

2022 Sustainability Conference  
Embry-Riddle Aeronautical University  
Daytona Beach, FL



# Landscapes are Cornerstones of Sustainability Programs

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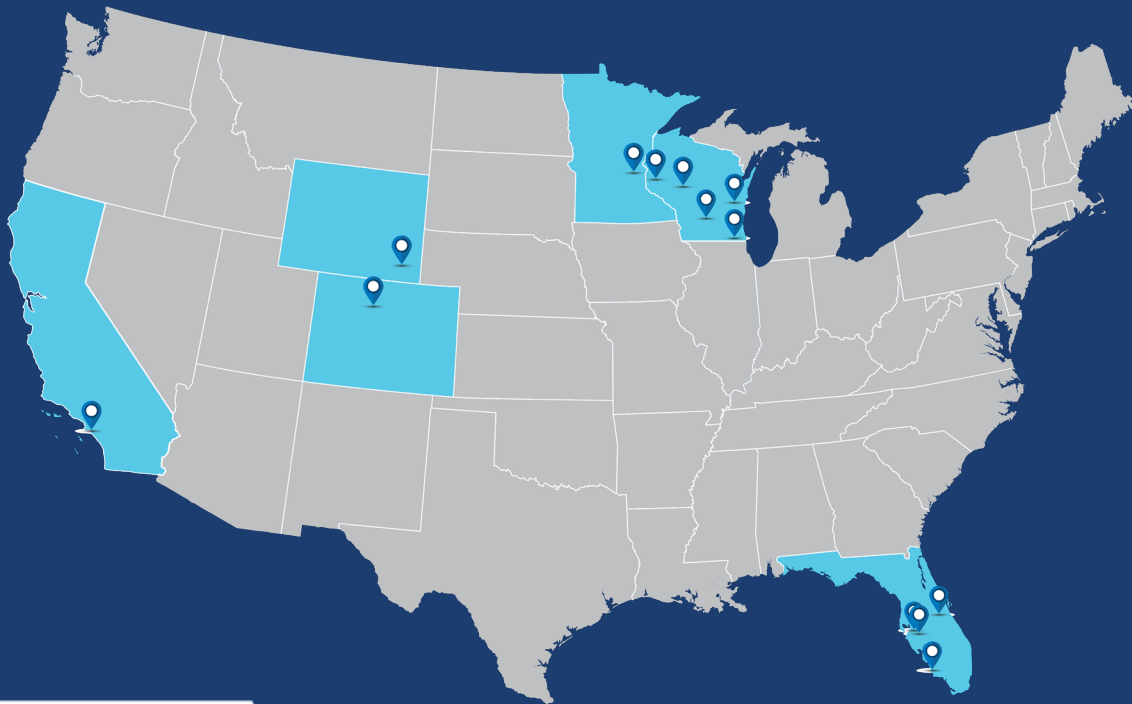
Ingenuity, Integrity,  
and Intelligence.

[www.AyresAssociates.com](http://www.AyresAssociates.com)

# Who we Are

**13** Offices strategically located across the U.S. **350+** Employees

Ingenuity, Integrity, and Intelligence.



**62**  
Years in  
Business

**ENR**  
TOP 500

## DIVERSE SERVICES

- Architecture
- Civil + Municipal Engineering
- Construction Engineering
- Environmental
- Geospatial
- Landscape Architecture
- Mechanical + Electrical + Plumbing
- Planning & Development
- River Engineering + Water Resources
- Roadway Design
- Structural Design & Analysis
- Structural Inspection
- Telecommunications + SUE
- Traffic Engineering
- Transportation Services

# At Our Core

★  
WE PROVIDE  
**Smart,  
Creative  
Solutions**  
**AYRES**  
Est. 1959

★  
WE CONDUCT  
**Business  
WITH  
Integrity**  
**AYRES**  
Est. 1959

★  
WE  
**Challenge,  
Support,  
AND  
Recognize**  
OUR EMPLOYEE OWNERS  
**AYRES**  
Est. 1959

★  
WE WORK WITH  
**Clients As  
Partners**  
**AYRES**  
Est. 1959

★  
WE HAVE  
**Commitment  
TO  
Community**  
**AYRES**  
Est. 1959

# What is the definition of “Sustainable”?

**1:** capable of being sustained

**2a:** of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged

Merriam-Webster Dictionary.com

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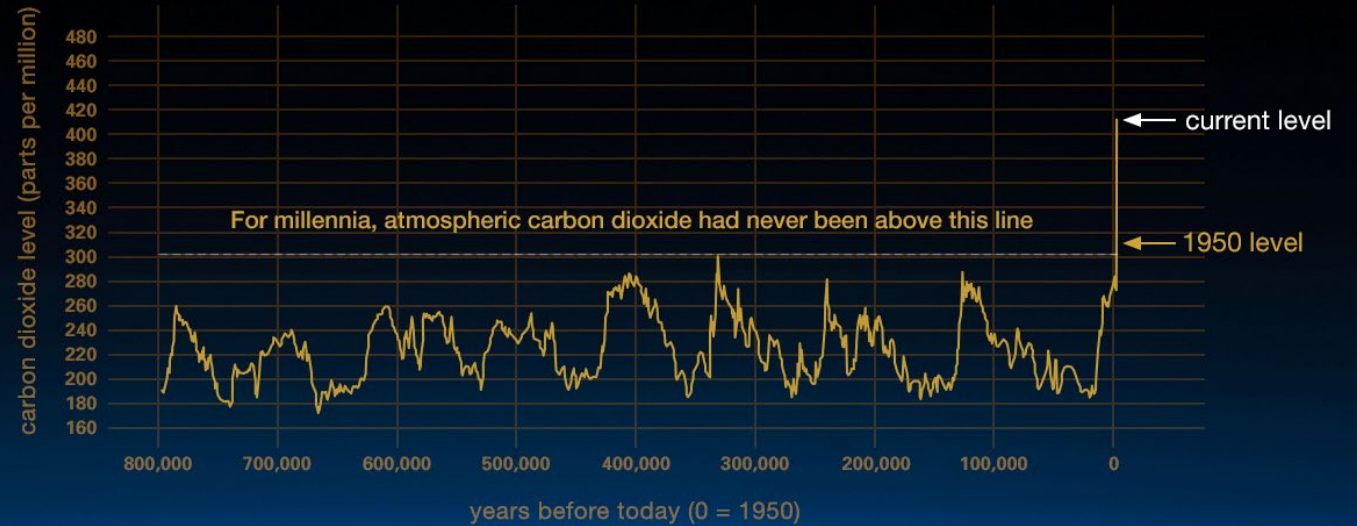
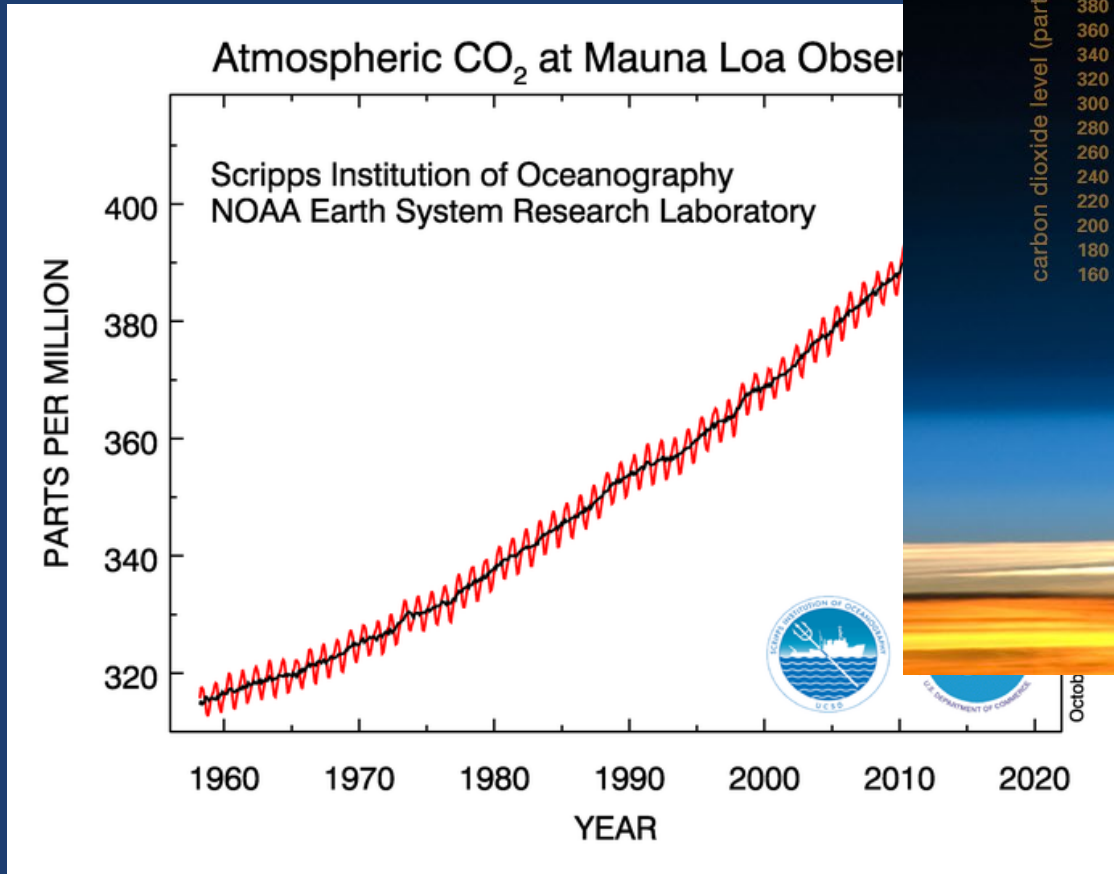
# Why are we talking about “**Sustainability**”?

Intergovernmental Panel on Climate Change (IPCC) report warns of ‘**irreversible**’ impacts of global warming.

Methane, carbon dioxide, nitrous oxides, chlorofluorocarbons

**We must Reduce our Carbon Footprint**

This graph, based on the comparison of atmospheric samples contained in ancient ice cores and more recent direct measurements, provides evidence that atmospheric CO<sub>2</sub> has increased dramatically since the Industrial Revolution compared to paleoclimatologic (past climate) measurements over the past 800,000 years.



Data: Luthi, D., et al. 2008; Etheridge, D.M., et al. 2010; Vostok ice core data/J.R. Petit et al.; NOAA Mauna Loa CO<sub>2</sub> record. Some description adapted from the Scripps CO<sub>2</sub> Program website, "Keeling Curve Lessons."



Unless we are willing to change  
**HOW** we live, we will not be able to  
solve this climate crisis.



Part of the problem



Clearing



Lawn mowers release approx. **30%** of all non-road emissions.

Leaf blowers/vacuums, and trimmers, edgers, brush cutters accounted for **43%** of VOCs and around **50%** of fine PM.

Jamie L Banks, PhD, MS, Quiet Communities, Inc., PO Box 533, Lincoln, MA 01773

Robert McConnell, Environmental Engineer, US Environmental Protection Agency, Region 1, 5 Post Office Square, Boston, MA 02109



Approximately 26.7 million tons  
of pollutants/year



Solar generation was 3% of U.S. electricity in 2020, but is projected to be 20% by 2050.

<https://www.eia.gov/todayinenergy/detail.php?id=50357>





Native plants are better for the environment than grass.



# What are the costs & benefits of this type of landscape?

## Short term costs:

insect treatments, weed treatments, water, energy, mowing costs.

## What is the return on investment?

Potentially adds to equity (short term-individual gain).

**Aesthetics** – how valuable is a polluted environment?

## Long term costs – **detriment to humanity:**

- Pollution
- Low to no appropriate biodiversity
- Exotic plants problems
- Stress on the aquifer
- No Carbon sequestration





No natives – virtually no wildlife

High chemical – dependence



A haven for birds and butterflies

Low chemical dependence







It is not that hard.

We must change how we think about  
the plants we use in our landscapes.

It is that simple. Landscaping is the  
cornerstone of becoming

sustainable

# Questions?

How hard  
can it be to  
use native  
plants?



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