



# Changing the Game: Retrofitting for Resilience

Resources for Stakeholders Retrofitting and Commissioning Existing Buildings



## STANDARDS

- **ASHRAE Standard 100:** Energy & Emissions Building Performance Standard
- **ASHRAE Standard 230:** Commissioning Process for Existing Buildings and Systems
- **ASHRAE Standard 62.1** Ventilation and Acceptable Indoor Air Quality
- **ASHRAE Standard 241** Control of Infectious Aerosols:
- **ASHRAE Standard 235P (Coming Soon)**

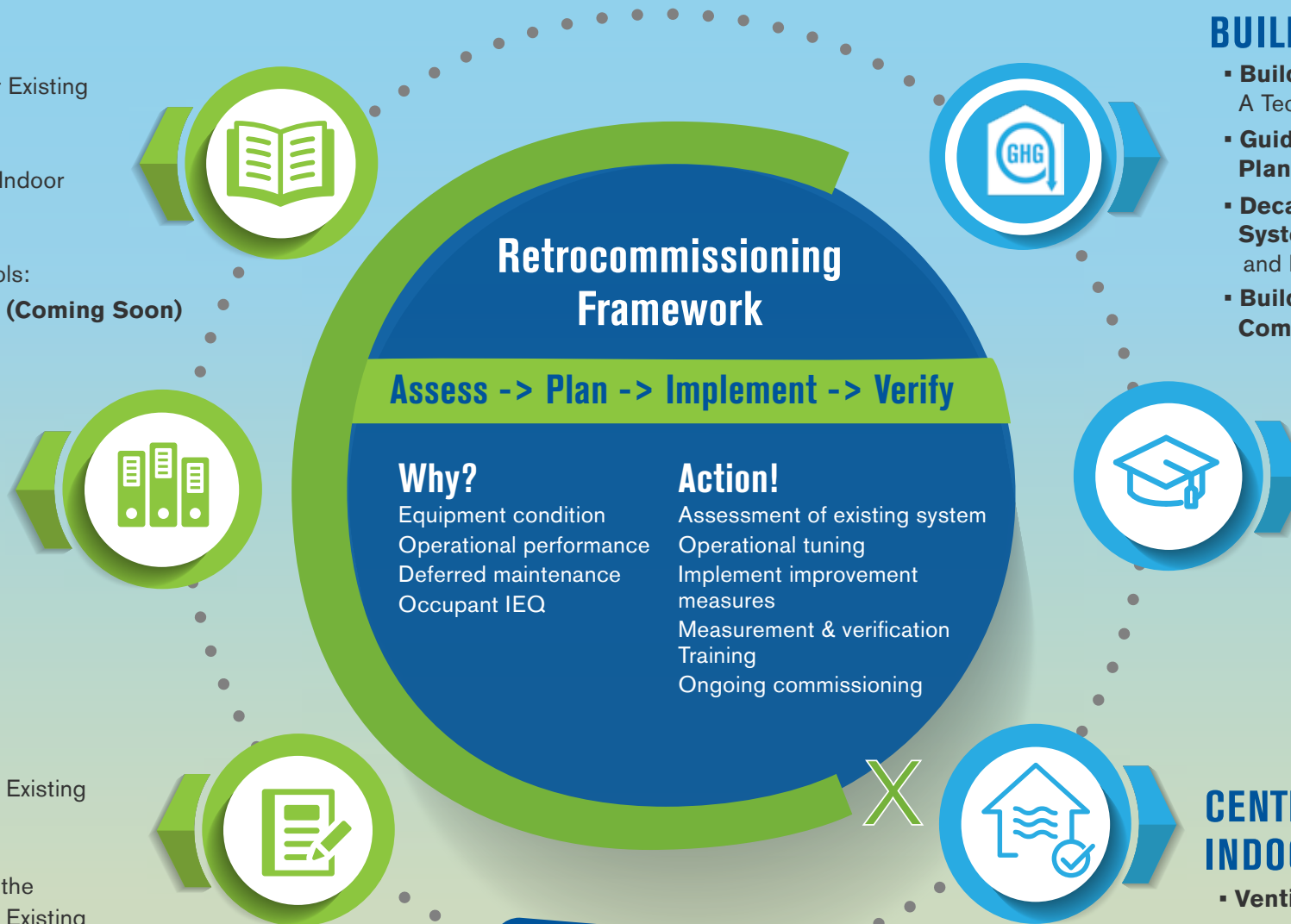
## PUBLICATIONS

- Design guides
- ASHRAE Handbook
- Technical papers
- Retrofit case studies
- Research reports

## GUIDELINES

- **ASHRAE Guideline 0.2** Commissioning Process for Existing Systems and Assemblies
- **ASHRAE Guideline 1.2** Technical Requirements for the Commissioning Process for Existing HVAC&R Systems and Assemblies
- **ASHRAE Guideline 1.3** Building Operations and Maintenance Training for the HVAC&R Commissioning Process

*Before you decide where you're going, you have to know where you are.*



## CENTER OF EXCELLENCE FOR BUILDING DECARBONIZATION

- **Building Performance Standards:** A Technical Reference Guide
- **Guide to Strategic Decarbonization Planning**
- **Decarbonizing Building Thermal Systems:** A Guide for Applying Heat Pumps and Beyond
- **Building Decarbonization Retrofits for Commercial and Multifamily Buildings**

## TRAINING & EDUCATION

- ASHRAE Learning Institute  
Technical Courses
- eLearning on demand
- Operator training
- Certification



## CENTER OF EXCELLENCE FOR INDOOR ENVIRONMENTAL QUALITY

- Ventilation and IAQ
- Thermal comfort
- Acoustics and Vibration
- Water
- Lighting

**Play the Game:  
ASHRAE HVAC Hero**



**WHY RETROFIT EXISTING BUILDINGS?** 80% of the buildings that will exist in 2050, already exist today!