

U.S. DEPARTMENT OF
ENERGY

Office of
ENERGY EFFICIENCY &
RENEWABLE ENERGY

Development of Laboratory Test Methods for Low-Cost Indoor Air Quality Sensors

Newport Partners

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Development of Laboratory Test Methods for Low-Cost Indoor Air Quality Sensors



Newport Partners L.L.C.



Home Ventilating Institute

Represents
Industry
Stakeholders

Ventilation and
Indoor Air Quality

Newport Partners

Building Science
and Ventilation
Expertise

Codes and
Standards
Expertise

South Coast Air Quality Management District

Developed Existing
Test Protocols (AQ-
SPEC)

Lab Expertise in
Testing Air Quality
Sensors

Development of Laboratory Test Methods for Low-Cost Indoor Air Quality Sensors

The Problem (The Need/Challenge)

Current Ventilation Approach

- Static Ventilation Design
- Non-responsive to Actual Conditions

Over-ventilation

- Wasted Energy
- Climate-Specific Concerns

Under-ventilation

- Health Concerns
- Lost Opportunity to Deal with Specific Pollutant Concerns

FEM/FRM Research Grade Sensors = \$10,000+

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The Solution

Creation of Industry-Backed Test Methods

Key Component: Test Methods Usable/Repeatable by Multiple Labs

Key Component: Test Methods Broad Enough to Cover Sensors or Sensing Devices

Key Component: Test Methods Cover at Least Two Pollutants

Reliable Low-Cost IAQ Sensors/Sensing Devices Enabling Dynamic Targeted IAQ Solutions (Controlled Ventilation)

Pollutants Considered

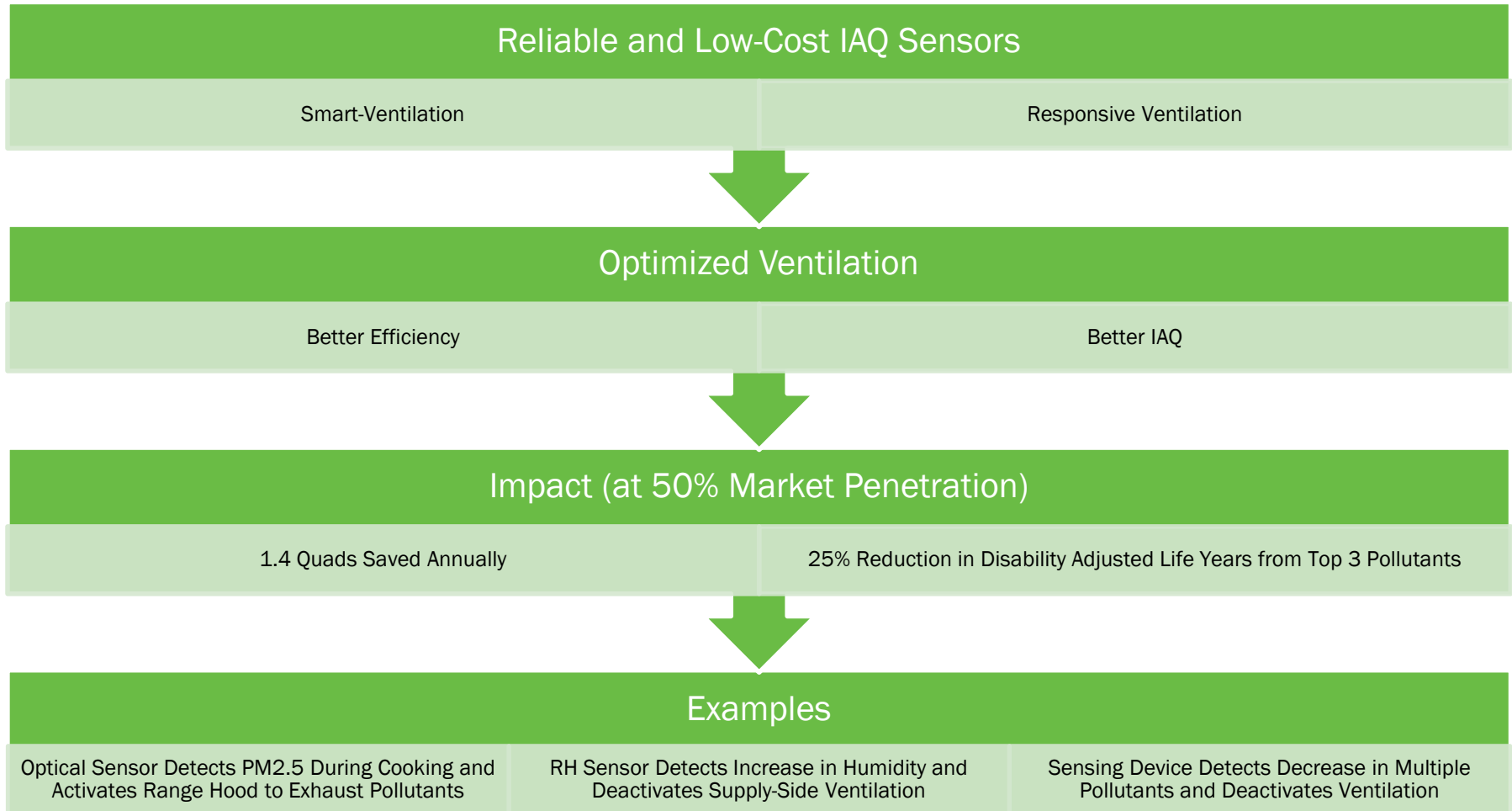
PM2.5, Humidity, NO2

O3, CO, CO2

Final List Determined by Advisory Work Group and Testing Results

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Advantage, Differentiation, and Impact



Thank You

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