

Climate Change: Understanding - Acting - Adapting



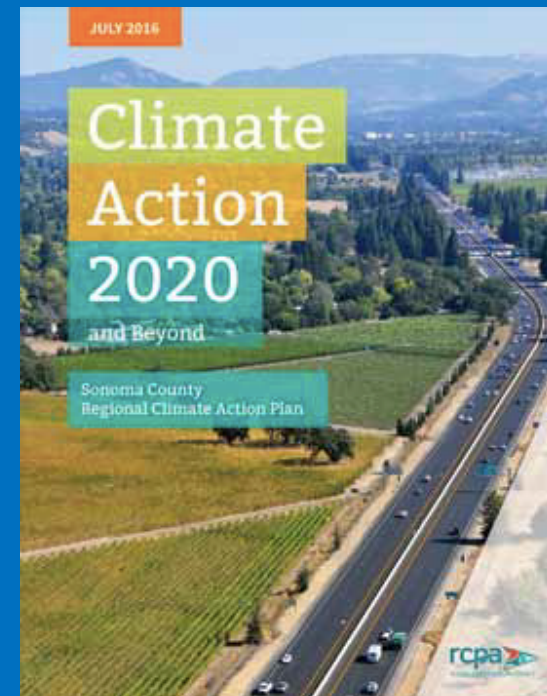
Inter-Tribal Leadership Summit
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Center for Sustainable Communities
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Climate Change is a Serious Threat

Record levels of GHGs destabilize the climate & place natural systems, human health & community well-being at risk.

Such risks include:

higher temperatures, more variable rainfall, flooding, droughts, wildland fires, economic disruption & health concerns - an increasing threat to vulnerable people & future generations.



Cherokee Proverb

When the white man discovered this country Indians were running it. No taxes no debt, women did all the work. White man thought he could improve on a system like this.

(Male perspective!)

Traditional Native American Wisdom

Humankind has not woven the web of life. We are but one thread within it. Whatever we do to the web, we do to ourselves. All things are bound together. All things connect.

Chief Seattle, Duwamish (1780-1866)



Mother Earth: Traditional Wisdom Meets Science

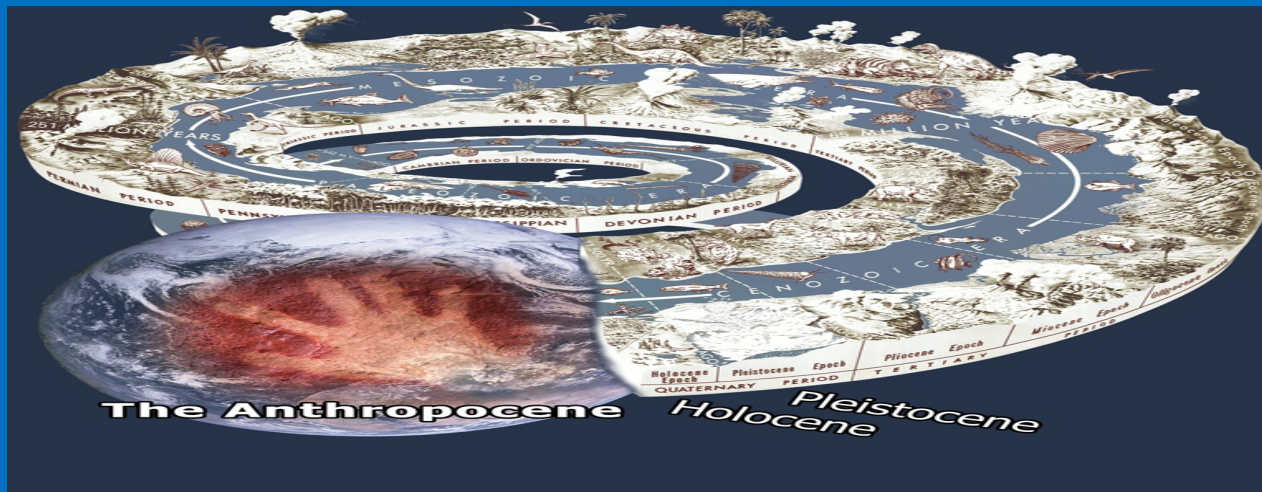
Life is cyclical. We are:

- Connected
- Interdependent
- Diverse
- Complex
- Symbiotic
- Constantly changing
- Seeking equilibrium
- Living in "Gaia"



•Climate Change: Why Now

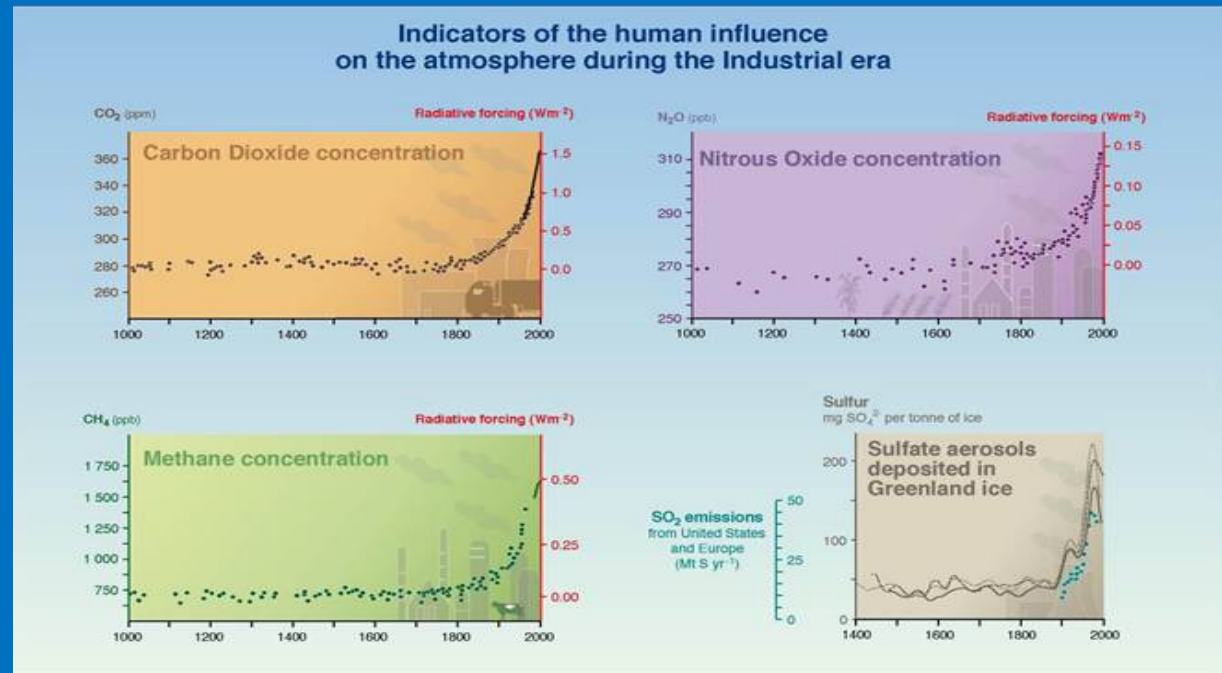
- For millions of years carbon-based organisms were safely deposited underground, in the ocean, forests, soil and living organisms.
- Since 1750 increased combustion of carbon-based fuels resulted in an alarming rise in greenhouse gas levels & a warmer, more unstable climate.



Climate Change: Human Impact on the Atmosphere

In 1750
 CO₂ =
 280 ppm
 Now @ 400+

Around 300
 billion tons
 added since
 19th Century



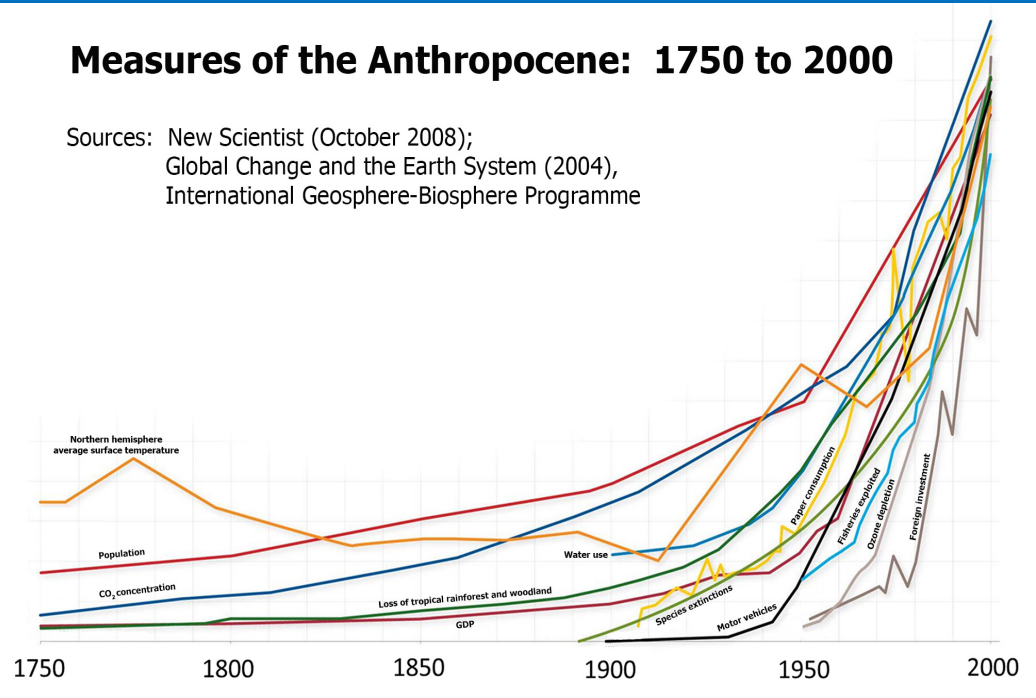


Earth in the “Anthropocene Epoch”

Earth in the “Anthropocene Epoch”

Measures of the Anthropocene: 1750 to 2000

Sources: New Scientist (October 2008);
 Global Change and the Earth System (2004),
 International Geosphere-Biosphere Programme



CO₂ =
 280 ppm

Now
 400+ ppm

Human activity has fundamentally changed our planet, affecting at least 83% of the planet. Our influence has impacted everything from the earth’s atmosphere, oceans and geochemistry.

Samsø Island, Denmark 100% Renewable Energy Generation

Solar - individual arrays

Wind turbines

Biomass - straw used for district heating

Rapeseed - grown and used for biofuel



Transportation and building energy result in around 90% of local greenhouse gases!



Sonoma Countywide emissions have decreased since 1990, largely because technologies have become more efficient & our power supply cleaner.

Transportation = 55%

Building Energy = 34%



CLIMATE ACTION & ADAPTATION:

- ✓ Priority - Use renewably powered electricity, low- carbon fuels & switch to electric & fuel efficient vehicles & equipment.
- ✓ In Sonoma & Marin Counties (+ unincorporated Napa) easy to get 100% renewable electricity from Sonoma Clean Power's "Ever Green" or MCE's Deep Green options.

Recently installed electric vehicle charging stations at Graton Resort & Casino.





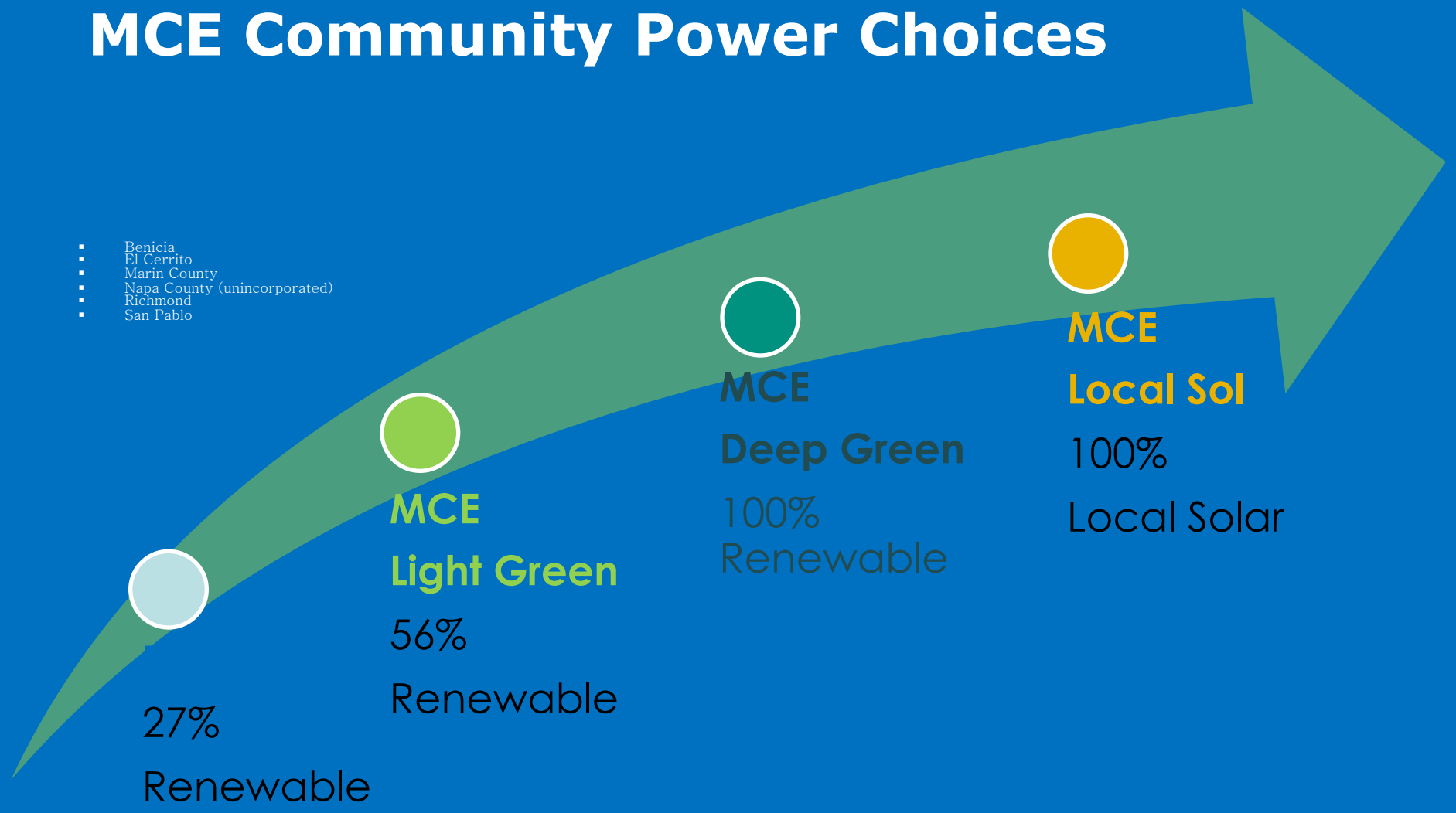
MCE & Sonoma Clean Power

California's 1st Two Community Choice Providers



MCE Community Power Choices

- Benicia
- El Cerrito
- Marin County
- Napa County (unincorporated)
- Richmond
- San Pablo



27%
 Renewable

MCE
 Light Green
 56%
 Renewable

MCE
 Deep Green
 100%
 Renewable

MCE
 Local Sol
 100%
 Local Solar

Upstream Tribal Communities

- ✓ Generate solar, wind energy or small scale hydro
- ✓ Contact PG&E about net metering or selling excess electricity
- ✓ Conduct & implement a home or business energy audit



Water, Wastewater & Waste

- ✓ Consume less water
- ✓ Protect water & use renewable energy to move & process
- ✓ Reduce waste in our use of water, energy and materials
- ✓ Protect & enhance the value of open & working lands.



ADVANCED CLIMATE INITIATIVES



Natural and working lands help stabilize atmospheric carbon. Living systems found in nature, in rangelands and forests help store carbon in soil and vegetation. Preserving and enhancing the biological processes on natural and working lands is needed - and a potential source of cap & trade funds.

Climate Readiness & Adaptation

Get ready for:

Extreme heat
Extreme drought
More wildfires
Warmer winters
Different diseases
Unexpected floods
Higher seas

Adaptation Measures

Traditional & green building
Drought resistant plants, cisterns
Siting, fuel management
Enjoy, above & below
Vector habitat, vaccines
“Think like water”, floodplain &
construction mgmt, elegant retreat

Who Wants to:



- Increase the use of renewable energy & low-carbon fuels
- Switch to fuel-efficient & electric powered vehicles & equipment
- Conduct/enact energy audits
- Reduce nitrogen fertilizers – use sustainable practices
- Protect and enhance the value of open and working lands
- Support your local communities
- Leave a small footprint
- Be prepared for hazards?



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