



# MEP 2040 COMPANY PLAN



REAL **COLLABORATION**  
REAL **PERFORMANCE**  
REAL **INSPIRATION**



TABLE OF  
**CONTENTS**

FOREWORD ..... 5

    Driven by **PURPOSE** ..... 5

MEP 2040 CHALLENGE..... 6

WHOLE LIFE CARBON..... 9

**NET ZERO OPERATIONAL CARBON** ..... 9

**NET ZERO EMBODIED CARBON**..... 9

**ENVIRONMENTAL PRODUCT DECLARATION** ..... 10

**LOW GWP REFRIGERANTS**..... 10

**BENCHMARKS**..... 10

KNOWLEDGE SHARING ..... 12

ACKNOWLEDGMENTS ..... 15



# FOREWORD

## DRIVEN BY PURPOSE



Human impacts on our planet have never been more evident; we face global challenges on a scale and with an urgency that is unprecedented, calling for swift, collective action. At HEAPY, we are driven by our purpose – to build a sustainable, well, and more resilient society in collaboration with our colleagues, clients, and community. Every day, with every single project, we see opportunities to conserve energy and natural resources, reduce emissions, and to create spaces that inspire future generations and protect our natural ecosystems. Through the built environment, we have the power to change the world and our collective future for the better.

MEP 2040's mission is to radically reduce total carbon emissions associated with building systems through collective action. HEAPY strongly believes in the goals outlined by the MEP 2040 Challenge and is committed to engaging in meaningful, measurable action to ensure these goals are achieved.

### MARK BRUMFIELD

Chief Executive Officer  
Senior Principal  
PE, LEED AP BD+C





# MEP

## 2040 CHALLENGE

In alignment with our purpose, HEAPY has signed the MEP 2040 Challenge which states that:

**MEP 2040**  
Committing to Zero

*All systems engineers shall advocate for and achieve net zero carbon in their projects: operational carbon by 2030 and embodied carbon by 2040.*

### AS PART OF THIS CHALLENGE, HEAPY HAS COMMITTED TO THE FOLLOWING:



**Establish a company plan** to achieve net zero operational carbon by 2030 and embodied carbon by 2040 on design projects. HEAPY will measure and report progress against our plan annually.



**Request low-Global Warming Potential (GWP) refrigerants** when designing systems to reduce or eliminate GHG emissions from refrigerants.



**Request Environmental Product Declarations (EPDs)** in our specifications for all Mechanical, Electrical, and Plumbing components.



**Participate in Quarterly MEP 2040 Forums and Carbon Leadership Forum** community discussion groups to foster collaboration with industry peers.



## HEAPY'S COMMITMENT



Starting in 2025, HEAPY will begin to take a whole life carbon approach on projects towards Net Zero where both operational and embodied carbon reduction strategies are considered together.



*John Glenn Columbus International Airport New Passenger Terminal Iterative Energy Modeling*



# WHOLE LIFE CARBON

## NET ZERO OPERATIONAL CARBON

MEP 2040 requires HEAPY to ensure that by 2030, all projects designed are net zero in operational carbon, where the building is highly energy efficient, does not emit greenhouse gases directly from energy use, and is powered solely by clean energy — a Zero Emissions Building.

To achieve holistic decarbonization, building optimization will be designed in tandem with the building system’s materials efficiency and refrigerant impact, i.e. its embodied carbon emissions. In collaboration with our clients and partners, we will utilize simulation techniques to understand the impacts our design decisions have on operational *and* embodied carbon.

## NET ZERO EMBODIED CARBON

Embodied carbon refers to the greenhouse gas emissions arising from the sourcing, manufacturing, transportation, installation, maintenance, and disposal of building materials. Each piece of equipment and all components we specify on projects have an embodied carbon impact.

To quantify embodied emissions of our MEP systems and components, we will perform life cycle assessments (LCA), the industry methodology for assessing the environmental impacts of a product throughout its life, primarily the Global Warming Potential (GWP) in units of carbon dioxide equivalents (CO<sub>2</sub>e).

*Future-proofing Roper Hospital Medical Campus*





*Ohio University Decarbonization Plan*

**ENVIRONMENTAL PRODUCT DECLARATIONS**

To help quantify our systems’ embodied emissions, we will use Environmental Product Declarations (EPDs), a third-party verified “nutrition label” for the environmental impacts of materials and the CIBSE TM65/ TM65NA calculation methodology when an EPD is unavailable. HEAPY will commit to requesting EPDs for all MEP products and components included in our designs by 2030. These EPDs will be tracked internally to allow for comparisons between products as well as seek embodied carbon reduction strategies in alignment with our MEP 2040 commitment.

**LOW GWP REFRIGERANTS**

Refrigerants are a large source of fugitive emissions, and as part of our commitment to MEP 2040, we will request that all projects use low-GWP refrigerants. We will also encourage systems that are known to have low refrigerant leakage rates.

**BENCHMARKS**

We at HEAPY acknowledge the “time value of carbon” and the urgency to reduce whole life carbon emissions in all of our projects; to this end, we have set forth initial MEP 2040 benchmarks that are in step with global industry decarbonization targets.<sup>1</sup> Beginning in 2025, projects of significant size will have high-level whole life carbon assessments performed and recorded. By 2040, all of our projects will be net zero carbon.

<sup>1</sup> <https://worldgbc.org/advancing-net-zero/whole-life-carbon-vision/>

*Cope Environmental Center Net Zero Living Building Challenge*



# KNOWLEDGE SHARING

## REPORTING

HEAPY will report progress against our benchmarks annually to MEP 2040. Detailed tracking processes will be developed and rolled out internally to ensure that we are calculating and tracking the whole life carbon emissions associated with our designs. We will regularly share lessons learned and strive to improve upon our performance to realize our MEP 2040 goals.

## CONTINUING EDUCATION AND TRAINING

To ensure that we are successful in this challenge, HEAPY is developing an educational program for all design colleagues to provide a deep dive into best practices in net zero carbon building design. Our educational curriculum will focus on the following topics:

- MEP 2040 PLAN
- Life Cycle Assessment and EPDs
- Low GWP Refrigerants and Reduction of Leakage Rates
- Building Performance Simulation
- Building & Fleet Electrification
- Renewable Energy / Distributed Energy Resources
- Smart Building Automation

## CONTRIBUTING TO MEP 2040 PILOT STUDY

Collaboration across the industry is key to advancing radical reductions in whole life carbon emissions. Through participation in the MEP 2040 Pilot Study, HEAPY and fellow signatories have contributed to the creation of a comparable, robust MEP whole life carbon dataset towards best practices in passive and active system design. We invite other MEP design firms to become signatories and knowledge-sharers to help move the industry forward towards meeting this ambitious Challenge.





# ACKNOWLEDGMENTS

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## BUILDING A SUSTAINABLE, WELL, AND MORE RESILIENT SOCIETY

HEAPY is a nationally recognized leader in sustainable and resilient engineering design. Founded in 1945, the corporation plans, designs, and commissions more than \$4 billion annually in total construction costs. Through HEAPY Solutions, we offer comprehensive engineer led design-build construction services.

We keep your project on time and on budget, helping reduce risk and ensure success. We make buildings functional and smart, while honoring the interior design and aesthetics of the spaces where people live and work. We put innovation and creativity at the forefront of every project to bring your vision to life.

### MARKETS:

- Aviation
- Healthcare
- Education
- Corporate / Commercial
- Civic / Federal / Government
- Industrial & Manufacturing
- Life Sciences
- Sports & Athletics
- Cultural Arts
- Public Utilities

### SERVICES:

- Mechanical, Electrical & Plumbing Design
- Building Optimization / Commissioning
- Sustainability & Resiliency
- Engineer Led Design-Build Construction
- Fire Protection & Life Safety Design
- Information & Communication Technology Design
- Financial Consulting
- Lighting Design
- Master Planning
- Facility Condition Assessment

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