

# UC Berkeley

## Energy Use in Buildings Enabling Technologies

### Title

Communicating Load Management At Southern California Edison

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# **Communicating Load Management at Southern California Edison**

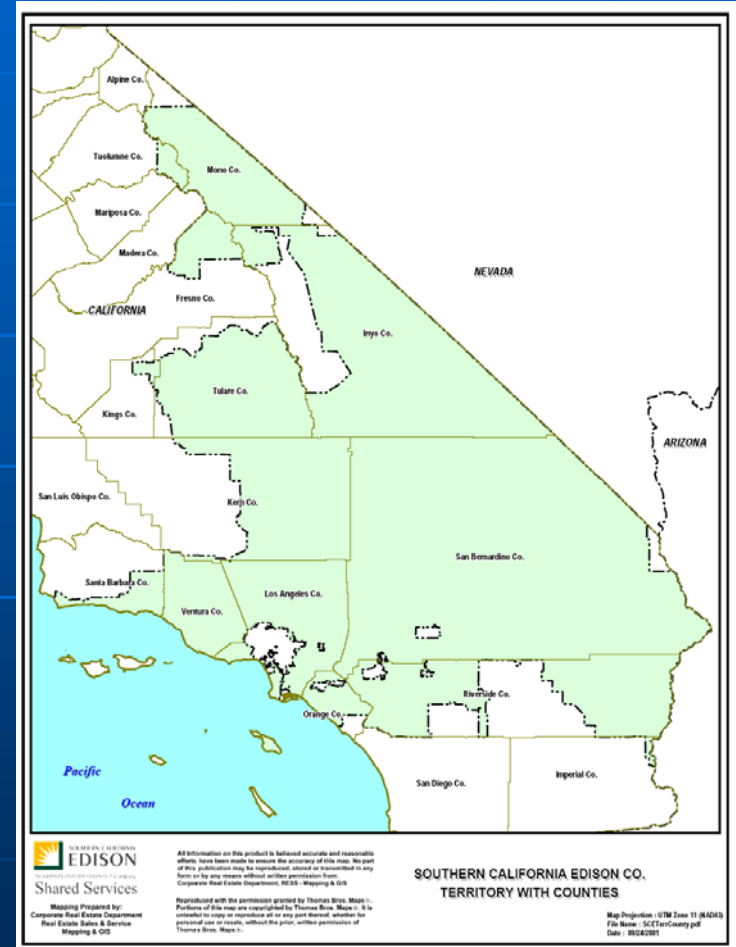
**An Historical Perspective**

**Mark S. Martinez**

# Southern California Edison

## By the Numbers.....

- 120 years old
- 50,000 square miles
- 4.7 million meters
- 13 million people
- 13,500 employees
- 21,100 MW (peak)
- 84.5 million GWh
- Generation mix:
  - Gas – 45%
  - Renewables -- 19%
  - Nuclear – 20%
  - Coal – 13%
  - Other – 1%



# In the beginning...



- **SCE formed from 500 companies**
- **Mostly agricultural economy**
- **Population grew from 33,000 in 1880 to 190,000 by 1890!**
- **Built load by selling electric appliances like ranges and ovens, clothes washers and irons.**
- **Established a higher quality of life -- electricity offered a variety of enhancements.**

# Conservation and Load Management

## We're running short of power.

### Conserving energy is vital.

The demand for electricity in Southern California doubled in the past eight years. Whether we like it or not, it will double again in the years ahead.

Unless Edison is permitted to build additional power plants and transmission lines, it may become necessary to blackout blocks of customers on a rotational basis within two or three years.

Yet permits necessary to build any new major plants have been delayed or blocked for the past four years.

That's an immediate problem. We're working hard to resolve it.

The long-range problem requires finding more ways to conserve energy and to use our nation's total energy resources wisely. That involves all of us.

In Edison's fossil-fueled plants, for example, we're now able to produce 30% more electricity from a unit of fuel than in 1948. That helps.



Demand for electricity here keeps rising every year. Needed new sources of power must be built. Otherwise, blackouts may occur within two or three years.



At the San Onofre Nuclear Power Plant, fuel pellets which contain uranium are used instead of burning fossil fuels. This helps conserve oil and natural gas.

By using higher-voltage transmission lines, we're also able to deliver electricity more efficiently.

To find other energy-saving techniques, we're investing millions researching Geothermal Power, Fuel Cells, Fast Breeder Nuclear Reactors and other advanced generating methods.

We're working with industrial and commercial customers to conserve electricity in offices and factories. Heat from lights, for instance, can be recycled and used for heating systems.

Perhaps you can conserve energy, too. Have you considered ways to make every kilowatt count at home? We'll be happy to send you a list of practical suggestions.

Write:  
Conservation, Edison,  
P.O. Box 800, Rosemead,  
California 91770.

**SCE**  
Southern California Edison  
A Total Corporation Employee

Make every kilowatt count.

- 1972 – adding 200,000 new homes annually
- 1973 OPEC oil embargo – SCE marketed energy conservation
- Conservation/Load Management was way to mitigate building new generation
- “Make Every Kilowatt Count.”

# Selling Conservation

## How to make your electric bill go down with the sun.

Electricity is so widely taken for granted many business users neglect to turn it off when it's not needed. That's costly.

But when people forget, there is a simple mechanism that always remembers. A time clock.

It will automatically turn off your air conditioner at night, on weekends, whenever your operation is shut down. And turn it on again before the start of the next day's business.

It will do the same with your lighting, inside and out. After hours you may want certain lights left on for security. The rest are better left off. Program your time clock, and you needn't depend on the last employee to leave flicking a switch.

Installing a time clock is a minor business expense. The initial, one-time outlay

can be returned many times over in the months ahead through the savings on electricity you may now be using unnecessarily.

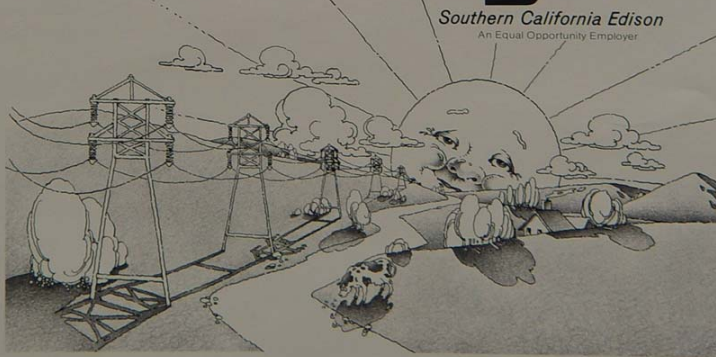
Because energy is in short supply, it's in the national interest to "make every kilowatt count." Your interest, too. The fewer kilowatt hours you use, the more dollar savings you can count on.

If you would like a free estimate of the savings potential of time clocks, call Edison collect at (213) 572-2040 between 8:30 a.m. and 4:30 p.m., Monday through Friday, to arrange a visit at your convenience.

**Give your air conditioner  
some time off.**

**SCE**

Southern California Edison  
An Equal Opportunity Employer



- **SCE was first utility in the US to discontinue promotional advertising and urge energy conservation.**
- **Initial perception that conservation was "shivering in the dark!"**
- **Conservation eventually became a national cause -- people embraced the challenge.**
- **SCE programs were considered the most effective in the country.**



# What's Load Management?

**GIVE YOUR APPLIANCES  
THE AFTERNOON OFF.**



Most of the electricity we generate is needed by factories, farms and offices—so people can make a living. The greatest demand for this electricity is during the day. You need electricity to run appliances in your home, too. And the greatest demand for this electricity is also during the day.

Here's the problem: Because of the growing demand for electricity during the day, we'll have to build more power plants. And building power plants today is more expensive. That drives up the cost of electricity to everybody.

Now there's something we all can do to help: Spread the use of electricity more evenly around the clock. Edison is working with large industrial customers to help them find ways to shift some of their

electric use to the evening hours. But most people prefer to work during the day, so there's only so much industry can do without drastic rescheduling of work shifts.

It's afternoon use of electricity that's the biggest problem. So you can help by doing some of your daily routine at night or in the morning. Perhaps you can wash and dry your clothes at night. Use your dishwasher at night. Iron in the evening. Bake in the morning.

It means changing your routine a bit. But if we do use electricity wisely, it will help to hold down the cost in the future.

**SCE**  
Southern California Edison  
Remember to conserve  
energy and water.

- Summer peaks were still growing due to air conditioning.
- New power generation was years away – due to environmental and regulatory delays.
- SCE advertising began the education process of “shifting the load” -- asking customers to voluntarily change their home routines.
- Focused on the economic benefit of “lower bills.”
- Used all media -- except billboards

# Selling Load Management



## Help lighten the electric load.

If you do the heavy housework in the morning, here's what you'll be doing. The baking. The dishwashing. The laundry. And the vacuuming.

But you'll be doing something else, too. Something that's very important. By giving your electric appliances the afternoon off, you'll be helping to lighten the load from noon to 6 p.m. That's

when homes, stores, offices and factories turn on air conditioners to beat the afternoon heat.

Give your appliances the afternoon off. Then Edison can put off building expensive new power plants. And you'll help keep your electric bills down.

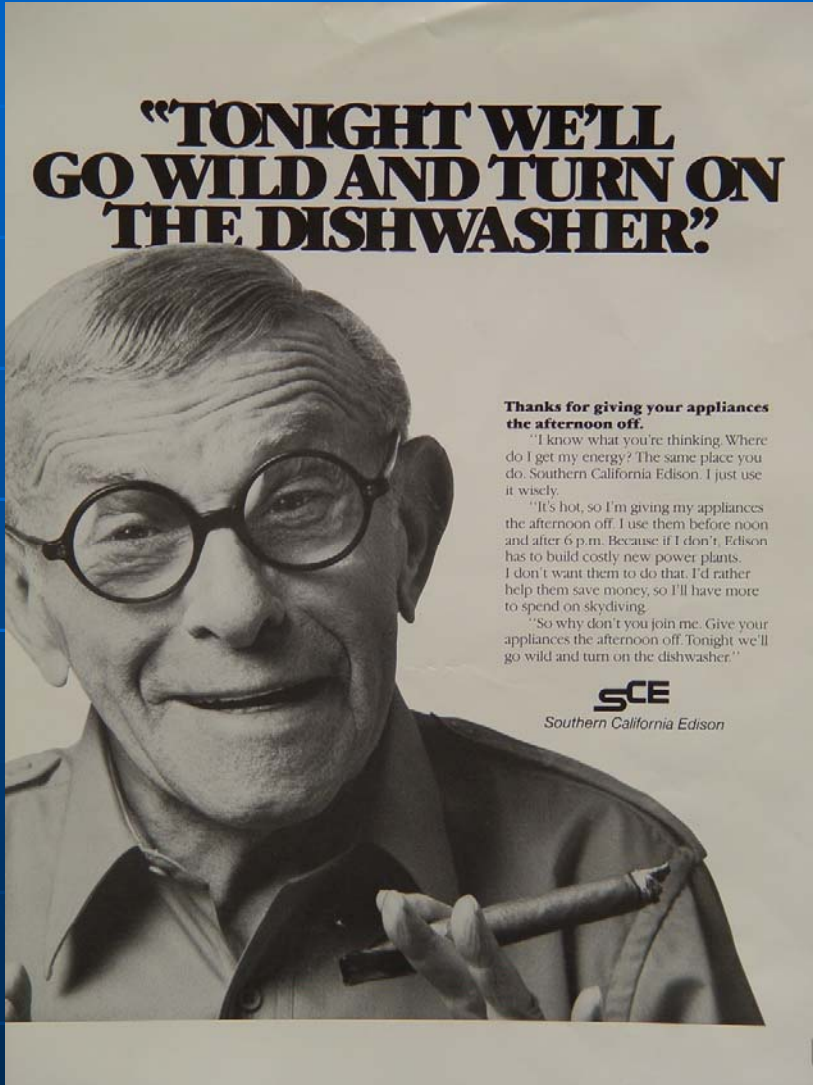
**SCE**

Southern California Edison  
An Equal Opportunity Employer

- First TV spot featured singing appliances.
- Research showed customers understood the campaign concept: "Give Your Appliances the Afternoon Off."
- SCE varied the creative approach – cartoons, charts and graphs, little girls, toy trains... but kept the key phrase and cost benefit.
- Customers finally felt our message was getting stale...



# Adding Fun and Credibility!



**“TONIGHT WE’LL GO WILD AND TURN ON THE DISHWASHER.”**

**Thanks for giving your appliances the afternoon off.**

“I know what you’re thinking. Where do I get my energy? The same place you do. Southern California Edison. I just use it wisely.

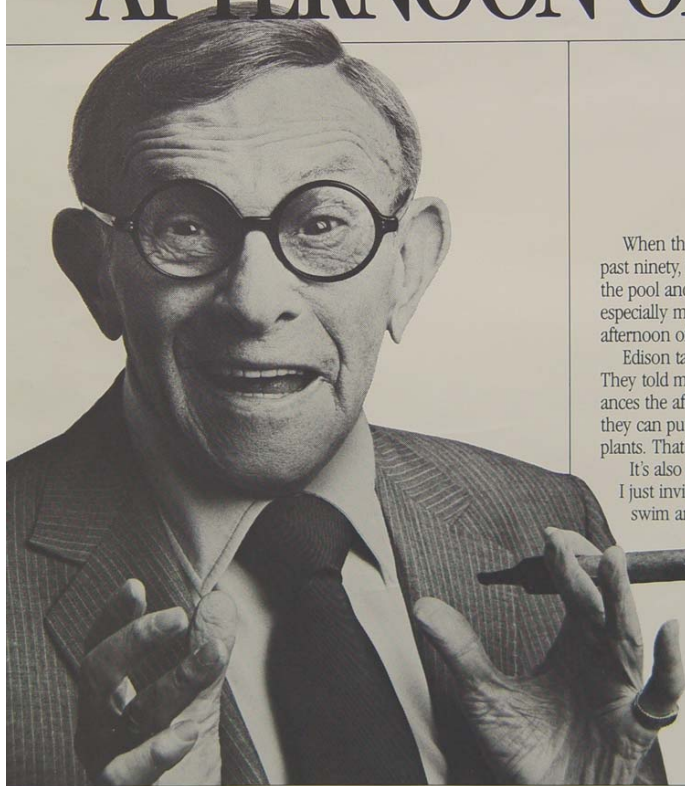
“It’s hot, so I’m giving my appliances the afternoon off. I use them before noon and after 6 p.m. Because if I don’t, Edison has to build costly new power plants. I don’t want them to do that. I’d rather help them save money, so I’ll have more to spend on skydiving.

“So why don’t you join me. Give your appliances the afternoon off. Tonight we’ll go wild and turn on the dishwasher.”

**SCE**  
Southern California Edison

- Added George Burns during his “Oh God” films.
- The ultimate in spokesperson credibility.
- Reasonable cost talent.
- Used humor to deliver the message
- Later added Betty White to play the Gracie-type role.

# AT NINETY, IT PAYS TO TAKE THE AFTERNOON OFF.



When the temperature climbs past ninety, I play it cool. I jump into the pool and give my appliances—especially my air conditioner—the afternoon off.

Edison taught me this little trick. They told me that if we give our appliances the afternoon off on hot days they can put off building new power plants. That's good for our bills.

It's also good for my social life.

I just invite my friends over for a swim and take the afternoon off.

We all need to do our part to manage energy wisely. Thanks for your help.

**Together we can  
brighten the future**



Southern California Edison

# "MY HOUSEKEEPER'S GREAT. WHEN I ASK HER TO WORK SHE IGNORES ME."

**Thanks for giving your appliances the afternoon off.**

"When it's hot out, my housekeeper gives my appliances the afternoon off. She even sets

my air conditioner thermostat at a higher temperature. Because if she didn't, Edison might have to build new power plants. That costs money. And that

could affect our bills. "So why don't you join us. Give your appliances the afternoon off. Tonight I'm going to try my new curling iron."



Southern California Edison





# Air Conditioner Cycling - 1985

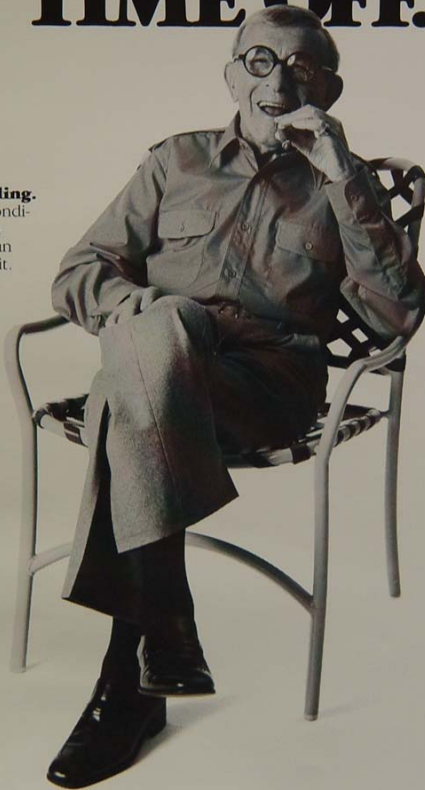
**"GET CREDIT  
FOR TAKING  
TIME OFF."**

**Get up to \$165 for  
air conditioner cycling.**

Join Edison's Air Conditioner Cycling program and you'll get more than \$165 in savings—plus, you'll get credit, too. It's right, up to \$165 for the six-month period from May through October.

**Save up and save.**

If you're an Edison customer and you've got electric central air conditioning, you can sign up for Air Conditioner Cycling. Your savings will be based on the size of your air conditioning unit and on the cycling option you select. For example, you have a 5-ton conditioner, you could save up to \$165 over the



six-month period. And you get your credit whether your air conditioner is cycled or not.

**Edison needs your help.**

Your participation in the Air Conditioner Cycling program helps delay construction of new power plants. And that's good for everybody, right?

**Guess who's coming to your house?**

"So look for me, George Burns, in your mailbox. Actually, it's a brochure with my picture on it, explaining the whole program. Or call the Edison Conservation Action Line toll-free 1-800-952-5062 and tell 'em George sent you. That way we both get the credit!"

**SCE**

Southern California Edison

- Used primarily direct mail with radio and newspaper support.
- Offered credit on summer bills.
- Used FM radio signals to cycle off the AC compressor – but kept the fan working.
- Cycling would happen on the hottest days of the year when SCE needed the load!

# Expanding The Load Management Messages late 80's

## Splash now, pump later.

Ease the afternoon electric load. Run your pool pump during off-hours.

Putting your pool pump on a new time schedule has nothing to do with your swimming. You can still splash around whenever you want.


But it has a lot to do with lightening the load during the hours when demand for electricity is at its highest. By turning your pump off from noon to 6 p.m., you can help Edison put off building expensive new power plants -- and help keep future electric bills down.

If you're an Edison customer, we'll install two trippers on your pool pump time clock that will turn the pump off and on automatically. While we're there, we can also adjust your pumping time, which can help lighten your current bills. And it won't cost you a penny! So, mail the coupon now -- then go make a splash!

Circle 144!


Please install one  
 pool pump trippers  
 Please send me free Pool  
 Energy Conservation  
 Kit Type

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_ Zip \_\_\_\_\_



**SCE**  
 Southern California Edison  
 An Edison Company

## HOW TO LOOSEN UP THOUSANDS IN FROZEN ASSETS.



**EDISON HELPS ALLERGAN SAVE \$40,000 ON THEIR ELECTRIC BILL.**

When Allergan Pharmaceuticals built their new 8-story headquarters in Irvine, they asked Edison for energy-saving recommendations. After completing our energy survey, we suggested they consider thermal storage.

By installing a thermal storage system Allergan was able to shift its daytime electrical demand for cooling to the off-peak, nighttime hours. That saves them at least \$40,000 a year.

They also are receiving money-saving rebates, and state and federal tax credits.


If you're an Edison commercial customer, this could be your story. You could lower your monthly electric bill. And you could earn up to \$100,000 in cash rebates for installing a thermal storage system. Or you could earn up to \$50,000 for installation of other selected energy management equipment.

All you need to do is call for a free Edison energy survey.

**CALL 1-800-952-5062 FOR A FREE ENERGY SURVEY.** Call this number and an Edison representative will make an appointment to survey your business. We'll help you to start loosening up your frozen assets.

**WE ALSO HELP RESIDENTIAL CUSTOMERS.** If you're an Edison residential customer call this same number for a free home energy survey. Thanks for doing your part to manage energy wisely.

**Together we can brighten the future.**



Southern California Edison

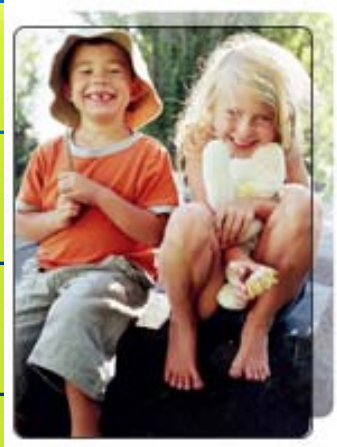


# 21<sup>st</sup> Century Messages



*- cutting edge technology*

Save **MONEY**  
**ENERGY** and the  
**ENVIRONME**



■ ■ ■ ■ ■  
 CHƯƠNG TRÌNH ƯU ĐÃI CƠ SỞ THƯƠNG MẠI

Được tặng **\$300**  
 Và tiết kiệm đến 20% trên  
 tiền điện của máy lạnh và máy sưởi  
 Cho Cơ Sở Thương Mại của Quý vị



Lại còn được giảm miễn phí dụng cụ điều chỉnh nhiệt độ (thermostat) tối tân, giúp tiết kiệm năng lượng khi tham gia vào chương trình tiết kiệm năng lượng SCE Energy-Smart Thermostat<sup>SM</sup> Program của Southern California Edison.

Chương trình mới! dễ sử dụng! kiểm soát được!

 Chương trình ưu đãi cho giới sử dụng như sau:  
 Khi lắp đặt các thiết bị điều chỉnh nhiệt độ mới bằng hệ thống điều khiển từ xa, sẽ được tặng gói giảm tiền phí lắp đặt ngay!  
 Số tiền giảm tối đa là \$300.

Muốn ghi danh hay biết thêm chi tiết xin gọi 714-424-6484.

  
 SOUTHERN CALIFORNIA  
**EDISON**  
 AN ENERGY INTERNATIONAL<sup>SM</sup> Company

[www.sce.com](http://www.sce.com)



Xcel Saver's Switch

SCE's Summer Discount Plan