

NATION



ENERGY *Third Industrial Revolution*

Freeing U.S. from grip of fossil fuels

Michael Macor / The Chronicle

By Woodrow Clark and Grant Cooke

America must reduce its dependence on fossil fuels, reverse the pace of environmental degradation and embrace the reality of renewable energy generation on smart grids.

We must grab the lead of the "Third Industrial Revolution," as Jeremy Rifkin called it, to create sustainable, agile communities that are energy independent and carbon neutral.

The Iraq war is winding down. Over \$1 trillion and 4,346 dead American military personnel later, are we ready to tighten down the fossil fuel spigot and reduce our economic dependence on Middle East oil? Are we finally ready to admit that we've been careless, if not wasteful with our own natural resources and pigheaded in our indulgence of fossil fuels? Time is passing while Europe and Asia have been developing sustainable, energy-independent communities for two decades. China is embarking on a large-scale effort, which will make it the No. 1 global economy in a decade or two.

We must create a local, state and national energy

policy that makes sense, and we must move rapidly from the Second Industrial Revolution, which dominated the 20th century and was fossil-fuel dependent, to the Third Industrial Revolution, which is focused on making renewable energy to power "smarter" local communities of the 21st and into the 22nd century.

America was the world leader in innovation and entrepreneurship, creating the recent advances in computerization and information technology. Now, that distinction as global innovator is challenged as the world sees new leadership in the battle to stop global warming and reverse climate change.

As soon as possible, we need to give up our social and governmental support of fossil fuels as America's prime energy generators and embrace renewable energy for healthier, sustainable communities. We must develop national policies as well as increased federal support and tax incentives to leapfrog our environmental and energy mistakes as other nations are doing.

Fortunately, some in America are taking the first step. Look at California, where the world's largest energy-efficiency program is being implemented. The state is taxing the utilities' ratepayers and pushing that money back into making business and facilities

conserve energy and become more efficient. California is putting more than \$3 billion into the 2010-12 energy efficiency cycle. The goal is to conserve the equivalent of nine power plants by 2020.

New York is also beginning an energy-efficiency program, emulating California. While energy efficiency is an important first step, complete energy independence is within our technological grasp. We are on the third generation of renewable technologies, which are now lighter, thinner, stronger and cheaper. Wind, geothermal, ocean and solar power, coupled with highly efficient storage devices, smart grids and local distribution systems are coming together. We need to couple these technologies with carbon-neutral, sustainable communities.

America has the know-how and the potential, what is lacking is the leadership and financing to make that commitment.

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