

**ENVIRONMENTAL FORUM OF MARIN'S "TOWARD A SUSTAINABLE MARIN"
2007 WORKSHOP SERIES**

Members, and their guests, are welcome to attend classes, as visitors, but conditions apply.

Permission from the Director is mandatory prior to attendance.

Please inquire three days minimum prior to class date: Workshop@MarinEFM.org – thank you!

CLEAN ENERGY RESOURCES

Session #3: Saturday, February 24, 2007

Coordinators: Clint Wilder (31), David Weckler (31)

Location: 555 Northgate Dr, San Rafael ("Marin Nonprofit Resource Center" on entrance doors)

Directions: http://cvnl.org/contact_directions.html

OBJECTIVES:

1. Learn about renewable energy sources (e.g., solar, wind, ocean, biofuels, fuel cell, hydrogen and methane digesters, including energy conservation measures), issues surrounding their development and use, and prospects for these technologies and practices to replace fossil fuel sources of energy.
2. Learn how renewable energy sources and fossil fuels are converted to and distributed as our electric power supply, and understand the scope of emissions reduction needed to mitigate global warming and the acidification of our oceans.
3. Discuss current efforts to move Marin County towards reducing its greenhouse gas emissions (e.g., energy conservation measures, Marin's solar and green building programs and Community Choice Aggregation initiative), and learn what other communities are doing.
4. Explore comparisons of energy and emissions efficiencies of internal combustion, pure electric, hybrid-electric, biofuel, hydrogen, and fuel cell engines used in the automobile and other transport modes.
5. Explore and discuss how individual energy choices and actions, along with community action, NGOs (non-governmental organizations), government policy, corporate decisions, and investors can combine to ultimately bring about a renewable energy economy (e.g., energy conservation measures, personal transportation, support of local CCA, carbon emissions caps and trading schemes, insurance requirements, investments in clean technology).
6. Learn about the clean energy/clean technology investment choices and policies that individuals, investment companies, governments, large corporations, and others can and are making to create a clean energy economy.

SPEAKERS:

Donald Aitken	Principal, Donald Aitken Associates; Senior Consulting Scientist, Union of Concerned Scientists, <i>Architect of Sustainability and Renewable Energy Policy</i>
Clint Wilder	Contributing Editor, Clean Edge, Inc.
Dawn Weisz	Sustainability Planner, Sustainability Team, Marin County Community Development Agency
Luke Tonachel	Vehicles Policy Analyst, Natural Resources Defense Council
Ron Gremban	Technology Development Leader, CalCars Initiative

SCHEDULE:

- 8:45 Meet and Greet
- 9:00 Setting the Stage: Existing energy generation, transmission and distribution system, renewable energy generation, accommodation of renewable energy sources into existing energy infrastructure, comparison of greenhouse gas (GHG) emissions from various energy sources, humanitarian and economic effects of climate change, GHG reductions needed to stem global warming, near term decisions on energy infrastructure. (Donald Aitken)
- 10:45 Break
- 11:00 Clean energy technologies now or soon to be online, economics of renewable energy sources, role of government policy in clean energy development, clean tech investment topography. (Clint Wilder)
- 11:45 Lunch
- 12:15 Good News and Challenges: The Status of Clean Energy in Marin, and an update on Community Choice Aggregation (Dawn Weisz)

- 1:00 Clean Transportation: The Outlook for Hybrids, Plug-in Hybrids, Flex-Fuel Vehicles, Low-Carbon Fuels, and other Clean Energy Vehicles (Luke Tonachel)
- 1:45 Wrap-up
- 2:00 Adjourn/Optional: Plug-in hybrid test drives (Ron Gremban)

RESOURCES:

Articles by Dr. Donald Aitken:

“The Renewable Energy Transition: Can It Really Happen?”
in: Solar Today, January-February 2005,
http://www.solartoday.org/2005/jan_feb05/RE_transition.htm

“The Climate Stabilization Challenge: Can Renewable Energy Sources Meet the Target?”
By Donald Aitken, Lynn L. Billman and Stanley R. Bull
Renewable Energy World, November-December (12 pages)
<http://www.solarcatalyst.com/solarcircle/AitkenBull-REW.pdf>
<http://www.renewable-energy-world.org>

Clean Energy Trends 2006, Clean Edge report available for free download at
<http://www.cleandedge.com/reports-trends2005.php>

To get a sense of current national and global clean energy developments: CE News section of Clean Edge web site,
<http://www.cleandedge.com>

The Marin County sustainability website <http://www.marinsustainability.org>

Marin Solar Program web site, <http://www.marinsolar.org>

CalCars Initiative, <http://www.calcars.org>

Latest news and info on hybrid and other clean cars: <http://www.hybridcars.com>, <http://www.greencarcongress.com>

SPEAKERS' BIOGRAPHIES:

Donald W. Aitken, Ph.D.

Dr. Donald Aitken is currently principal of his own consulting company, Donald Aitken Associates; Affiliate Faculty Member at the Frank Lloyd Wright School of Architecture; and Senior Consulting Scientist for the Energy Department of the Union of Concerned Scientists. Previously he has been a staff research physicist and astrophysicist at Stanford University; founder and Chairman of the Department of Environmental Studies at San Jose State University; Executive Director of the Western Regional Solar Energy Center for the U.S. Department of Energy; and Senior Staff Scientist for Renewable Energy with the Union of Concerned Scientists. He has over 100 publications in these various fields. Dr. Aitken has twice served as national Chairman of the American Solar Energy Society, has twice directed the national solar energy conferences, and was the Technical Chair of the National Passive Solar Conference for 2002, in Reno. He is the former Vice President, and currently the Secretary, of the International Solar Energy Society.

Dr. Aitken's work with the Union of Concerned Scientists carried on his earlier Department of Energy policy work, with a dual emphasis on the use of renewable energy in the electric utility sector and in architecture. Dr. Aitken has used his architectural background to put this into practice over the last 20 years in his pioneering building designs, including Department of Energy's first solar-heated and daylit office in 1980, and, more recently, the national headquarters building for the Union of Concerned Scientists, located on Harvard Square, and Nevada's first grid-connected solar-electric tract home, located in Gardnerville, Nevada.

Dr. Aitken is a sought-after architectural and policy consultant, energy policy lecturer and professional architectural and engineering workshop leader, and has carried out these activities throughout the United States, as well as in Japan, Germany, Switzerland, Sweden, Finland, Denmark, Cyprus, Israel, India, Africa, Mexico, and three of the Republics of the former Soviet Union. In 1997 Dr. Aitken was awarded the American Solar Energy Society's highest honor for lifetime

service to solar energy, the Abbot Award. In 2000 he was one of the World Solar Award recipients at the World Solar Energy Congress in England.

CLINT WILDER

Clint is contributing editor at Clean Edge, a research and strategy firm focused on the business of renewable energy and other clean technologies. He has written the monthly *CE Views* column on the CleanEdge.com web site, co-authors the firm's annual Clean Energy Trends Report, and researches and writes custom reports for Clean Edge clients in industry, finance, government and the NGO sector.

Wilder and Clean Edge co-founder and principal Ron Pernick are currently writing the book *The Clean Tech Revolution: The Next Big Growth and Investment Opportunity*, to be published by Harper Collins in the Spring of 2007.

Wilder joined Clean Edge in 2002 after 17 years as an award-winning business and technology journalist. Wilder covered the high tech and Internet industries for Information Week, Computerworld, and Corporate Computing magazines. He won the 2001 American Society of Business Press Editors award for best feature series.

In the Marin environmental community, Wilder is a member of the executive committee of the Sierra Club Marin Group and co-chair of its energy committee. He recently joined a task force to advise the county's community development agency on revisions to its wind energy codes. A 2004 graduate of the Environmental Forum of Marin, he also leads nature hikes for elementary school students as a Terwilliger Wildcare nature guide.

Wilder holds a B.A. in history from Yale University. An avid reader, hiker, traveler, and baseball fan, he lives in Sausalito with his wife, artist Ellie Barrett Wilder.

DAWN WEISZ

Dawn is a planner with the Marin County Community Development Agency and the coordinator of CDA's Sustainability Team. She oversees sustainability programs including a solar, green building and green business program, as well as projects addressing energy efficiency and tracking internal county operations. She is closely involved in the update of the Marin Countywide Plan, particularly as it relates to sustainability, indicators and implementation.

Before beginning her work for the County in 2000, Dawn was the Director of Sustainable North Bay, where she planned and coordinated community-driven efforts for sustainability. Her past work experience includes directing various nonprofit organizations working on affordable housing, environmental justice, social justice and environmental protection. Dawn received her B.A. from the University of North Carolina, Greensboro, and her M.A. from UCLA, concentrating in Public Policy and Community Organizing.

LUKE TONACHEL

Luke is a policy analyst in NRDC's vehicles program. His work centers around reducing U.S. oil dependence through policies that promote advanced vehicle technologies and cleaner, more sustainable fuels. Prior to joining NRDC, Luke directed product development at a San Francisco software company and served as a nuclear engineering officer in the Navy. He holds a master's in public policy from the University of California at Berkeley and a bachelor's degree in mechanical engineering from the University of Rochester.

RON GREMBAN

Ron is technology development lead for the California Cars Initiative or CalCars, a group of entrepreneurs, environmentalists, engineers and other citizens working to spur adoption of efficient, non-polluting automotive technologies. CalCars is particular focused on the development of plug-in hybrid electric vehicles, which can achieve more than 100 miles per gallon. Ron, a Marin resident, is moderator of the PRIUS+ Plug-In Hybrid Conversion Group, and electrical and software engineer involved in sales of solar energy systems, has long experience with electric cars -- he helped design and drive the Caltech entry in the transcontinental 1968 Great Electric Car Race.