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A. Twu 2011

Carbon Rationing



What
Every
Citizen
Needs
to Know

DEPARTMENT OF WASTE REDUCTION

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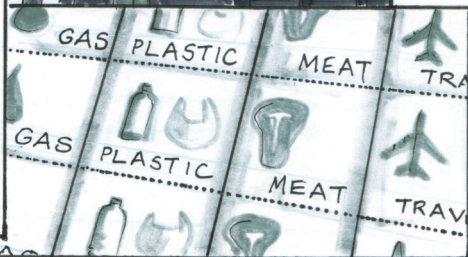
Despite improvements in efficiency, air pollution continues to grow due to increased total resource and energy consumption.



For example, a large house with energy efficient features is still going to use more energy than an ordinary small house, as the extra size outweighs the efficiency benefits.

With technology alone unable to solve the climate change problem, a number of regulations are being used or considered around the world.

One of these is carbon rationing.



What is Carbon Rationing?

Also known as Tradable Energy Quotas or Personal Carbon Allowances, carbon rationing is a cap-and-trade system where government sets a total cap on how much CO2 can be emitted in a year, and allocates each citizen a share of that total.

Consumers buying things that use fossil fuels, such as electricity, gasoline or airline tickets, would need to pay ration points in addition to cash. Those who want more than their allocation would have to buy them from those with extras.

The economic logic behind tradable rations is as follows: A person or company that finds a cheap way to reduce pollution would be able to sell their extra rations to those faced with more costly hurdles. This allows pollution reduction to be done in the cheapest way. For example, sulfur rationing was successfully used in the 90s to fight acid rain. However, the initial allocation of rations is often subject to much politics and controversy, especially when existing polluters are given free allocations.

Although no systems currently exist, the British government is considering using rationing to meet its climate change goals. Additionally, there are individual groups of people who participate in voluntary rationing clubs.

In 2010, California adopted cap-and-trade for utilities, fuel distributors, and large factories. Although consumers do not directly interact with rationing, they may pay more when companies raise prices to cover the cost of buying carbon allowances.

Carbon Rationing as portrayed in the story

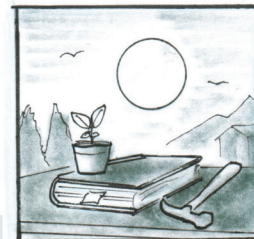
The rationing system in "C-Day" is a consumer based Personal Carbon Allowance similar to that proposed in Britain. In the story, rationing is expanded to all products and services to cover embodied energy - the energy used in making a product and its raw material inputs. For example, half a gallon of gas goes into making a burger. So then, why does a burger cost less than a half gallon of gas? Subsidies.

Try a little carbon rationing!

How many rations do I get?

Each ration represents about one pound of CO2.

What's my goal?	Daily	Monthly	Yearly
Match current U.S. average	117	3,500	42,000
Match current British average	55	1,700	20,000
Match current global average	28	850	10,200
Use the system in "C-Day"	13	400	4,800
Long term global sustainability	3	80	960



Carbon Catalog

Transportation

Gasoline, 1 gallon	20
Mass transit, per mile	0.4
Air travel, round trip	
SF to SoCal	450
California to NY	2,000
California to Asia	4,200

Utilities

Electricity, 1 kwh	0.5
Gas, 1 therm	13
The average home in NorCal uses 45 therms/month. Your number will vary based on home size, thermostat setting, & hot water use.	

Food

Cheeseburger	10
Chicken sandwich	3
Tofu sandwich	0.4

All other spending

per dollar	1
Used goods	0

Data sources:

Transportation: Carbonfund.org

Utilities: PG&E

Food: Greenlivingtips.com

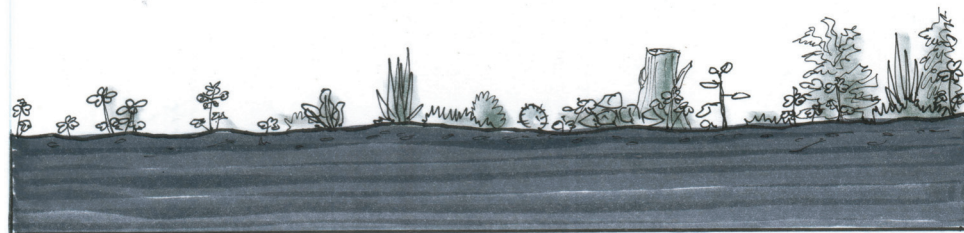
Other spending is based on the carbon intensity of the U.S. economy, currently around 1 lb. per dollar.

Surely there's an easier way?

Changing economic systems or cultural values sound too challenging? Fortunately, there are alternatives, such as veganism.

Currently, the production of meat & dairy generates more greenhouse gases than transportation. Calculations for livestock's share of climate change responsibility range from 18% to 51%. In addition to direct impacts, raising animals also leads to forests being cut down, both for grazing and to grow the corn used to feed them. It takes ten times as much grain to make meat as it does to make the same amount of bread.

Excess animal product consumption also leads to an increase in healthcare expenses, which now make up 1/6 of the U.S. economy. So, if revolution sounds too radical, perhaps some beans and vegetables will make a good substitute.



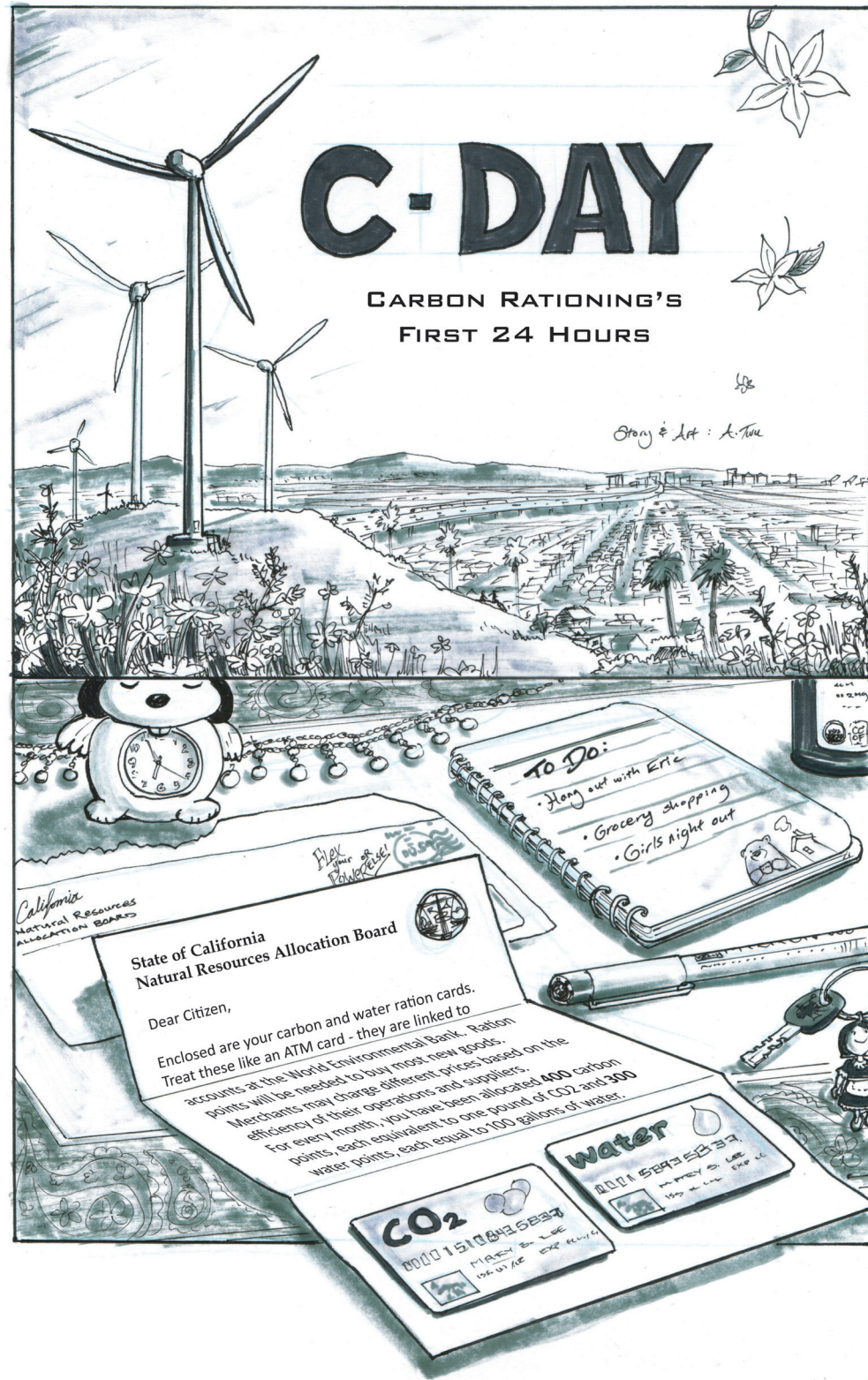
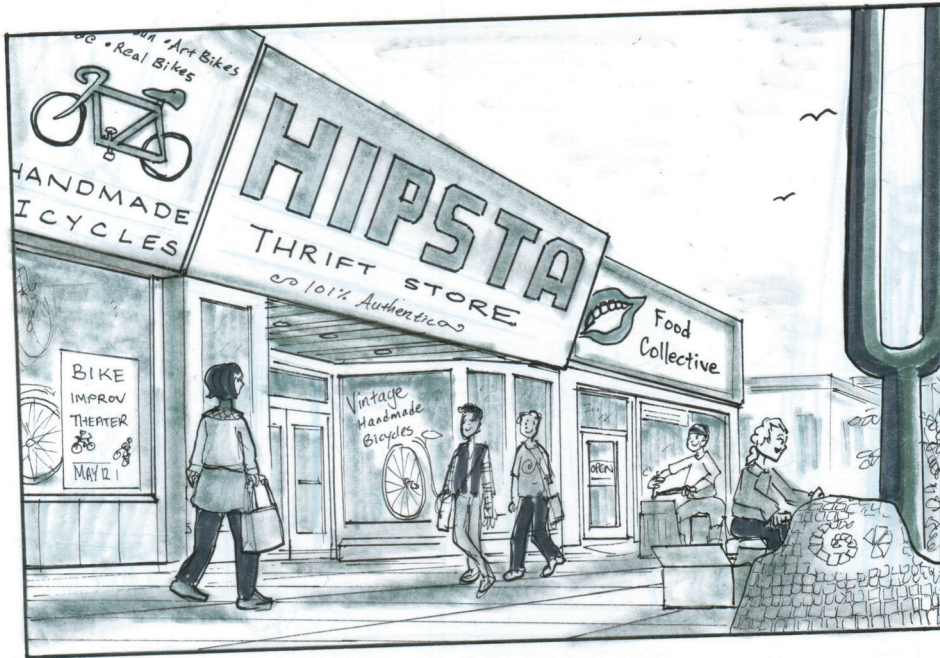
This doesn't mean conspicuous consumption has to go away.

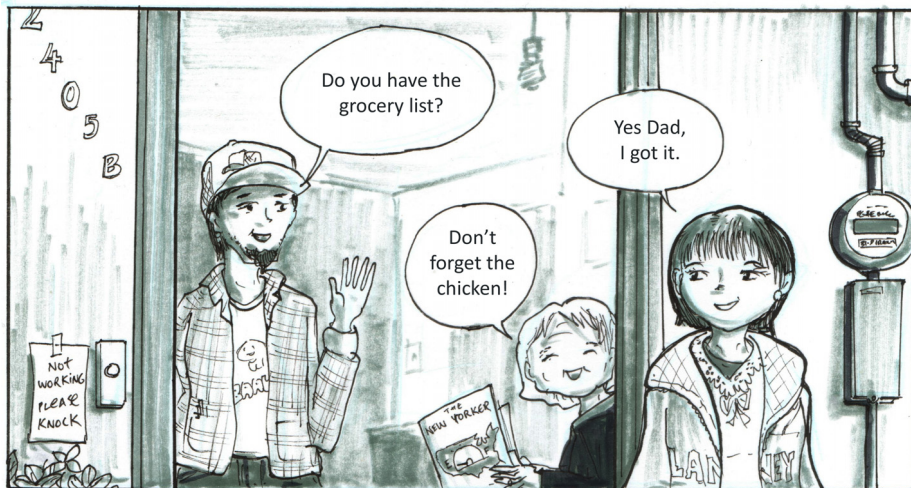
After all, realistically, it's not going to.

It just needs to be shifted to other things, or rather, non-things, whether it be philanthropy, the arts, or if one must have physical things, vintage.

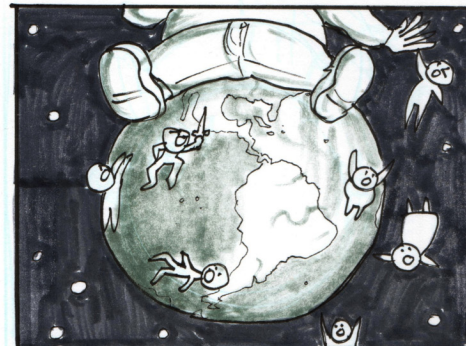
Say what you want about hipsters, but the impact of making frugality and social activism fashionable is substantial.

Even still, there's still much resource use, notably in real estate and travel. It takes a lot of veggie burgers and vintage t-shirts to make up for overseas travel or a new loft.





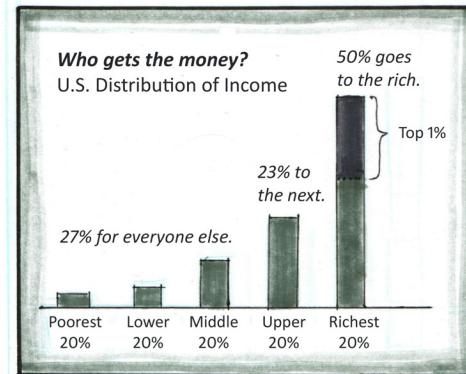
Inequality is often tolerated as long as absolute standards of living are increasing. Even if one's slice is thin, as long as there's growth, it's still more pie.
But what happens when the pie stops getting higher?



Currently, the U.S. accounts for 4% of the world's population and 25% of the world's resources.

However, that number does not tell the whole story. Within the U.S., the rich use most of those resources. Bigger houses, multiple houses, exotic travel, shopping, it all adds up.

Half of all income in the U.S. goes to the top 20%. The next 20% takes almost another quarter. Looking at spending, the picture is slightly more equal due to the effect of taxes. On the other hand, if wealth is considered, the graph is even more skewed, with 85% of the country owned by the top 20%, and nearly nothing by the bottom half.



Why does this matter? Well, if rising energy prices or the need to reduce climate change leads to a scaling back of the economic growth and a cut to the standard of living, who takes the cut makes a big difference.

It's one thing for the well-off to make a few sacrifices. It's a whole different matter to ask someone on food stamps - 1 in 7 Americans - to eat less. It's not just cruel, but also ineffective, given how little consumption they are responsible for.

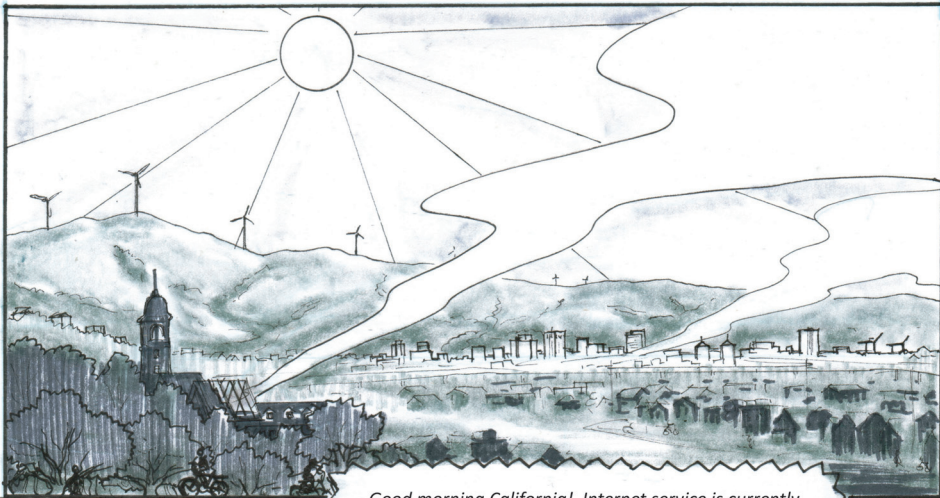
The typical American lifestyle is actually ecologically sustainable on our world's resources, even if everyone in the world lived that way.

Not the average, certainly not the dream shown on TV, but the typical, as the average is skewed by the super rich.

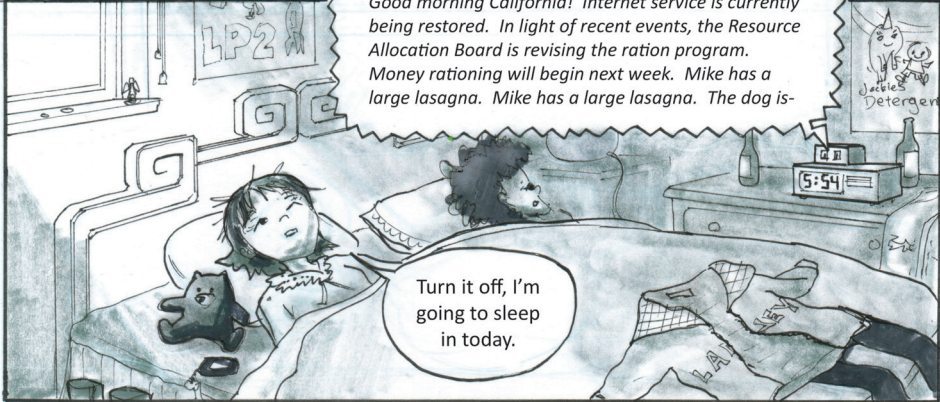
A modest house or apartment, shared with family or friends.

The occasional meal out, a little education at the state college, a reasonable amount of shopping now and then.

Maybe an old compact car, weekends at a beach or national park; nothing fancy, but decent just the same.



Good morning California! Internet service is currently being restored. In light of recent events, the Resource Allocation Board is revising the ration program. Money rationing will begin next week. Mike has a large lasagna. The dog is-



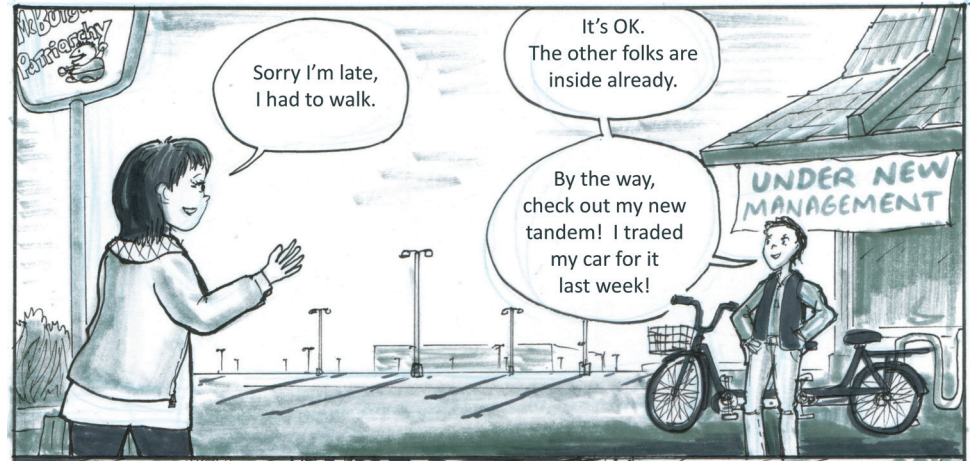
Turn it off, I'm going to sleep in today.



It's been two years since C-day.

I must have blacked out that night from all those beers, and well, there certainly were a few things that happened that I'm glad I don't remember.

But for most folks life went on, and though everyone's still broke, at least now we're all broke together!



Sorry I'm late, I had to walk.

It's OK. The other folks are inside already.

By the way, check out my new tandem! I traded my car for it last week!



10 carbon ration points!!!

That's almost a whole day's worth of rations!



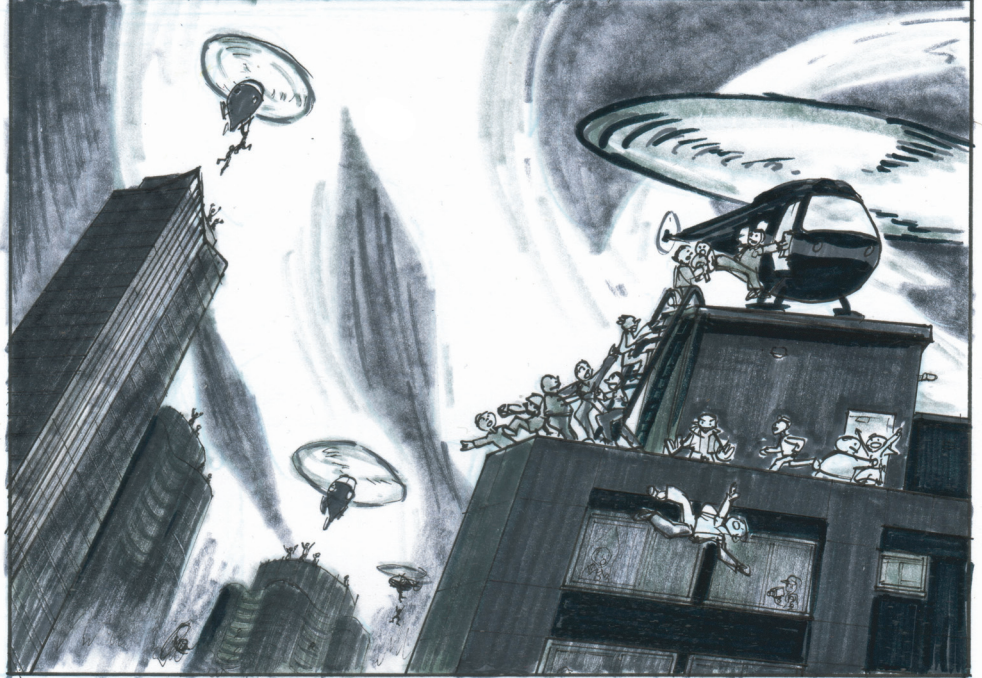
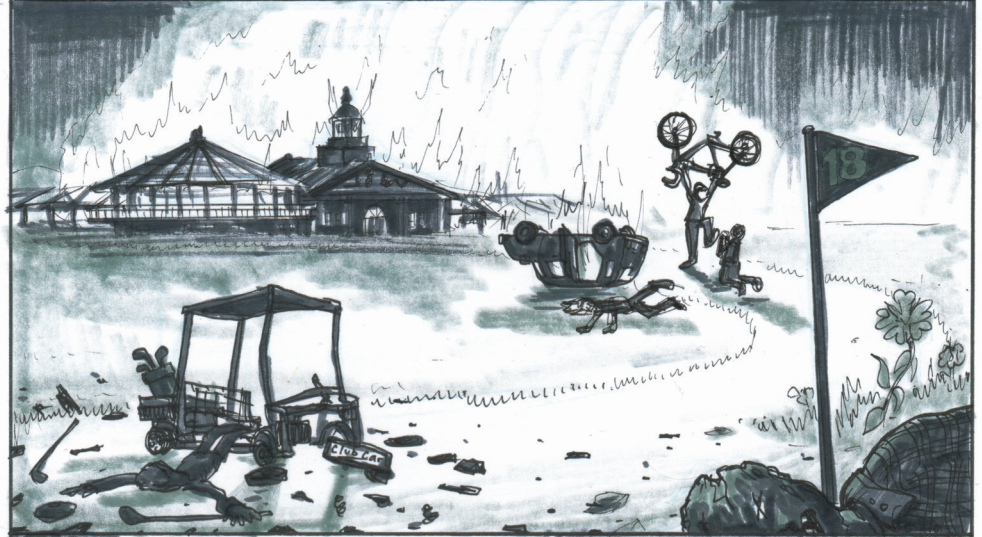
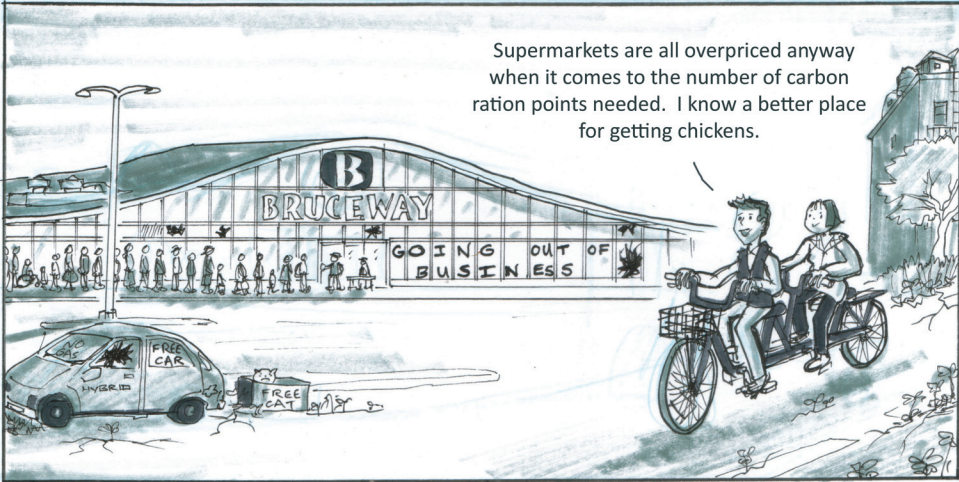
With prices like these, the cow is going to go the way of the VCR!

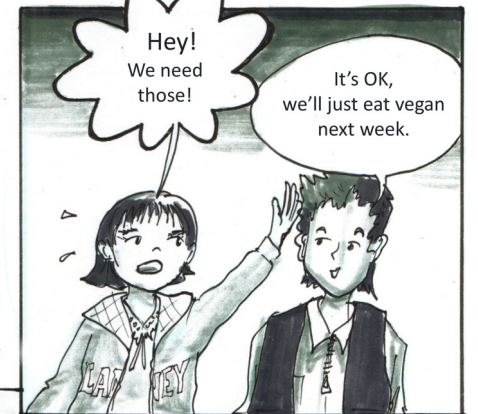
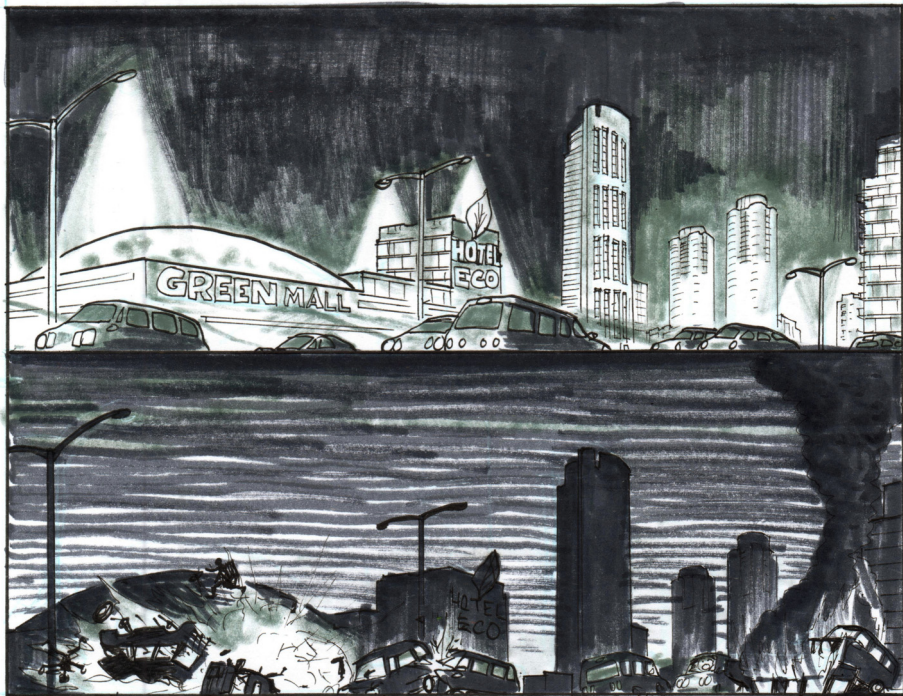
So, what's everyone up to today?

Pool store I worked at just laid everyone off. Luckily a friend of mine is looking for help smuggling meat. Any of you also interested?

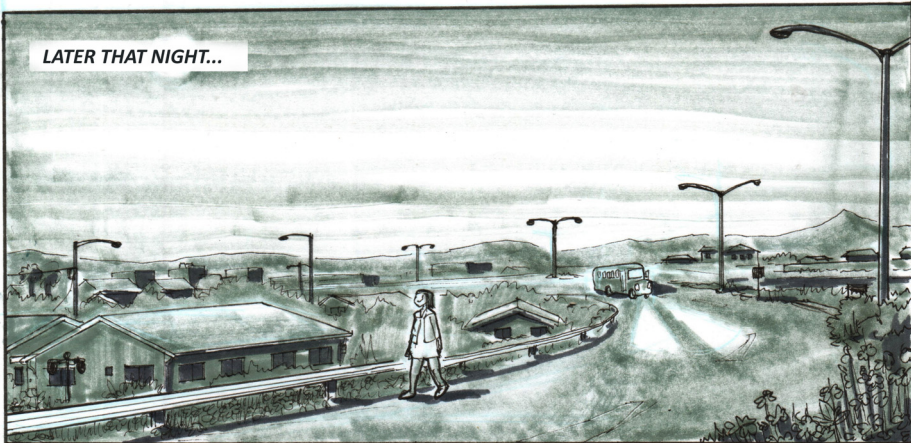
Sorry, I'm busy today. That reminds me, I best be getting to the supermarket soon. News said there might be shortages today. Eric, you ready to go?

Supermarkets are all overpriced anyway when it comes to the number of carbon ration points needed. I know a better place for getting chickens.





LATER THAT NIGHT...



I must say the candlelight is quite lovely.

Almost makes up for the lack of heating.

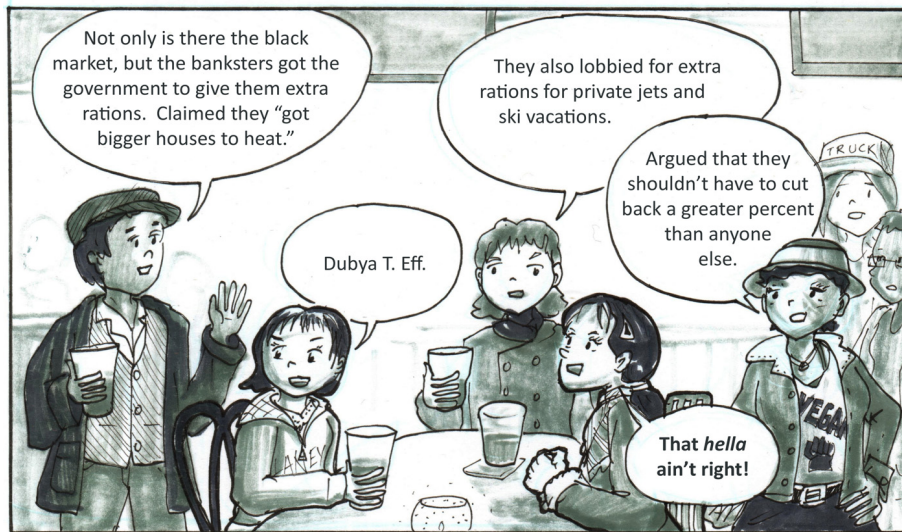
I agree! Though my favorite part of rolling blackouts is no more sports blaring on the TV.



Thank goodness for these little things. But I still don't like how this rationing thing is working out.

What's more, I was chatting with a friend overseas and folks there get twice as many rations as us!

Well you know, I've heard that not everyone gets the same amount of rations.



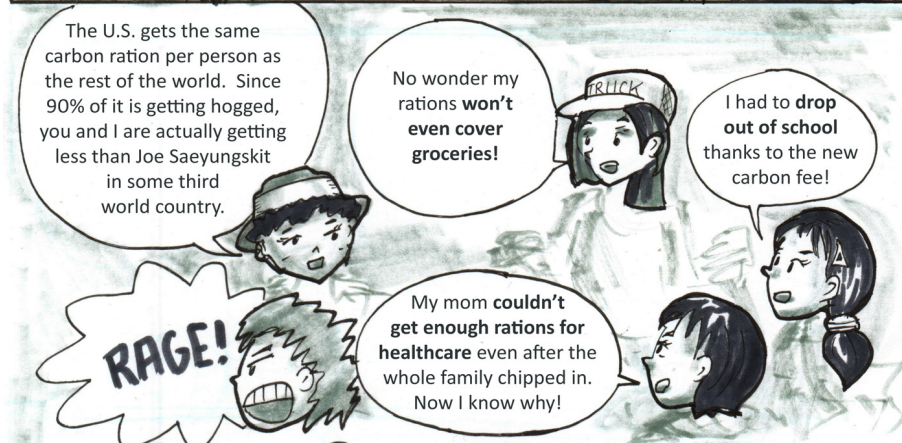
Not only is there the black market, but the bankers got the government to give them extra rations. Claimed they "got bigger houses to heat."

They also lobbied for extra rations for private jets and ski vacations.

Argued that they shouldn't have to cut back a greater percent than anyone else.

Dubya T. Eff.

That *hella* ain't right!



The U.S. gets the same carbon ration per person as the rest of the world. Since 90% of it is getting hogged, you and I are actually getting less than Joe Saeyungskit in some third world country.

No wonder my rations *won't* even cover groceries!

I had to drop out of school thanks to the new carbon fee!

RAGE!

My mom *couldn't* get enough rations for healthcare even after the whole family chipped in. Now I know why!



There's a rally downtown in an hour!

Let's go!

