

The background features several abstract elements: a large orange shape on the left with a dashed pattern, a yellow shape at the top left, a series of horizontal orange lines on the top right, a dark brown shape at the bottom right with a white dashed pattern, and a yellow shape at the bottom. The text is centered in a dark brown, serif font.

CLIMATE CHANGE TOPICS!

A quick summary &
some conversations
points

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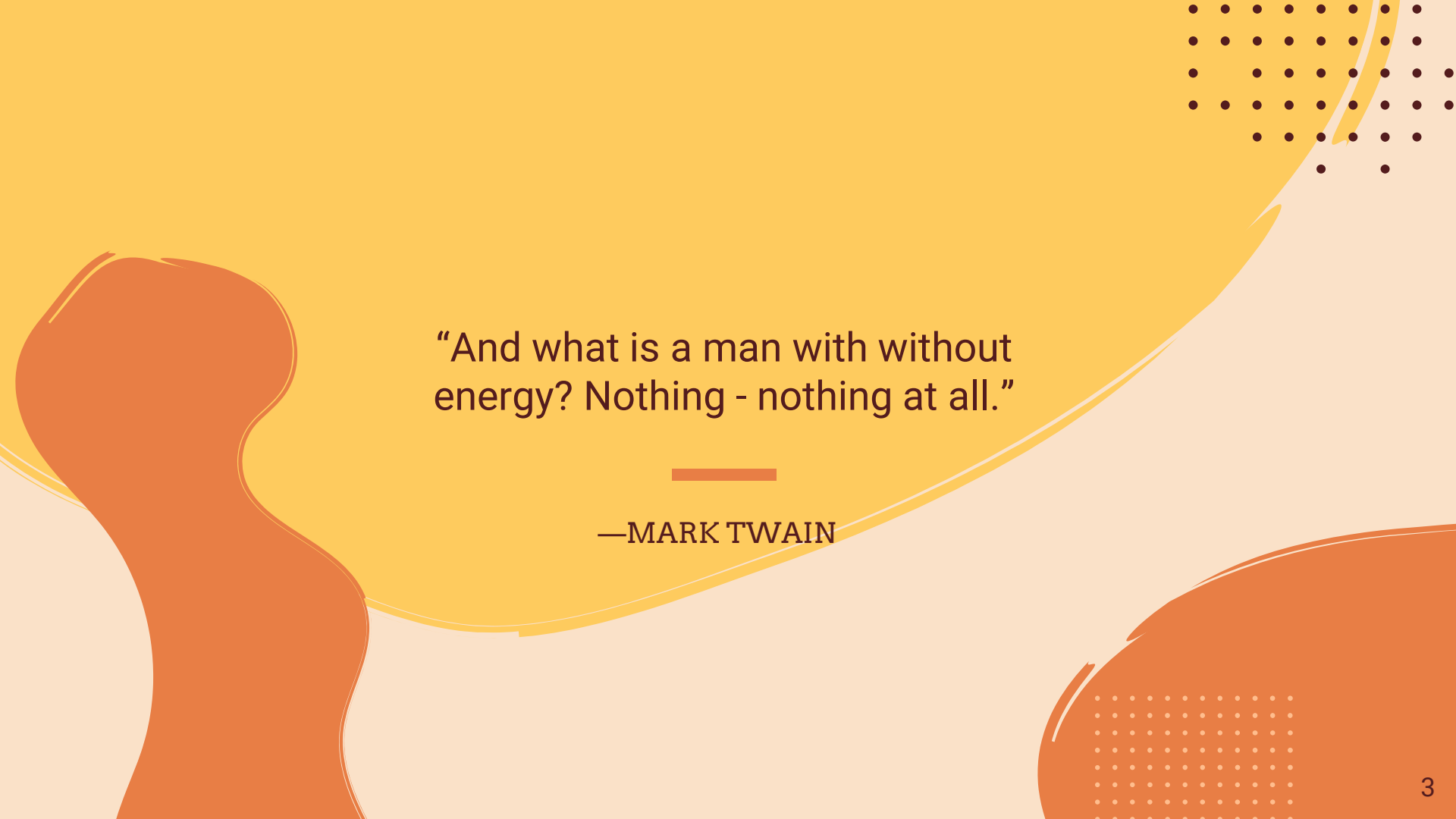
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“And what is a man with without
energy? Nothing - nothing at all.”

—MARK TWAIN



01

HOT TOPICS

New(er) energy sources &
gov't involvement



BIOFUELS



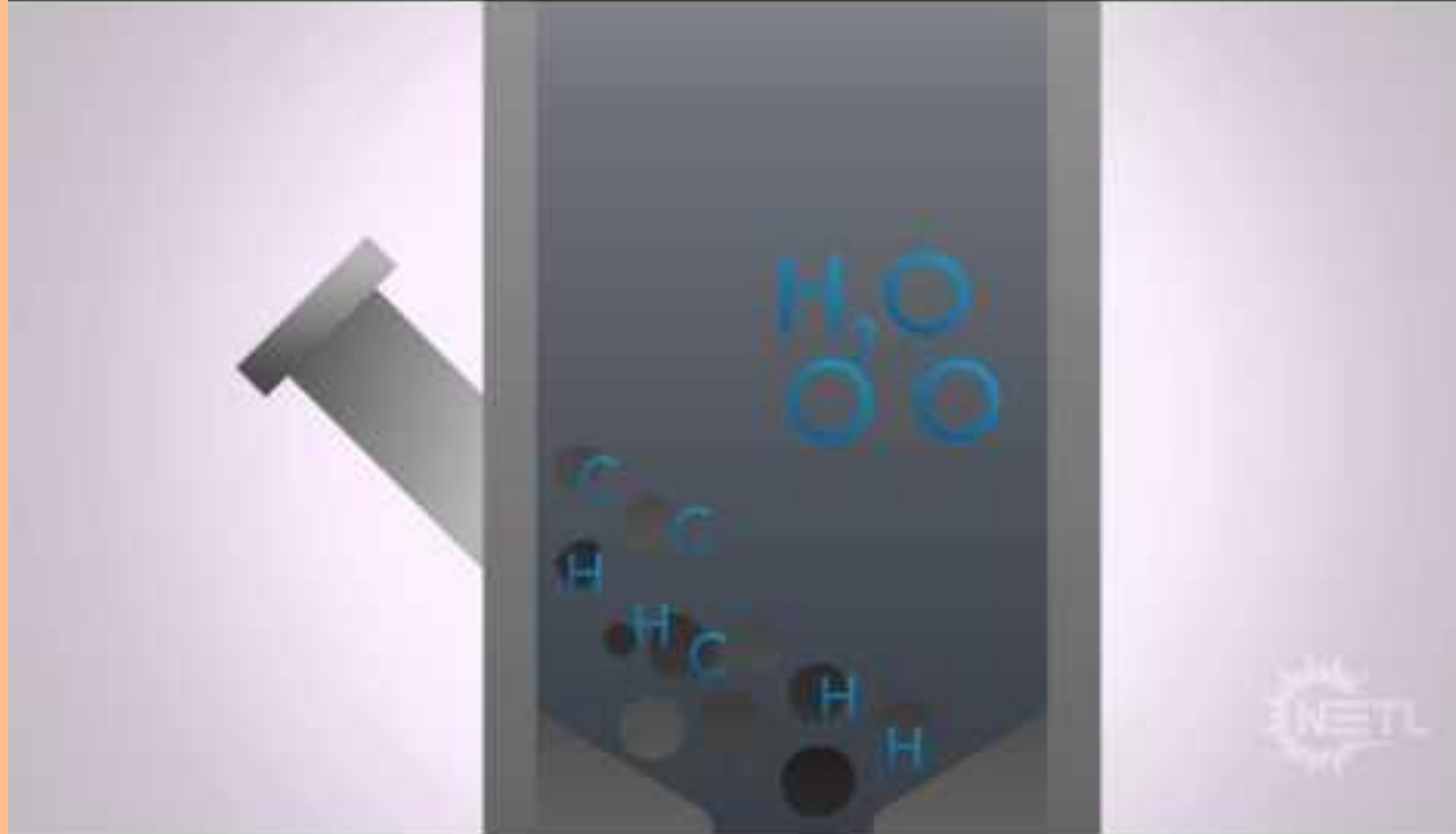
Gov't & Biofuels

The Alternative Fuel Transportation Grant Program, administered by the Ohio Development Services Commission, provides grant & loans to businesses, nonprofits, public schools, and local governments to:

- (1) to purchase and instal alternative fuel refueling or distribution facilities and terminals;**
- (2) to purchase and use alternative fuel;**
- (3) to pay the cost of fleet conversion; and**
- (4) to pay the costs of edl and promotional materials and activities intended for prospective alternative fuel consumers, fuel marketers, and others to increase the availability and use of alternative fuel.**

(Vehicles power by biofuels are exempt from gov't inspection & maintenance programs.)

Coal Gasification

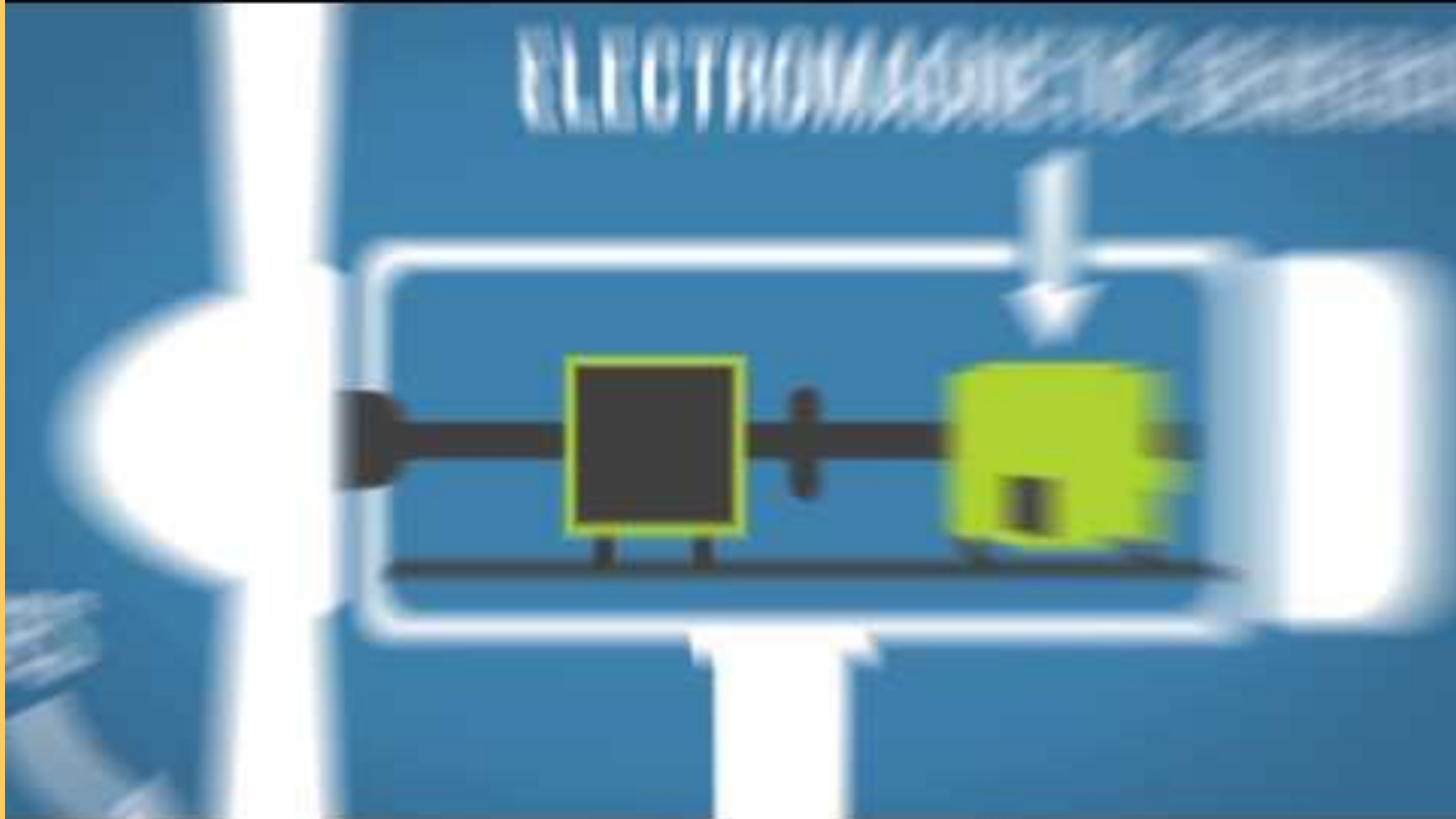


COAL GASIFICATION

Coal gasification, also known as integrated gasification combined cycle (IGCC), is a process where energy from coal is converted into electricity, hydrogen and other energy forms.

The Ohio Development Services Agency, through its Ohio Coal Development Office, approves grants for university-based clean coal research projects. These grants can be used to fund research into clean coal gasification.

- Was “clean coal” a success?
- Should the gov’t back an energy type?



Wind Power

Fun Fact: Why wind turbines
have 3 blades

<https://www.youtube.com/watch?v=RNPIRfxUTQ4>

WIND POWER in the WORLD U.S. and OHIO



Fastest Growing?

The DOE characterizes wind energy as “the fastest-growing energy source in the world.”

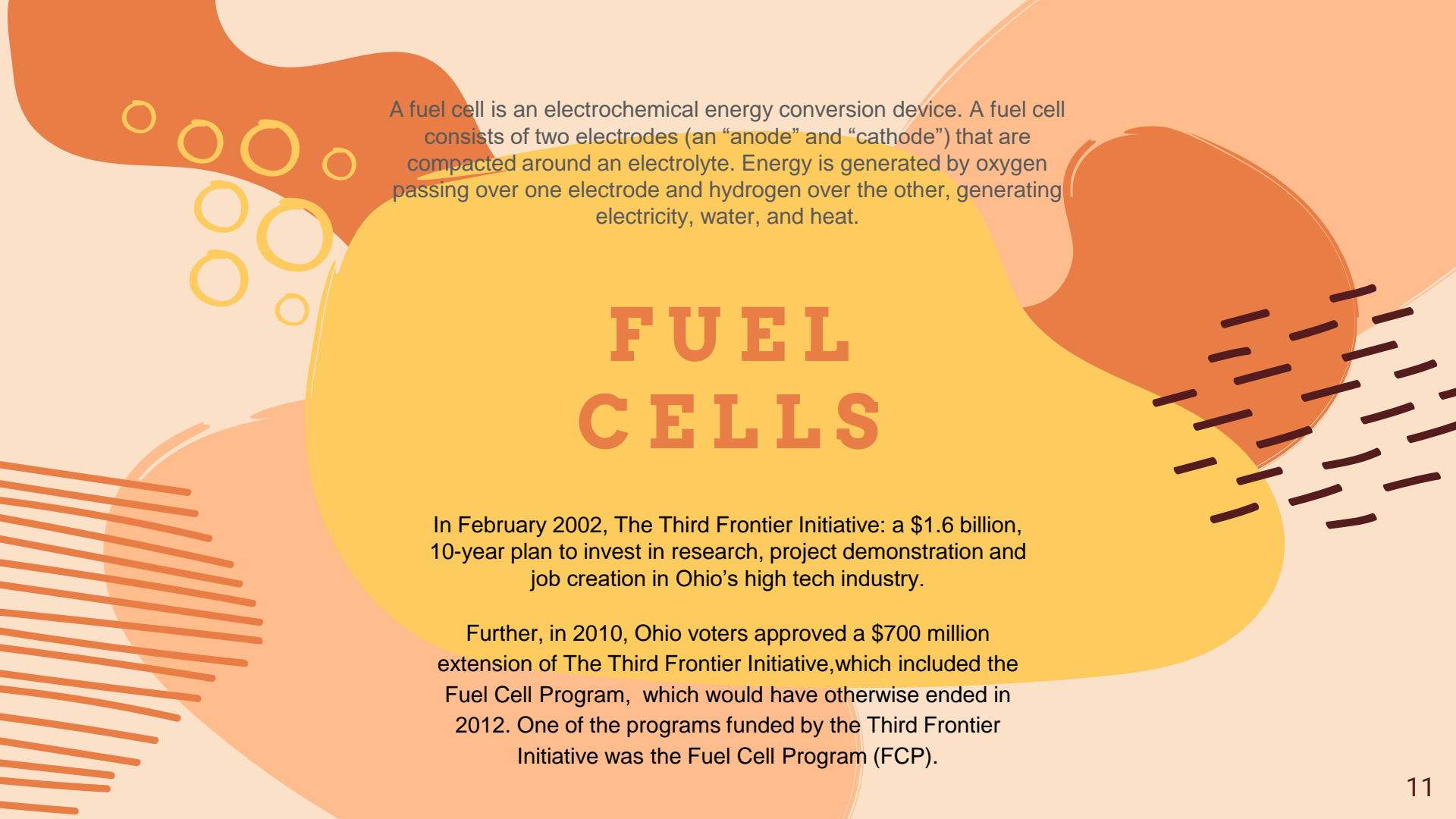
The technology is particularly appealing to the United States because this country has enough wind resources to generate electricity for every home and business in the nation.



Ohio Support

The Ohio Anemometer Loan Program (ALP) allows qualified applicants to borrow all necessary equipment to conduct a wind study, including a temporary meteorological tower, data logger, and instrumentation.

Green Energy Ohio will provide study services, such as site inspection, equipment installation, data validation, and program management at no cost



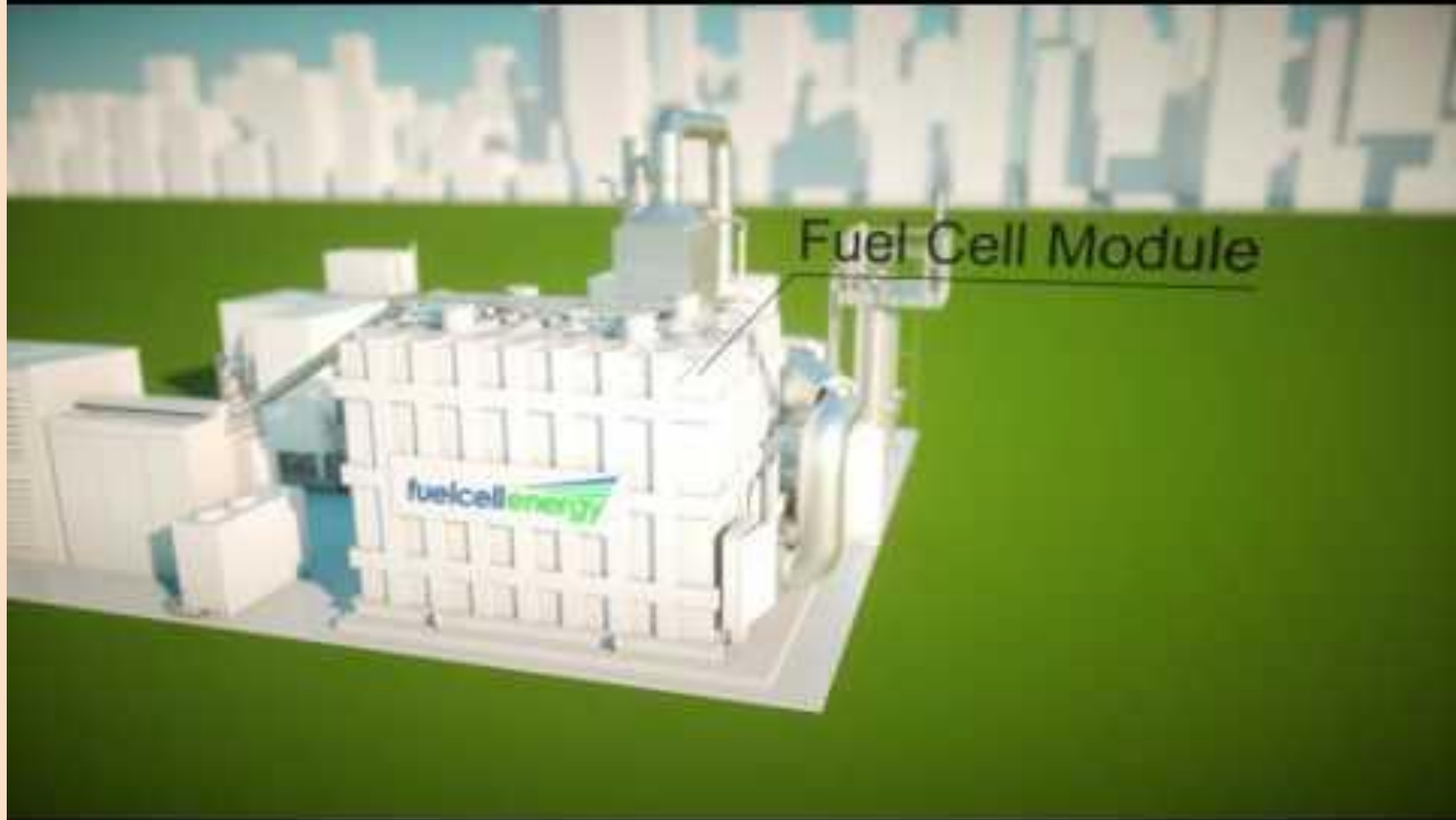
A fuel cell is an electrochemical energy conversion device. A fuel cell consists of two electrodes (an “anode” and “cathode”) that are compacted around an electrolyte. Energy is generated by oxygen passing over one electrode and hydrogen over the other, generating electricity, water, and heat.

FUEL CELLS

In February 2002, The Third Frontier Initiative: a \$1.6 billion, 10-year plan to invest in research, project demonstration and job creation in Ohio’s high tech industry.

Further, in 2010, Ohio voters approved a \$700 million extension of The Third Frontier Initiative, which included the Fuel Cell Program, which would have otherwise ended in 2012. One of the programs funded by the Third Frontier Initiative was the Fuel Cell Program (FCP).

Fuel Cells



Fascinating Demo:
Solar-powered hydrogen
fuel cell fan

[https://www.youtube.com/
watch?v=ViEwD-7nknE](https://www.youtube.com/watch?v=ViEwD-7nknE)

SOLID & HAZARDOUS Waste-To-Energy

The last several decades have seen the transformation of solid & hazardous waste as a problem to be dealt with to a potential energy resource to be exploited.



Energy

is recovered from solid and hazardous waste in at least two ways:



Type 1

Combustion of a solid or hazardous waste as a heat source to generate heat or electricity; and



Type 2

The use of landfill gas to serve the same function.



NUCLEAR ENERGY

CLEAN ENERGY CRISIS





02

CLIMATE CHANGE Initiatives

Introduction to CLIMATE CHANGE



The climate change phenomenon arises from the growing public consensus that the earth is warming. While the debate over the cause(s) of that warming continues, this warming effect has largely been attributed to human activities, such as burning fossil fuels, land use change, and agriculture. While far from resolved, supporters believe that if these contributing activities are not curtailed or altered to reduce their warming effects on the environment, global warming will continue to occur, potentially resulting in flooding, droughts, famines and substantial social disruption.



Action

These concerns have led to a strong movement for the reduction of carbon emissions resulting from the burning of fossil fuels.

Fed regs have been enacted that require the control, monitoring, and reporting of GHGs.

Various Government Actions



Climate
Registry



MidWest
Greenhouse Gas
Reduction
Accord



Ohio Municipal
Climate Change
Initiatives



Federal &
International
Climate Change
Developments I



Federal &
International
Climate Change
Developments II



Federal &
International
Climate Change
Developments III

Education:

BS Geology, Arizona State University; Masters Electrical Engineering, Rice University; Boston University Geology; Northern Arizona University Computer Science; Colorado State University Computer Science; University of New Mexico Geochemistry

Lifelong environmentalist:

I testified at my first Congressional hearing in support of Wilderness in 1972.

I fought for the Clean Air and Water acts

Wilderness Ranger Cibola National Forest, New Mexico

Wilderness Ranger Santa Fe National Forest, New Mexico

Currently battling the City of Boulder, Colorado to stop development on the South Boulder Wetlands

Full time cyclist for all my local transportation, for the past 40 years

Geologist & Electrical Engineer**Teacher:**

Science teacher, Athletic Director and Soccer Coach at Oak Creek Ranch School, Arizona; Math teacher at Phoenix Country Day School; Substitute teacher at Murphy School District, Phoenix Arizona; Computer instructor at Tomball College, Texas

What would his opinions be?

“There are many more projects I haven’t listed here. You will be hard pressed to find anyone with a broader and more successful career in science, education, environment and engineering. I use the same skill set and techniques to analyze climate science claims, as I have used in science/engineering.

Your computer/game consoles work, partly due to my efforts. By contrast, climate science doesn’t work, because it is done largely by dishonest, incompetent hacks who don’t follow or even understand any legitimate methodology.

I don’t receive any funding from anyone, other than small donations to my blog – which work out to about \$5/hour. I hate cars and would love to see 90% of them off the road. I have been hit by cars several times riding my bicycle, and they foul the air with pollution.”



“We (UN-IPCC) redistribute de facto the world’s wealth by climate policy...”

“One has to free oneself from the illusion that international climate policy is environmental policy. This has almost nothing to do with environmental policy anymore...”

-Dr. Ottmar Endenhofer, IPCC co-chair of Working Group 3, November 13, 2010 interview [H1 Dr. Charles Blattig]

Do the
Climate
Data
Support
the
Alarm?