

EARTH DAY: TOO LITTLE, TOO LATE?

Ellen Mackey circles the paradise of drought-tolerant plants edging her model eco-home and pauses before its electric meter, triumphant.

Its wheel is turning backward — her 36 rooftop solar panels injecting juice back into the city's power grid.

"I use so little electricity the DWP [Department of Water and Power] tells me I'm one of their worst customers," said Mackey, 57, of Sun Valley, California. "If every LA homeowner set up solar ... we could severely limit our use of electricity, reduce fossil fuels, limit global warming and stop giving money to people who hate us."

Back on April 22, 1970, the ecologist had joined 20 million Americans in a grass-roots call for environmental action they named Earth Day. They were angry that acid rain fell in the East, rivers burned in the Midwest, and Los Angeles choked beneath a thick brown blanket of smog.

Mackey joined a projected 1 billion people around the world yesterday for an Earth Day rally to safeguard Mother Earth.

Nearly 40 years after the first widespread call for environmental protection helped spawn a tangle of regulations against pollution, the air looks cleaner, the waters appear bluer and the roads seem to draw less litter.

But despite such gains — and a global consciousness gone green — many scientists say the planet is in jeopardy. Oceans are sick. Forests are clear-cut. And plant and animal species face extinction from climate change and a critical loss of habitat.

"We all agree that we're in much worse shape than in 1970," said Kathleen Rogers, president of the Earth Day Network, the group that organized Earth Day.

"We've cleaned up the stuff we can see. But it's the stuff we can't see — particulates in the air, toxins, the impact of persistent organic pollutants that turn male fish into female fish — that are more prevalent.

"We have a major battle ahead of us."

'ONE PERSON AT A TIME'

Earth Day festivals in the San Fernando Valley at the weekend featured attractions from yogis to zero-emissions cars.

But can individual contributions like curbside recycling, canvas shopping bags or native plants help avert a pending environmental cataclysm?

"It takes one person at a time," said Stephanie Lallouz, producer of the Topanga Earth Day Festival. "It's an awakening."

Flashback to 1970.

Protests against the Vietnam War spilled over to outrage about industrial pollution: Oil that fouled Santa Barbara beaches. Bald eagles threatened by DDT. The Cuyahoga River in Cleveland again aflame.

In response, US Senator Gaylord Nelson proposed Earth Day, the first nationwide environmental protest. A modern green movement was born.

"It sounds as if the land has gone mad, and in a way some of it has — mad at man's treatment of his environment," said *Life* magazine following the first Earth Day event.

The green-flag event helped launch the Environmental Protection Agency and passage of the Clean Air, Clean Water and Endangered Species acts.

Since then, the smog alert has largely vanished from

Los Angeles.

But environmental action did not, necessarily, make for an entirely healthier environment.

Global warming, habitat loss and hunting put one out of four mammals — including the Tasmanian devil — at risk of extinction by the end of this century, according to a 2008 report by the International Union for Conservation of Nature.

In addition, overfishing and acidification of the seas threaten coral reefs and marine species such as the Chinook salmon. Dead zones now lurk off the West Coast.

"In many ways, things have gotten better, in many ways, they've gotten worse," said Ashwani Vasishth, professor of urban planning at California State University, Northridge, and founder of the year-old Institute for Sustainability.

While Southern California's air is visibly cleaner, with fewer extremely smoggy days, Vasishth said that overall particulate levels have increased.

"What we call pollution is shifting," he said. "How we measure harm to the environment is changing. We're better informed. We're more aware of our risks."

"If there's one thing we need to be concerned about, it's climate change. We're running out of water, we're

running out of arable fertile land, of topsoil, we're running out of carrying capacity of our oceans. We've been losing species at an accelerated rate."

In 1970, the Earth was home to 3.7 billion people; today, there are 6.7 billion, an 80 percent increase. In the same period, the US population grew from 205 million to 306 million, while California's population nearly doubled to 40 million.

Meanwhile, climate change has boosted the average Earth temperature by 0.7° C, enough to melt polar ice caps and raise the sea level 7.6cm.

Carbon dioxide, a greenhouse gas blamed for global warming, has increased 18 percent. The impact of climate change, according to federal environmental regulators, ranges from drought to floods to more intense storms, in addition to harming water resources, agriculture, wildlife and ecosystems.

"It's the population, it's killing us," said Bill Patzert, a research oceanographer at NASA's Pasadena-based Jet Propulsion Laboratory, who for a decade has lectured on the dangers of climate change. "We're worse off than we were before."

"The bottom line is that, in spite of all the good intentions of Earth Day — and all the do-gooders like me — we've dug ourselves into a deeper hole than we

were in 40 years ago."

Rogers, of Earth Day Network, says it's incumbent upon the environmental and corporate communities to invest in green technology.

"We all need to become political," she said. "I believe in volunteerism, but 99 percent of Earth Day is civic action, it's public policy. It's getting out there and telling other people in charge, 'We're not going to put up with it any more.'"

"Because of climate change, we don't have the luxury of sitting around anymore as citizens and waiting for something to happen."

NOT A MOMENT TOO SOON

Mackey and her daughter, Alexia, weren't about to wait before transforming their 1950s tract house into a model eco-home.

Ellen Mackey was 19 when she demonstrated in the 1970 Earth Day in Haverhill, Massachusetts.

"We didn't know what to do," she said. "So we picked up trash. We talked about whales. About clean water. Clean air. Pollution. Healthy issues."

"We wanted to change the world, to make a difference. I guess I never grew up. I still believe that one person can make a difference — that I, and my daughter, can make a difference."

Mackey, now a senior ecologist for the Metropolitan Water District, has co-authored a book on Southern California's native plant gardens. She's also a past president of the Theodore Payne Foundation of Sun Valley and the Eco-Home Network of Silver Lake.

When she bought her 1950s home 12 years ago, her first water and electricity bill was US\$238.

That was before she converted the 167m² house on a suburban cul-de-sac to an affordable-energy and water-conservation home.

First came the US\$17,000 solar energy system — funded by a 70 percent rebate from the Department of Water and Power.

Then came US\$10,000 in double-pane windows. Nearly US\$1,700 in insulation in the attic, walls and floor. And a host of personal touches, including a recycled glass-and-granite countertop, composite wood hot tub deck and a needlepoint that reads "Reduce Reuse Repair Recycle."

Outside her home is an extensive low-water garden that includes native flowers like purple sage interspersed with organic foods like tomatoes, blackberries and crook-neck squash.

Today, her highest utility bills are US\$70 for two months of winter heat.

In summer, she employs a swamp cooler, but pays no power bill. When it's 37.7° C outside, it's a temperate 23.8° C inside.

"We have a planetary problem," said Mackey, standing next to a barrel used to catch rainwater. "We need people to know they can do this, on their budget, reducing their consumption of water and electricity."

"It'll make a difference, to the state, to the nation, all the way to the polar bears ... You have to believe you can make a change."

"Or you'd give up."

When the first Earth Day took place in 1970, American environmentalists had good reason to feel guilty

BY DANA BARTHOLOMEW
NY TIMES NEWS SERVICE, LOS ANGELES



[TECHNOLOGY]

Understanding Intel's new technologies

What are the differences between Intel's i7, Core 2 Duo and Core 2 Quad processors, and is it worth shelling out for a computer with the latest chip?

BY JAY DOUGHERTY
DPA, WASHINGTON

Intel's technology leads the way when it comes to PC hardware today. Unfortunately, the company is also good at confusing consumers with its myriad brand names and labels. There's the i7, Viiv, a range of "extreme" processors, as well as the Core 2 Duo and Core 2 Quad. What does it all mean? Read on for some answers.

Q: What's new about the Intel i7 chip, and is it worth paying extra for a computer that has one?
A: The Core i7, as Intel calls it, is the name of Intel's new flagship processor. It succeeds the Core 2 line of processors, which will be phased out.

Core i7 processors are all quad-core chips, meaning that each unit has four processing cores. Among the many new features of the chips are support for high-speed DDR3 memory; a new QuickPath Interconnect interface, which replaces the front side bus interface of previous generations; and "turbo boost" technology, which is a type of built-in overclocking functionality that allows the chips to run faster than their rated speed during times of heavy processing.

The i7 chips also boast some impressive power-saving features, as well. Each of the four

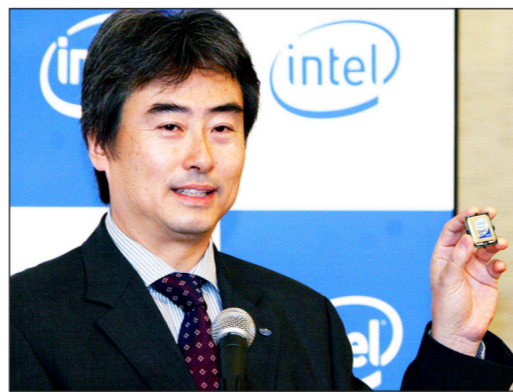
cores can go into a zero-power mode when it's not being used, thus lowering power requirements of the chip and the system as a whole.

Right now the i7 is a desktop-only chip, but you can expect Intel to leverage the power-saving features of the i7 in an upcoming notebook processor.

In terms of price, the i7 does command about a 30 percent premium over previous-generation chips, but entire system prices of machines built around an i7 are roughly in line with mid- to high-end systems that used previous-generation chips.

Are i7 systems worth a price premium? In a word, yes. All other things being equal, i7 systems perform at least 30 percent faster than computers equipped with similarly clocked Core 2 Quad chips. And with an i7 system, you'll have some measure of defense against rapid obsolescence. The new chips use a different socket than the older Core 2 Quad processors do, so processor upgrades down the road with an i7 computer are not out of the question.

Q: What's the difference between Intel's Extreme chips and its standard Quad Core chips?
A: The "extreme" moniker applies to chips in each



Kazumasa Yoshida, president of Intel Japan, holds a Core 2 Quad during a news conference in Tokyo. PHOTO: BLOOMBERG

of Intel's desktop processors lines — Core 2 Duo, Core 2 Quad, and Core i7 — that are geared toward hardware enthusiasts. Accordingly, the "extreme" chips maximize what a processor in each line can do. They offer more on-board memory, or cache, than other processors in the same line, and they communicate with the rest of the computer's components at top speed. Perhaps most importantly

to those who use them, however, extreme processors offer an "unlocked" multiplier, which allows enthusiasts to overclock the chips — or push them beyond their rated speeds — by adjusting timings in the computer's BIOS, or setup program.

Extreme chips also command an extreme price premium over other chips in the same product family. For example, the Intel Core 2 Extreme QX9770, which runs each of its four cores at 3.2 GHz and boasts 12 MB of cache, retails for close to US\$1,500 — just for the chip. Given the rapid pace of change, and obsolescence, in the technology industry, the price premium of extreme processors makes them a questionable value for most people.

Q: What exactly is Intel Viiv? I have a digital video recorder that needs a PC with Intel Viiv to utilize a feature.

A: Viiv is the brand name that Intel chose to describe a combination of technologies that, together, are designed to allow consumers to work more efficiently with multimedia, including high-definition video. Thus, Viiv is geared toward media center PCs or units that can serve in some

capacity as digital video recorders. A specific set of technologies — include dual or quad core chips, high definition audio, and certain Intel chipsets — combine to make a PC worthy of the Viiv logo.

Viiv is a marketing initiative that's on the way out, however. Part of the reason is that many PCs sold today fully meet the specifications that used to be required for Viiv certification. If you have a device that supposedly requires a Viiv-ready PC and your computer is fairly new, try it with your computer anyway. It will probably work.

Q: I'm interested in purchasing a new laptop. Is there a difference between dual core processors and Core 2 Duo processors?

A: There can be. Intel's initial dual core processors were called Core Duo. That brand name gave way to a new generation of chips dubbed Core 2, which come in two varieties: Core 2 Duo and Core 2 Quad. The Core 2 Duo is a dual-core processor, and the Core 2 Quad is a quad-core unit. The "Core 2," then, has no relation to the number of cores on the chips; rather, you can look at it as the brand that denotes the second generation of multi-core processors from Intel.