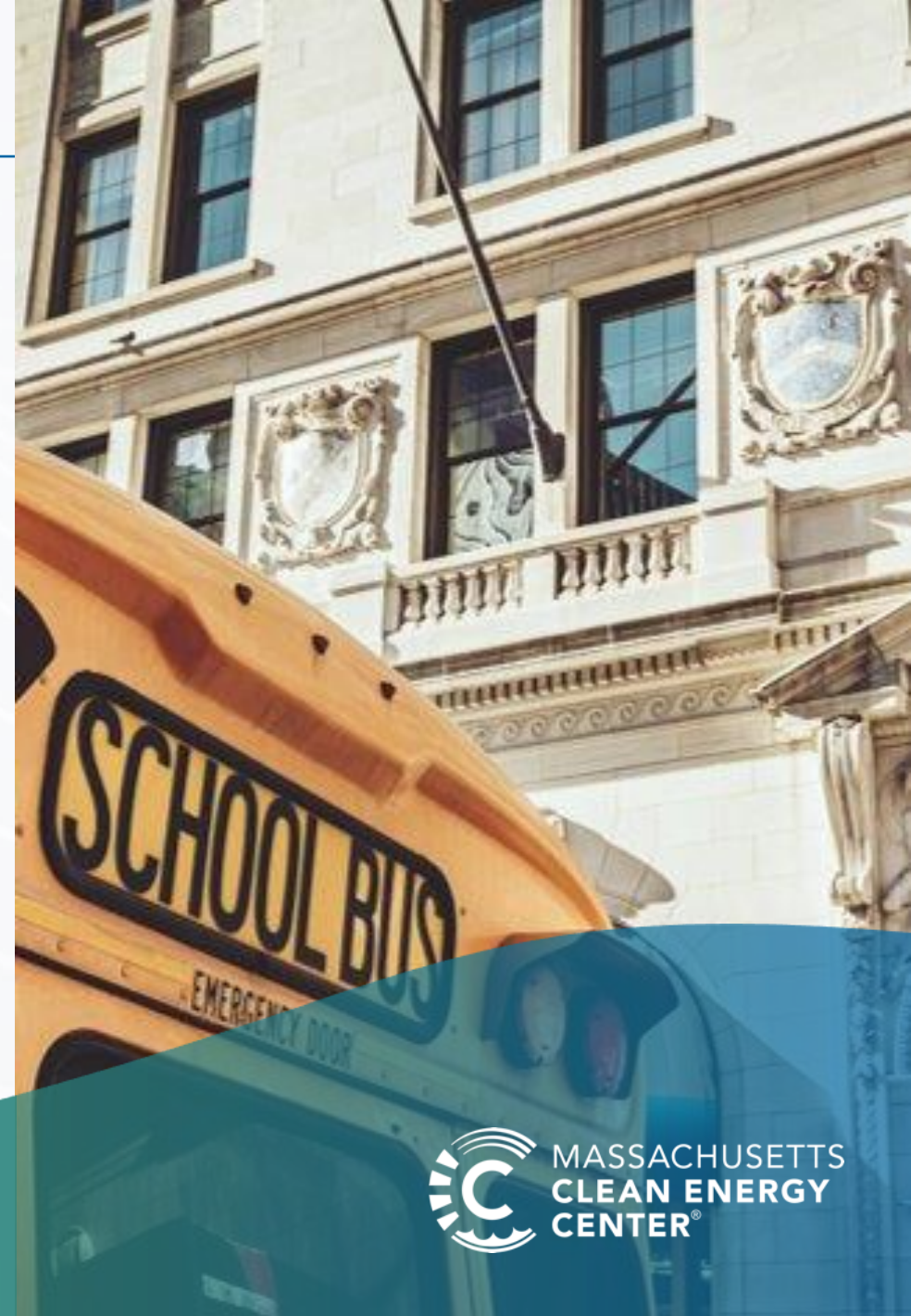


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# School Bus Electrification:

## Massachusetts Landscape

ORLY STROBEL, MASSCEC



# Massachusetts Clean Energy Center

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**High  
Performance  
Buildings**



**Clean  
Transportation**



**Net Zero  
Grid**



**Offshore  
Wind**



**State economic and development agency that seeks to  
accelerate Massachusetts' clean energy and climate goals**

# Massachusetts ESB Landscape

## Current School Bus Landscape

- ▶ 8,000 school buses operating in Massachusetts
- ▶ 300+ school districts
- ▶ 70% leased, 30% owned and operated
  - 3 to 5-year contracts with fleet operators



## ESBs in Massachusetts

- ▶ 120+ ESBs operating or procured in Massachusetts
- ▶ 10+ school districts have deployed or are in the process of deploying ESBs
- ▶ 50% leased, 50% owned and operated
  - 3 to 5-year contracts with fleet operators
  - Some electrification-as-a-service contracts of 10+ years

# Challenges for MA Deployment



## Managing Upfront Costs

- ▶ State and federal funding opportunities including EPA and MassCEC may cover the upfront costs of electric school buses and help infrastructure upgrade costs
- ▶ Talk to utilities early and look for programs like Make-Ready

## ▶ Breaking Down Project Complexity

- ▶ MA is offering technical assistance
- ▶ Turnkey and electrification-as-a-service options

# Frequently Asked Questions

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## Range and Cold Weather

- ▶ ESBs have an 80-mile range based on deployments in cold weather areas



## Operational Savings

- ▶ Savings can range from \$4,000-\$11,000 per bus per year



## Safety and Driver Experience

- ▶ Consistent positive feedback from drivers – Smoother and quieter than diesel



## Where to Start

- ▶ Providing resources like the World Resources Institute

# ACT School Bus

**Goal:** to ensure early adopters have successful ESB deployment projects, EPA's CSB Program and other federal funding, and fill in funding and technical assistance gaps

- \$23.3M - \$11.9M already spent
- \$2M award cap for school districts, \$1 to \$1.5M awarded to consultants

## Advisory Services Program

- MassCEC is currently enrolling up to 25 fleets to provide no-cost, full fleet electrification planning for school districts
- Currently in the early stages of enrollment
  - Cohort includes Boston
- Consultant: **VEIC**

## Fleet Deployment Program

- MA schools have leveraged nearly **\$50M**, in funding for **96** buses
  - Clean School Bus, ACT School Bus, DERA, and vendor/district cost share)
- 6 MA public school districts supported by 2022 ACTSB Deployment funding
- Consultant: **ERG**
- RFP of second deployment round expected this fall