

Why the Earth needs a Global Green New Deal

Jon Rynn

My name is Jon Rynn, and thank you very much for having me here. The title of my lecture is “Why the Earth needs a global green new deal”, and it is very appropriate that I am giving it during Earth week, because 49 years ago, on April 22nd, 1970



my friends and I organized a school-wide event for our junior high in sunny Laguna Beach California, on the very first Earth Day.



We showed lots of photos of polluting factories



and various scenes of environmental destruction, because that's what we were worried about

Professor Seymour Melman, global industrial expert



James Hansen, Climate expert



Al Gore, warning humanity expert



Fast forward to the 1980s, and I had begun working with a world authority on manufacturing and the economy, the late professor Seymour Melman, who had been warning about the decline of manufacturing, the role of the military in that decline, and the negative effects that decline was having on the working and middle classes. I worked on my Ph.D. in political science during the 1990s, focused on the role of manufacturing in the rise and decline of powerful countries like the U.S., but in the meantime, James Hansen, one of the top climate scientists, had been warning us, starting in 1988, that we needed to quickly ramp down our global greenhouse emissions, or we were going to be in big trouble. By the 2000s, Al Gore was creating his 'inconvenient truth' documentary

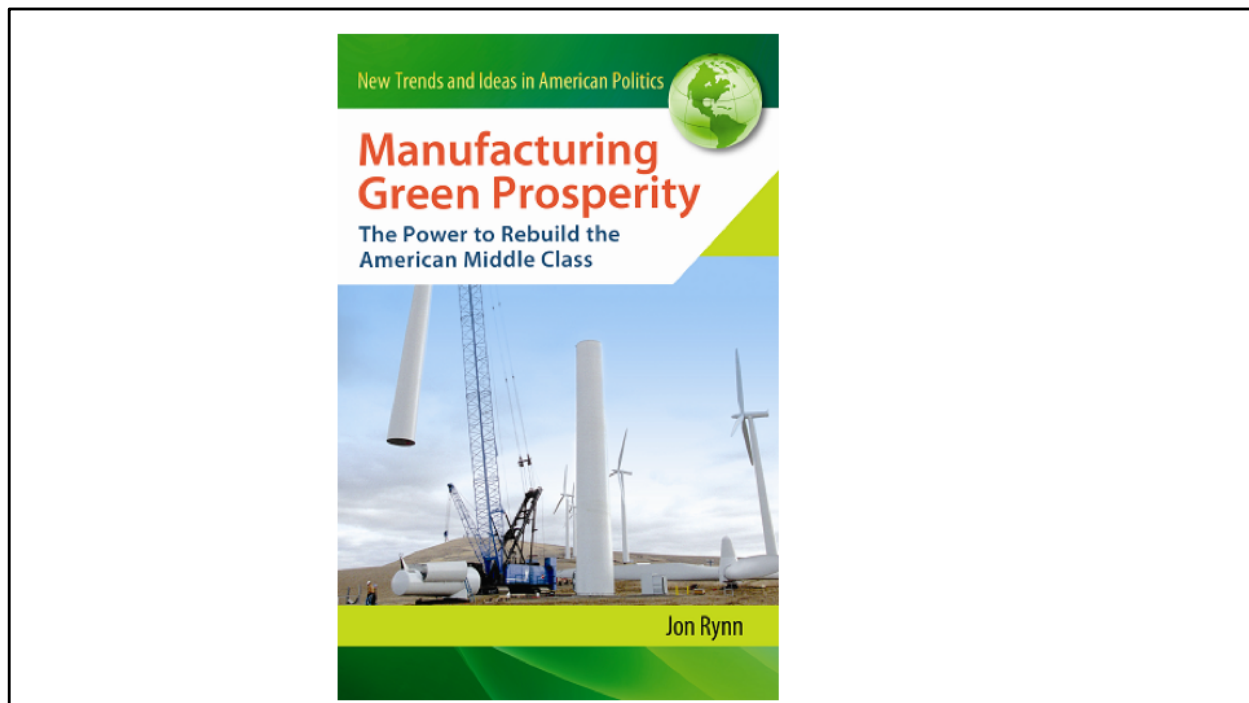
GLOBAL GLUTTONY

Green manufacturing could save the economy

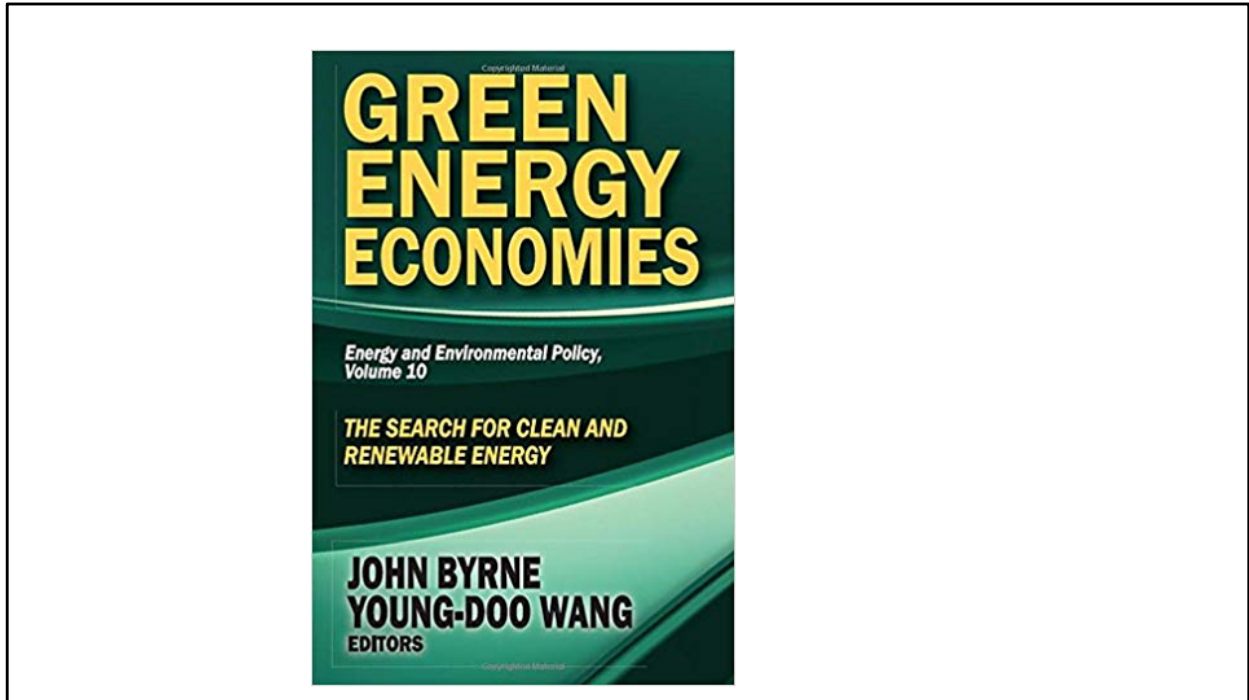
By [Jon Rynn](#) on Jan 19, 2008✉ Get your [daily dose of good news](#) from Grist[Subscribe To The Beacon](#)

Paul Krugman has been a hero of mine during the long, bleak reign of Bush the Younger, articulating arguments against Bush's philosophy and policies on these many years. Krugman is one of the leading authorities on international trade, however, and so I was holding my breath, intellectually speaking, waiting to see what would happen when there were global economic troubles.

and I started to tie the two main issues of my adult life together, manufacturing and environmentalism, so first I wrote for grist.org,



and then in 2010 I published a book, “Manufacturing Green Prosperity: The power to rebuild the American middle class”, examining how the manufacturing and greening the planet fit together

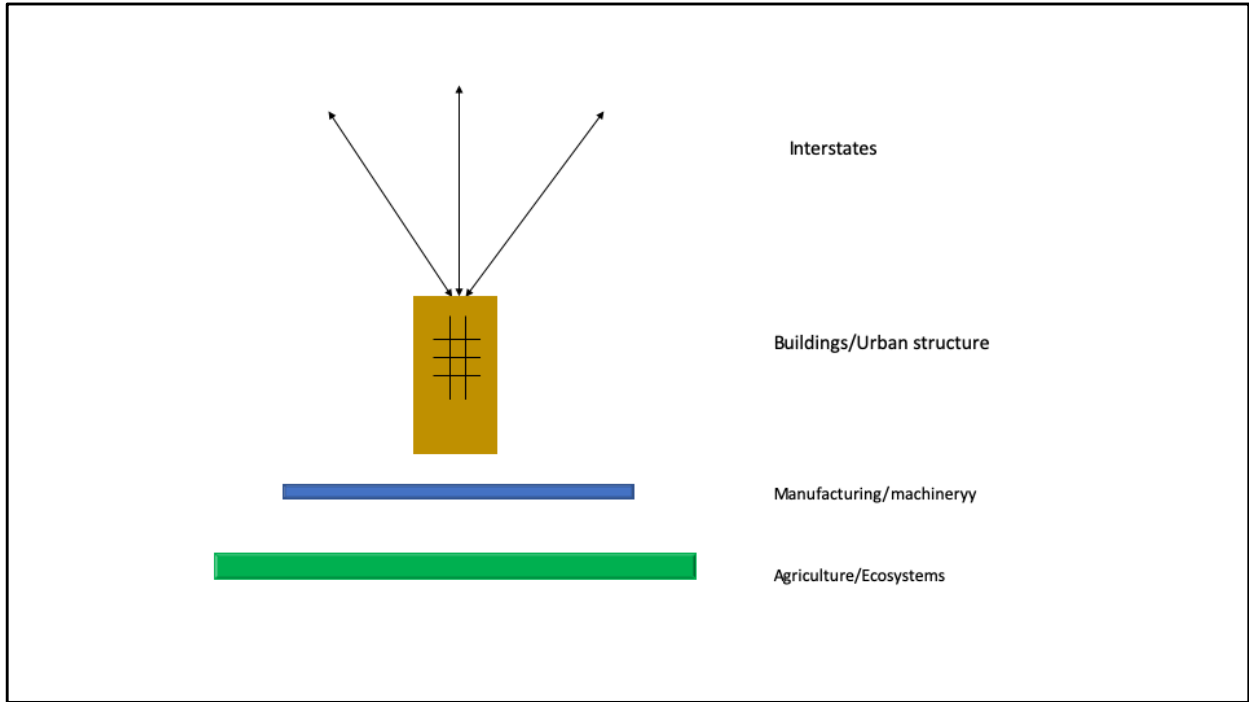


In 2014 I published a chapter in a book co-edited by a member of the UN's Intergovernmental Panel on Climate Change, or IPCC,. In that chapter, I laid out a \$1.7 trillion budget for the Federal government to transform the infrastructure of the United States so that at the end of 20 years, the United States would be greenhouse gas free

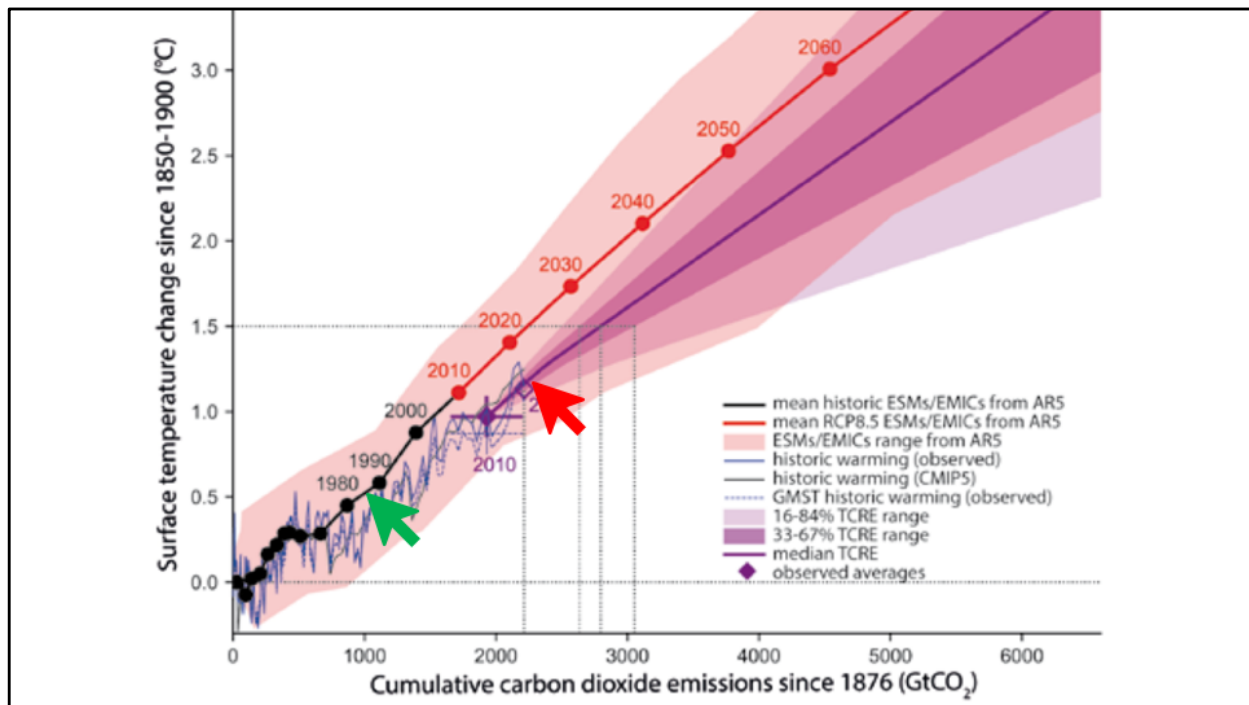
GreenNewDealPlan.com

Federal Internet, Education & Health Expansion Program			
Interstate High-Speed Internet System	102,000	25,500	10
Build/rebuild school facilities	204,000	51,000	20
Childcare, Pre-K, Elementary and Secondary Education	2,304,000	0	120
Higher Education	280,000	5,600	25
Expanded Federal Healthcare	1,430,000	71,500	100
Zero Pollution, Recycling-based Production System			
Recycling	1,020,000	102,000	100
Regenerative agriculture	1,020,000	159,375	100
Green manufacturing conversion	1,020,000	1,020,000	100
Global green new deal (industrial machinery, U.S. contribution)	1,020,000	1,020,000	100
Total	21,291,000	5,388,520	2,000

and I've been tweaking it ever since – here is the current version, at GreenNewDealPlan.com, which is much of what I am going to talk about today, although I won't go into the detail of this web page, but as you can see I wind up with over 20 million jobs, costing 2 trillion dollars per year



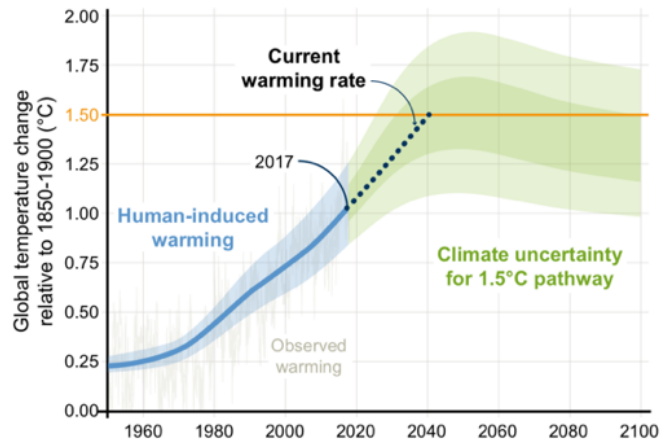
I'm going to use what this diagram to symbolize the various parts of a complex system, matching the parts of my Green New Deal Plan. I'll be recreating this symbol, as I talk about each of its various parts,



Planet Earth needs a concrete plan like this, one that the Federal government is going to lead, not the market, because at this point in time there is no other way to eliminate greenhouse gases and prevent climate catastrophe. In 1988 when James Hansen warned the Congress, we were ½ degree Celsius warmer than before the industrial revolution, and humans had put about 1100 gigatons of carbon dioxide into the air. But since that time, we have *doubled* the amount of greenhouse gases we have created in all of human history, and we have now hit 1.2 degrees Celsius warmer

FAQ1.2: How close are we to 1.5°C?

Human-induced warming reached approximately 1°C above pre-industrial levels in 2017



and according to many climate scientists, we will hit 1.5 degrees by about 2030. There is a lot of uncertainty as to how all of this works, but the bottom line is, by 2050 we better have a global civilization that does not emit greenhouse gases, in fact we better be removing gigatons of carbon dioxide from atmosphere, hopefully by doing things like reforesting much of the planet.



In the face of all of these scientific warnings, the political system has been pretty much asleep.
In the last 20 years, we have seen hurricanes



floods



fires



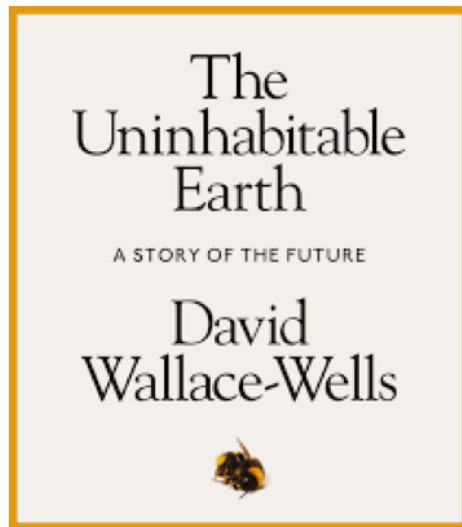
Droughts, Still nothing, virtually no interest in something like a Green New Deal



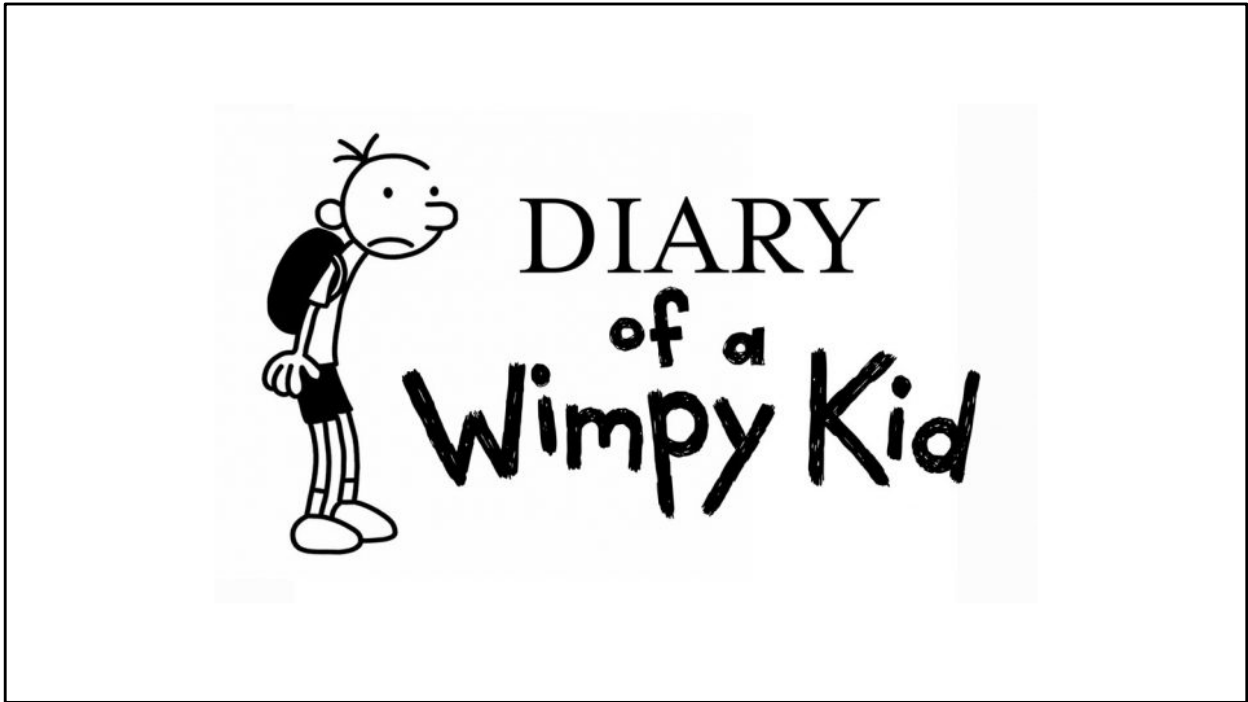
Then the activist group, Sunrise Movement, teamed up with Representative Alexandria Ocasio-Cortez, from my new hometown, New York City, and the country's collective brain opened up for a few days, and all of sudden the media and lots of important and millions of regular people considered the possibility that, hey, maybe it would be a good idea if the Federal government just did a whole bunch of stuff to prevent global warming, and that way you could also employ millions of people and improve the economy.



Now Ocasio-Cortez , and Senator Markey from Massachusetts put out a Green New Deal resolution, which has received a lot of publicity, but that resolution is basically a set of goals. What I want to do is explain what a Green New Deal would actually look like,. And then hopefully hear from you about what you think



I'm not going to talk much about the actual climate itself, except to point out how certain systems would decrease greenhouse gas emissions, because there are a lot of good resources to tell you about the climate . For instance, there is the book by David Wallace-Wells called 'the uninhabitable earth', which, as you can tell from the title, paints a pretty scary picture of what is in store if we don't do a Green New Deal.

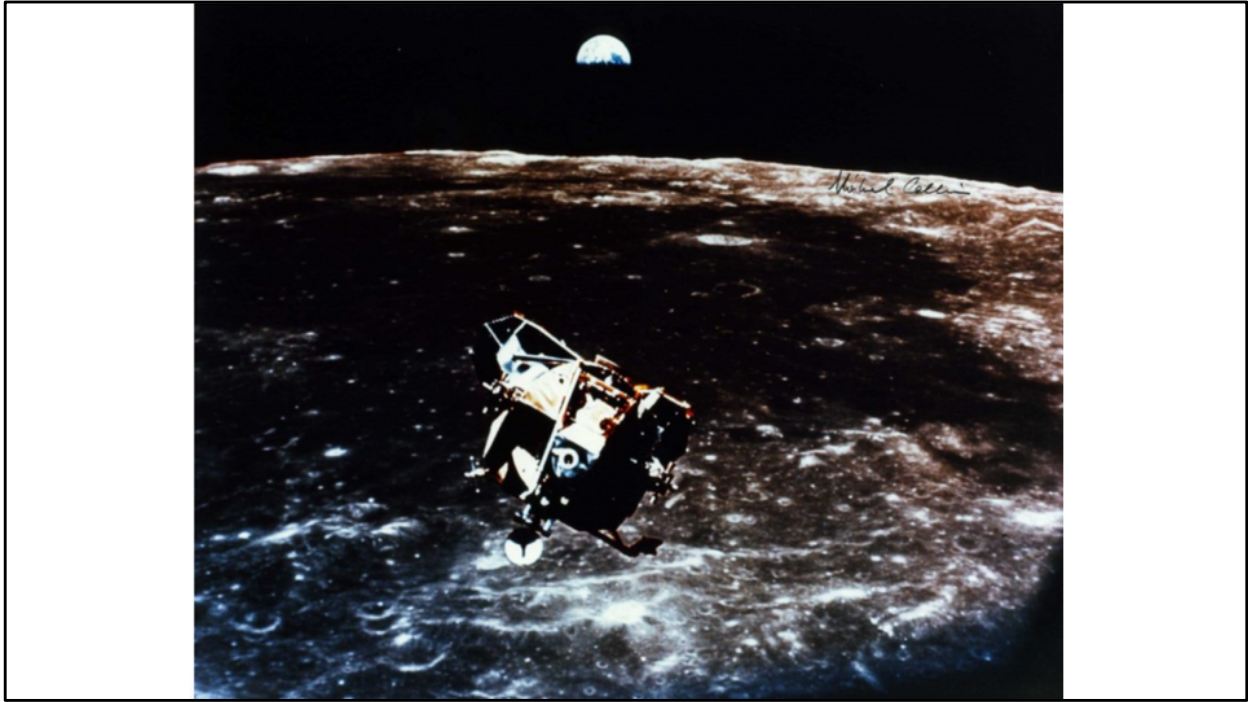


For the best 40 years, the Federal government has become cast as the wimpy kid that can't do anything

The government is the problem, not the solution

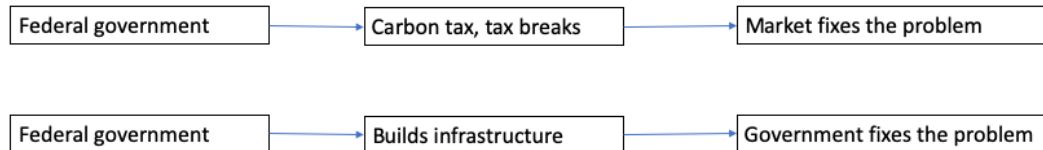


We are deep into the era of Ronald Reagan, who said that ‘the government is not the solution, it is the problem’, and that ‘there is no alternative’ to the market, so most Americans have, at best, a faint memory of a time when the Federal government was considered a competent and trustworthy source of solutions,



such as when, 50 years ago, we went to the moon. But now that we are face to face with an inhospitable planet and worsening inequality since Reagan,

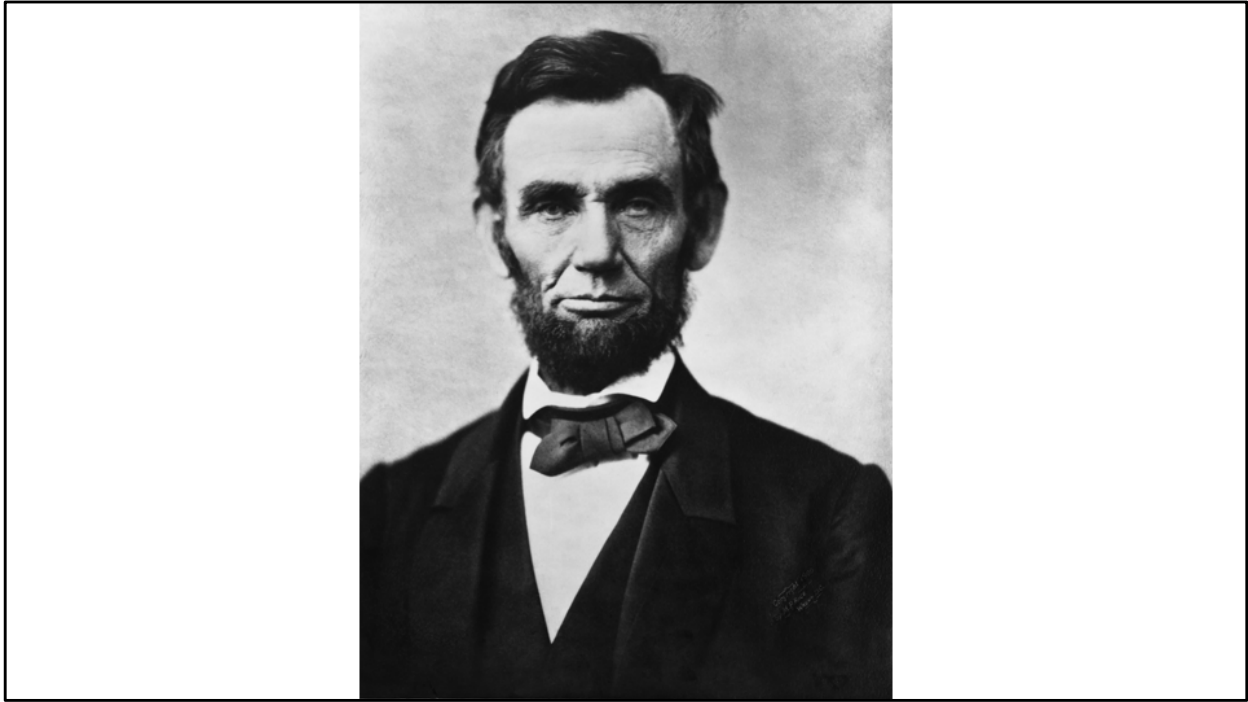
But could the government be the solution to climate change and income inequality?



the only way we can guarantee that we can eliminate greenhouse gases and reverse inequality is to recognize that the *government* is the solution, and there is no alternative but to turn to the democratically elected Federal government to fix the problem.

And by fix the problem, I don't mean the Federal government should help the *market* to fix the problem, with things like carbon taxes or tax breaks or whatever.

I mean, the Federal government spends a ton of money to actually *build* the stuff that will *replace* the other stuff that is destroying the planet. If you want to *guarantee* that something like building a green infrastructure will happen, only the government can do that. It has to be the primary driver of change, and then the market can help accelerate the change that the government has set in motion.



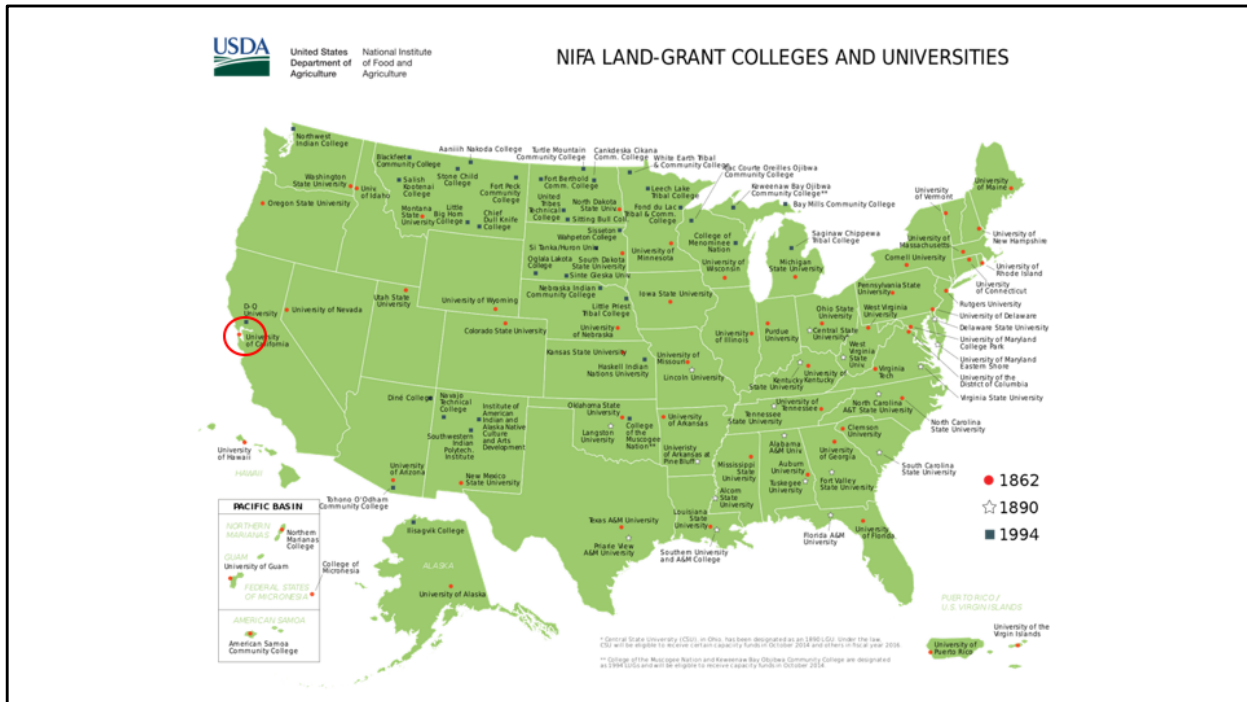
Strangely, this doesn't need to be a partisan issue. The Republican party, back in the day of Abraham Lincoln, was formed in order to use government to turn the United States into a manufacturing power. They wanted to do this by stopping the spread of slavery



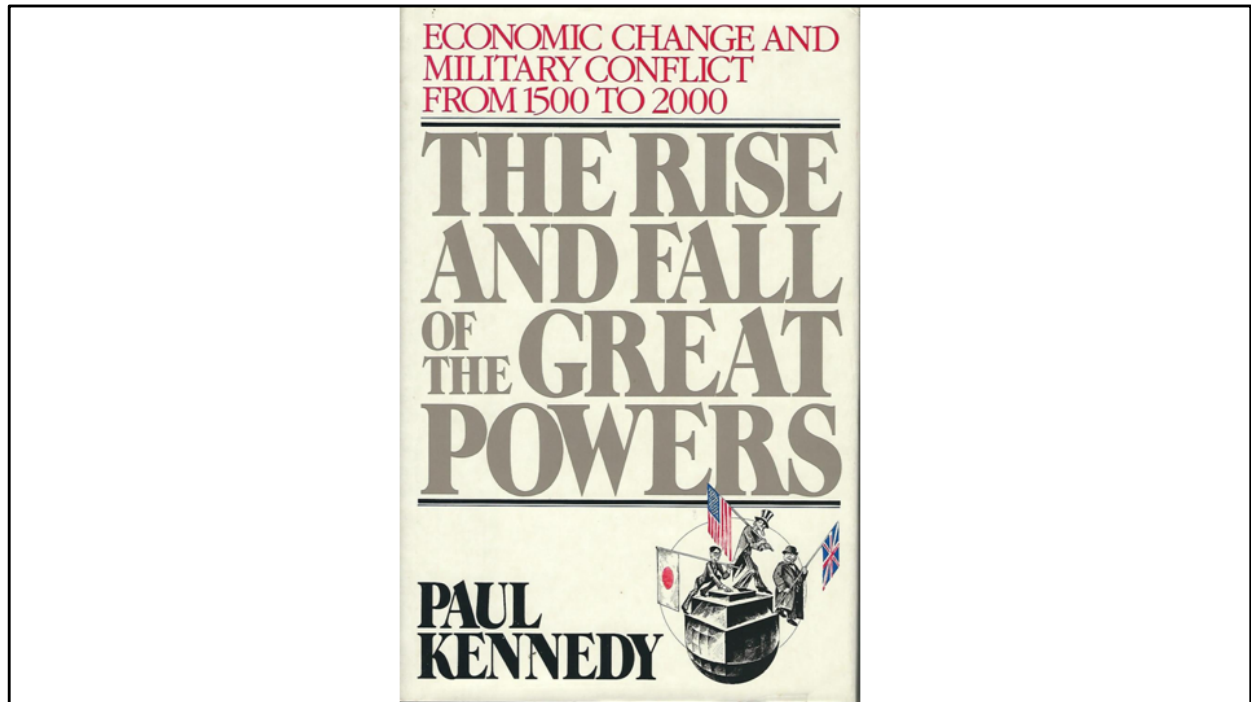
imposing tariffs to protect American manufacturers,



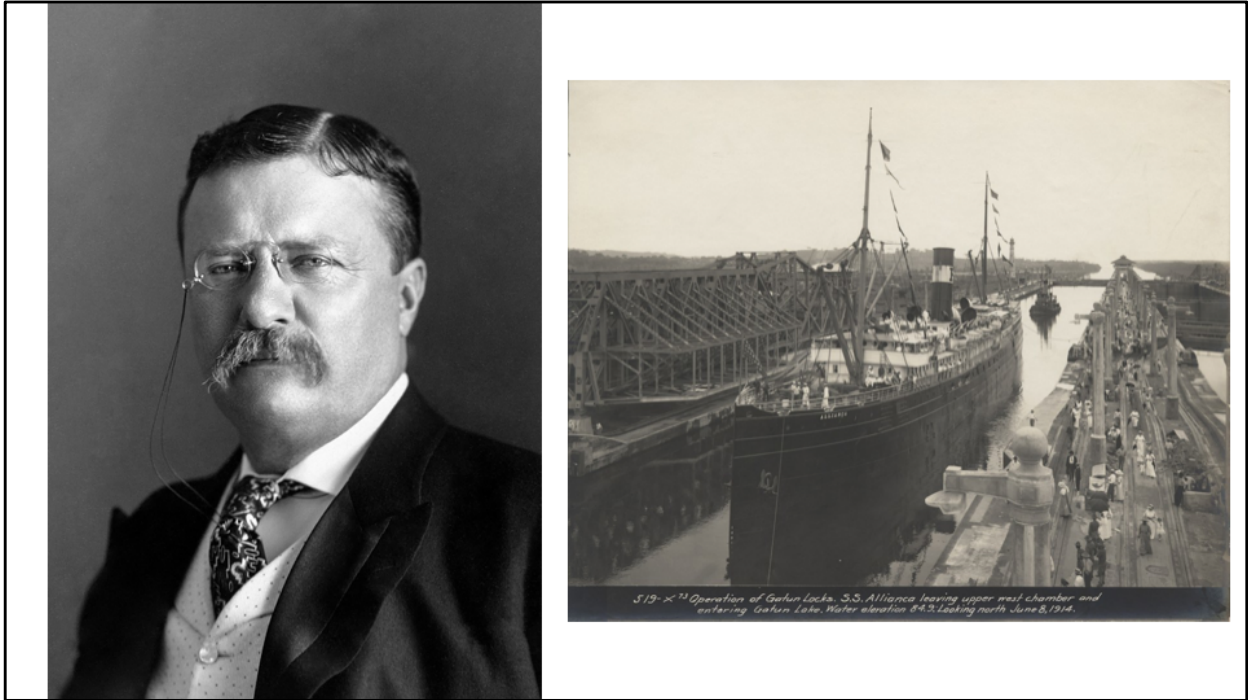
and construct national infrastructure, both the physical kind, like a transcontinental railroad,



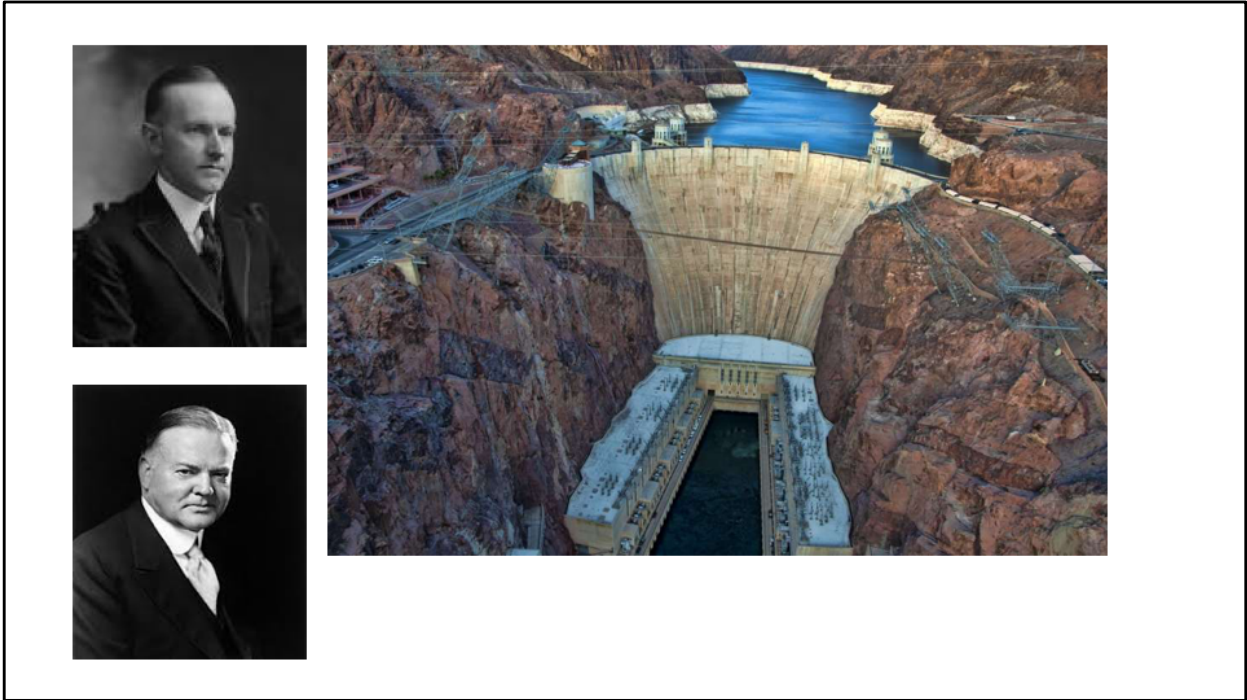
and the social kind, like the land grant colleges that included what is now the University of California at Berkeley – where I went to undergraduate school.



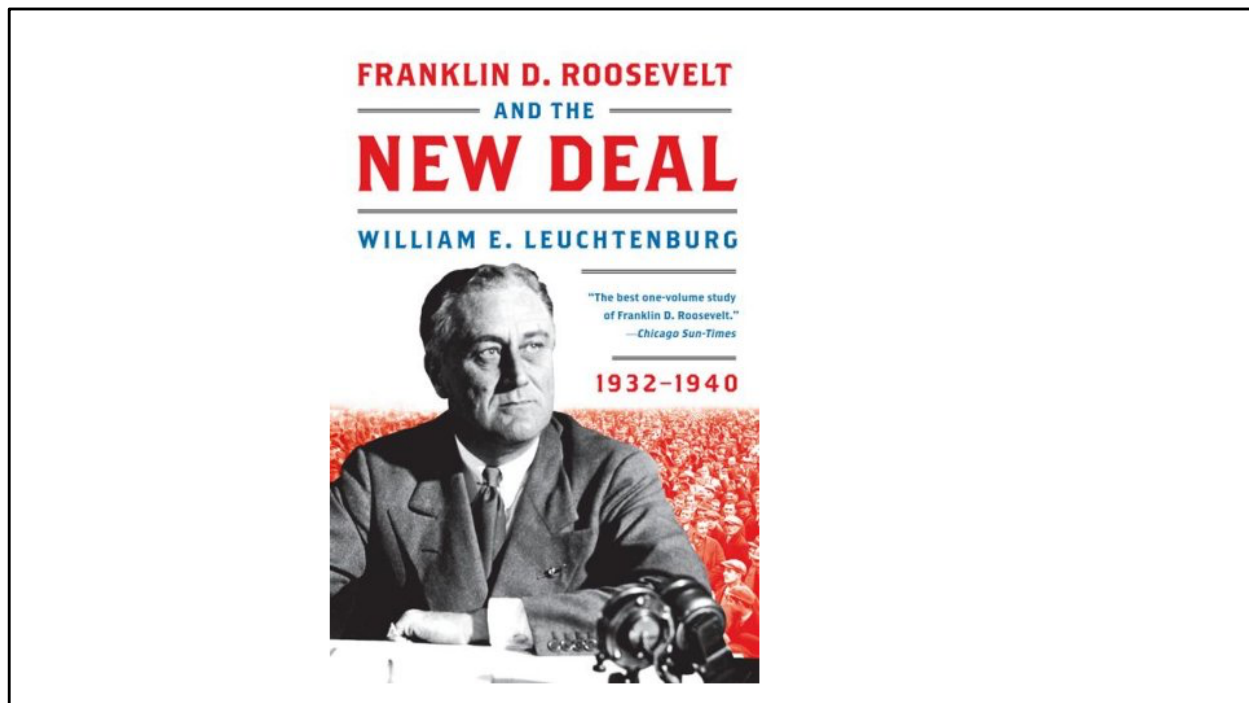
They succeeded, and the country built its manufacturing economy to such an extent that it became what is known as a 'Great Power', that is, one of the few countries that has a say in global issues.



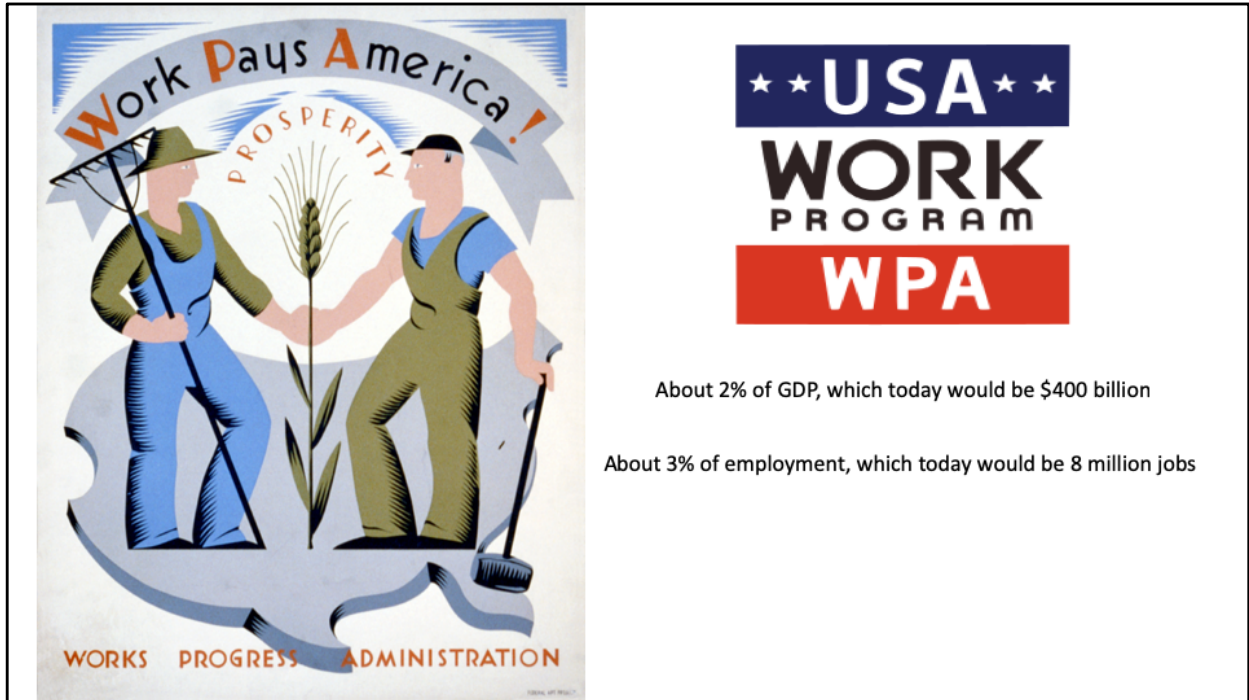
In the 20th century, Republicans like Theodore Roosevelt continued this trend, for example by building the Panama Canal



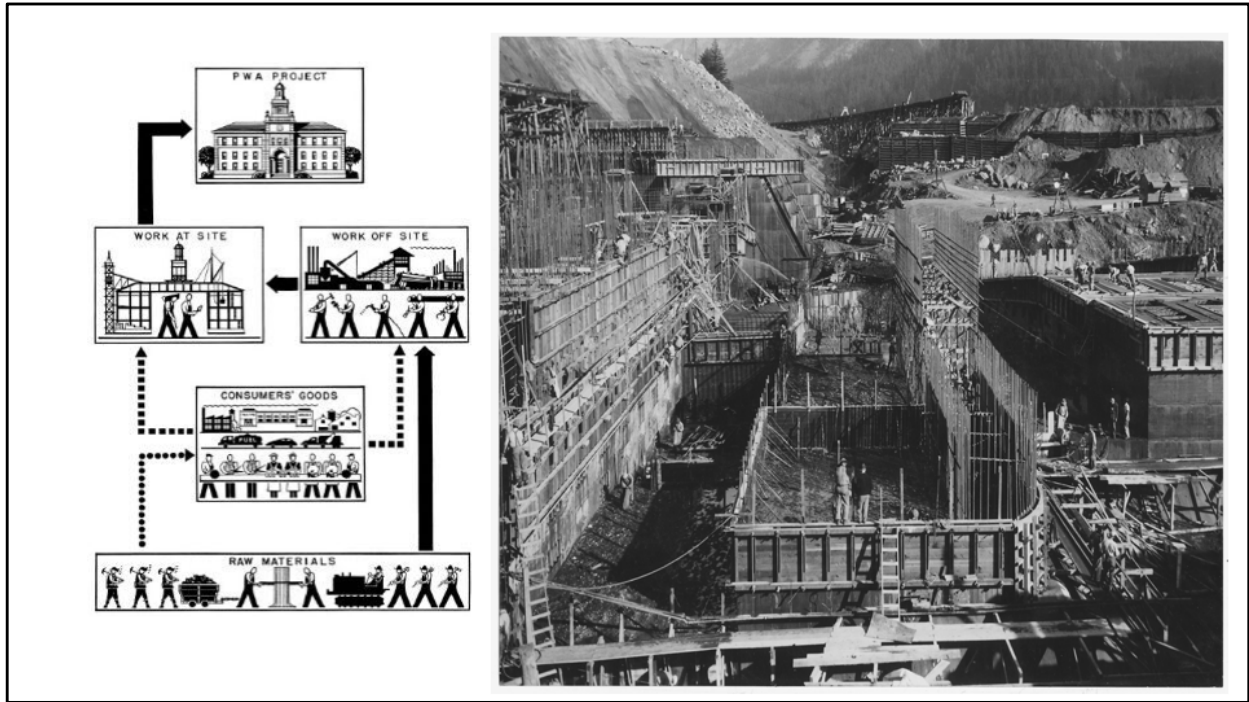
and even presidents who are considered very conservative, like Calvin Coolidge and Herbert Hoover, started the building of huge public works projects like the Hoover Dam.



But it is to the Green New Deal's inspiration, the original New Deal, led by President Franklin Roosevelt, that we saw perhaps the greatest use of the Federal government to intervene in the economy. The New Deal, and the 30 years of relatively equally shared growth that followed, should have made it very clear that the Federal government plays a critical role in the economy by building, expanding and updating infrastructure, and that by building lots of infrastructure, the government makes it possible to have the kind of economic growth that is long-lasting and benefits most of the population. There are many lessons to be learned from what happened in the last 80 years.



During the New Deal the Federal government *directly* employed millions of people to build the infrastructure that we are still using today, mostly through what was called the Works Progress Administration, or WPA



The New Deal also *indirectly* employed millions more by designing and managing big projects by subcontracting to private companies, usually with an agency called the Public Works Administration, or PWA. These projects were very successful



and many of them, like the Tennessee Valley Authority are still working today – or are falling apart because we haven't spent the money to maintain them

Lessons from history:

- 1) The Federal government can very successfully plan and manage big, complicated government-owned infrastructure projects that employ millions of people.

So **lesson number one**, the Federal government can very successfully plan and manage big, complicated government-owned infrastructure projects that employ millions of people.

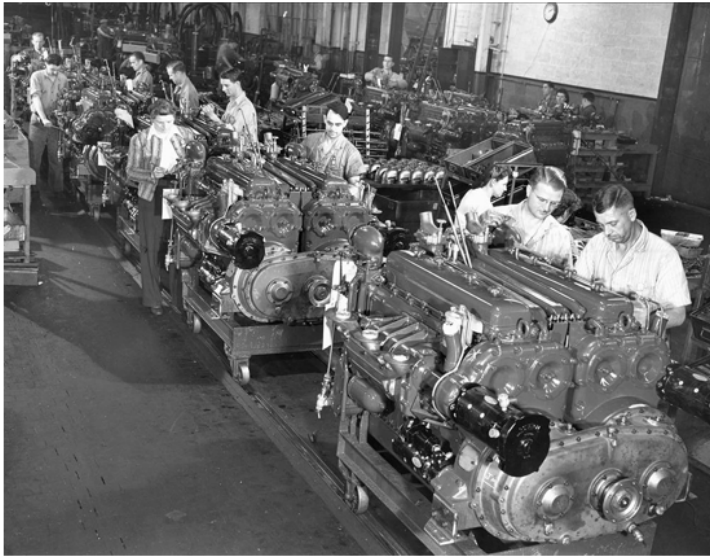


But the New Deal did something else that has relevance to the predicament we are in – it had a very important environmental program, called the Civilian Conservation Corps, or CCC, the brainchild of the president, Franklin Delano Roosevelt, FDR. The CCC reforested and fixed many ecosystems, which probably saved the economies of many of the rural, red states that vote Republican today

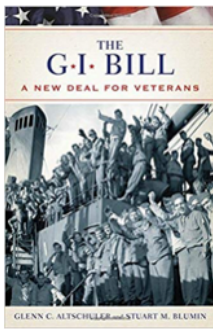
Lessons from history:

- 1) The Federal government can very successfully plan and manage big, complicated government-owned infrastructure projects that employ millions of people.
- 2) the government can very successfully rebuild and restore ecosystems.

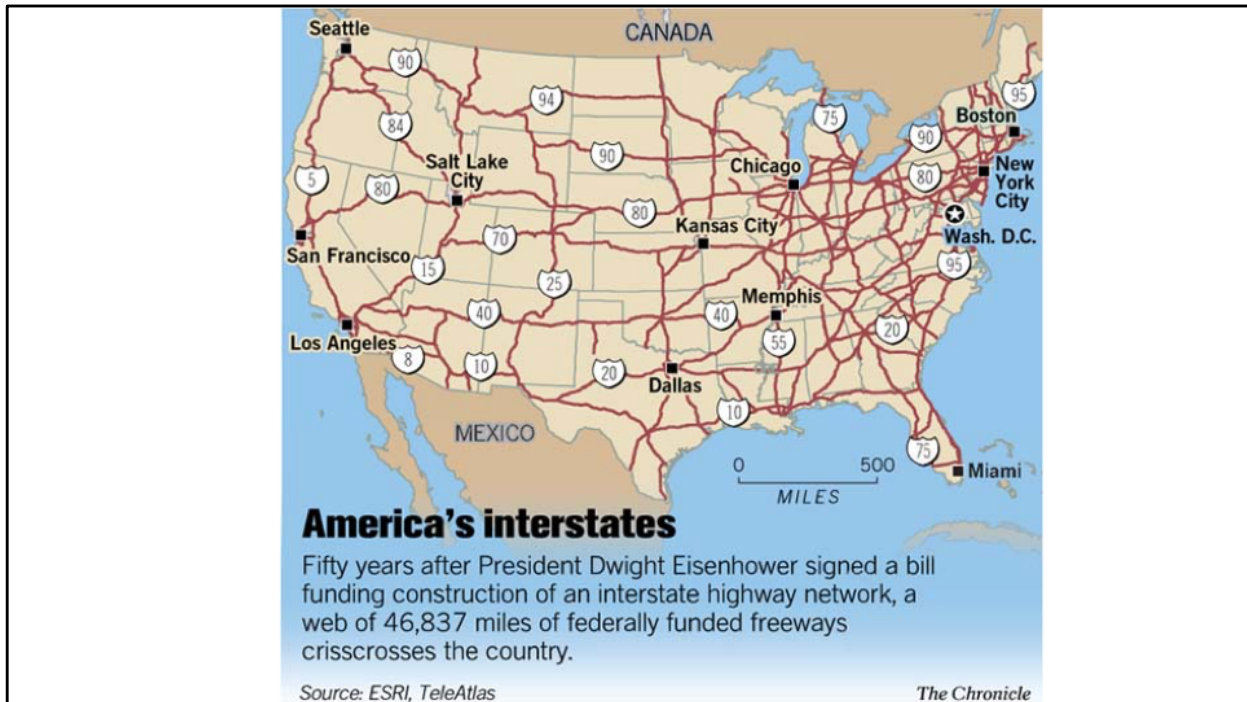
lesson number two, the government can very successfully rebuild and restore ecosystems, as well as infrastructure.



But even the New Deal was not large enough to fix the problem of the Great Depression. It took World War II, and the Federal government spending as much as one third of the economy on the war, to finally pull the economy out of the Great Depression. The government even paid for a whole new set of industrial machinery that the companies used after the war to produce for the post-war boom, and this will have great relevance for a green new deal plan which we will see later



The Federal government gave returning soldiers, via the 'G.I. Bill', financing for new homes and money for college education, which my father took advantage of.



The Federal government also funded the construction of the roads and water lines that made suburbia possible, constructed what is probably the largest public works project in world history, the Interstate Highway System, and set up the world's best R&D system

Lessons from history:

- 1) The Federal government can very successfully plan and manage big, complicated government-owned infrastructure projects that employ millions of people.
- 2) the government can very successfully rebuild and restore ecosystems.
- 3) the Federal government must continuously redesign the set of basic infrastructure systems if we want to create a better society .

Lesson number three is that the Federal government must continuously redesign the set of national infrastructure systems, taking advantage of new technology, if we want to create a better society .



After wwII, With all of this construction going on, not only were millions of good working class jobs created, there were millions more employed in manufacturing the things needed to create all those homes, roads, and other infrastructure

Lessons from history:

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- 4) by building infrastructure, the Federal government can help maintain or rebuild the manufacturing sector

Lesson 4 is that by building infrastructure, the Federal government can help maintain or rebuild the manufacturing sector.



In fact, there was so much work, that even the racist creeps that ran most companies back then relented and hired African-American and Latino workers, thus making for a solid working class in most communities of color. when Millions of African-American families came North, they made their way to cities like Newark, NJ and all the good factory jobs they could find there. At the same time, *all* workers saw their incomes rising through the 1960s because there was so much work to do, partly because of all the governmental building that was going on

Lessons from history:

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- 3) the Federal government must continuously redesign the set of basic infrastructure systems if we want to create a better society .
- 4) by building infrastructure, the Federal government can help maintain or rebuild the manufacturing sector
- 5) the Federal can help defeat bigotry in the work place *and* keep wages and income rising by spending money that leads to low unemployment.

lesson 5 is that the Federal government can help defeat bigotry in the work place *and* keep wages and income rising by spending money that leads to low unemployment.



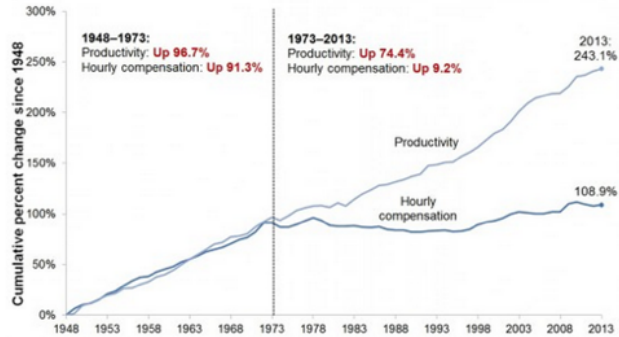
But when the Federal government stopped spending a lot of money to fix up the economy, and became embroiled in the Vietnam War instead in the mid 1960s, manufacturing started to decline



Newark had a big riot, because deindustrialization hit African-American communities first

Workers produced much more, but typical workers' pay lagged far behind

Disconnect between productivity and typical worker's compensation, 1948–2013



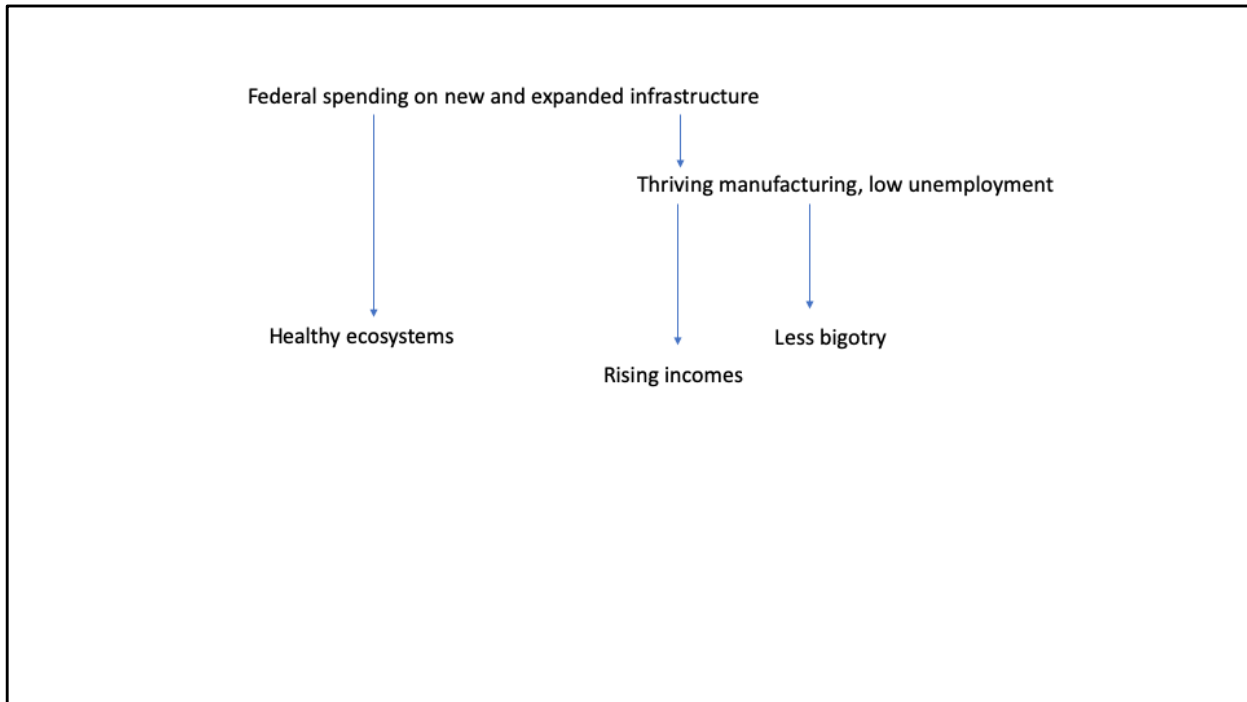
Note: Data are for compensation (wages and benefits) of production/nonsupervisory workers in the private sector and net productivity of the total economy. "Net productivity" is the growth of output of goods and services less depreciation per hour worked.

Source: EPI analysis of Bureau of Labor Statistics and Bureau of Economic Analysis data

Updated from Figure A in *Raising America's Pay: Why It's Our Central Economic Policy Challenge*

Economic Policy Institute

and inequality started getting much worse, and for most of America, income stopped going up. The productivity gains of the economy started going to the top 1% or so, not to most americans as it had been when manufacturing was strong.

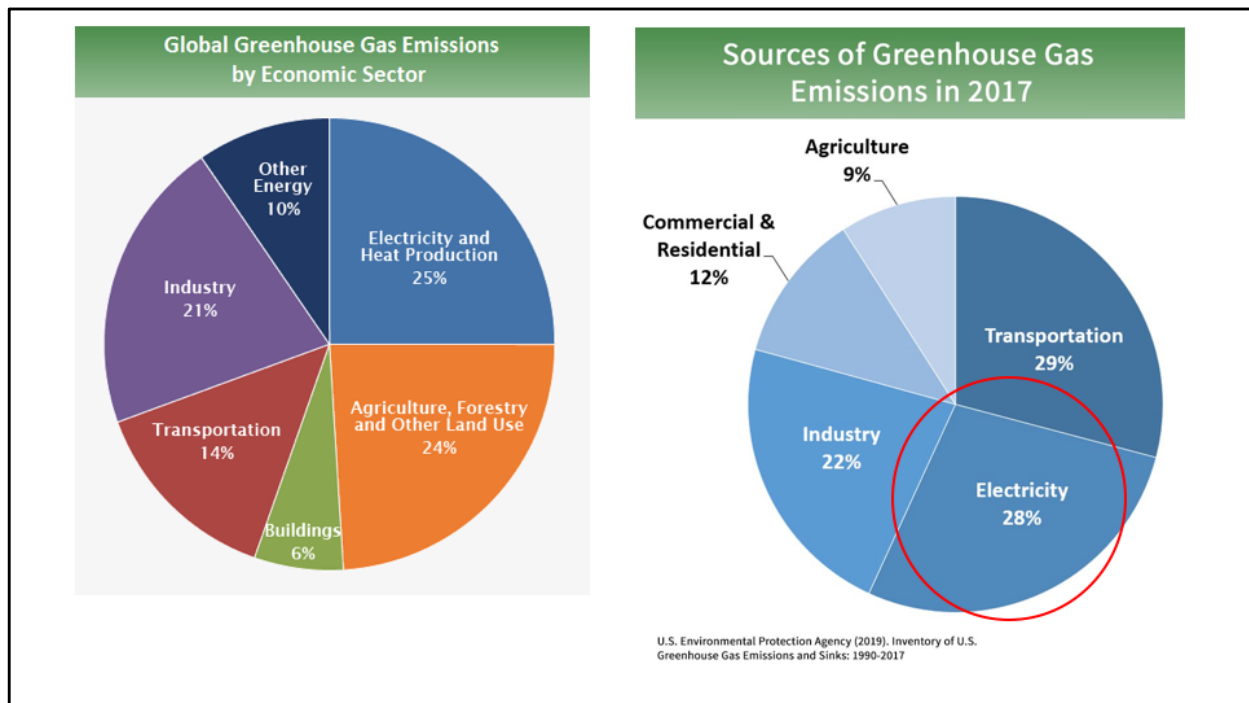


So as we have seen, the Federal government needs to spend a lot of money to expand and update the design of our society by reconstructing infrastructure in order to

maintain our ecosystems and climate,

to insure that manufacturing continues to thrive, and therefore

that peoples' incomes rise, and that bigotry is weakened

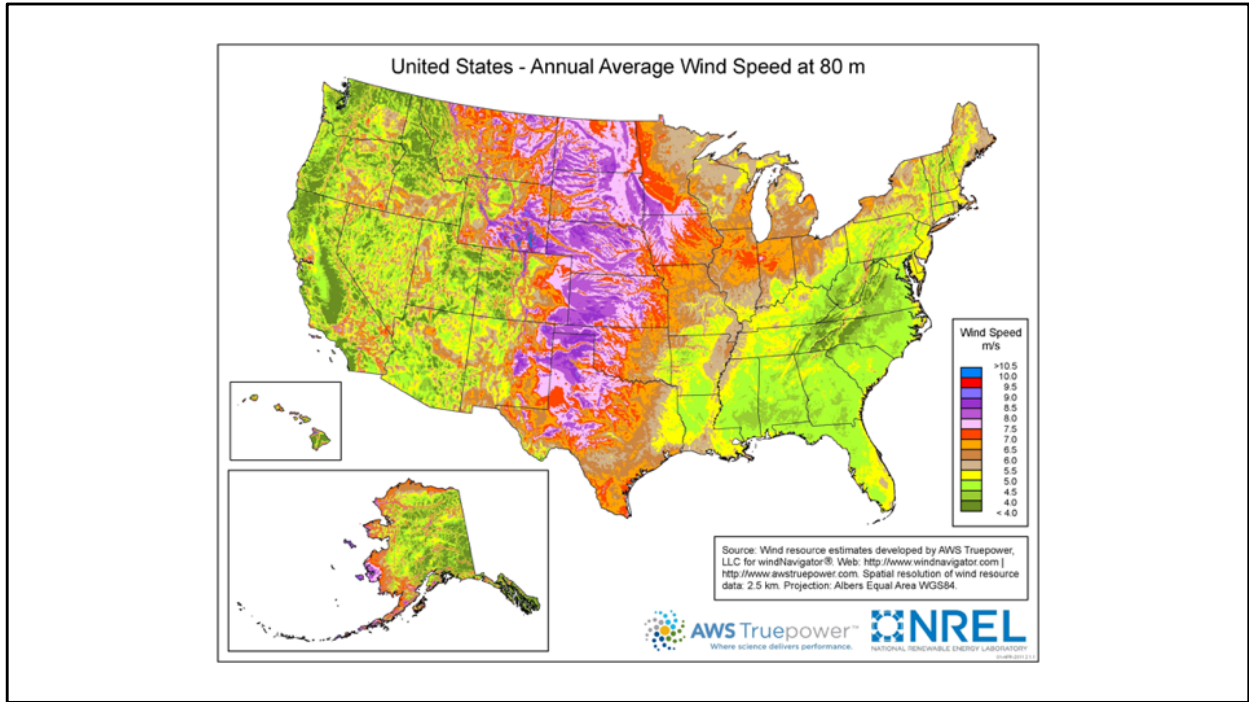


So, what should the government build? . Here are the sectors that emit greenhouse gases, both in the U.S., and globally. We see that there is no one thing that can do it, we have to transform many parts of the society. But that's ok, because as I will argue, many parts of our economy need major upgrades.

There is one part of our economy that is an immediate priority, however, because that part can be used to replace other sources of greenhouse gases, and that sector is the electrical sector. Although it 'only' generates about 28% of greenhouse gases, it can be used to substitute for much of the rest, as we will see.



So what we can do is create hundreds of wind and solar 'farms'



that the Federal government would build and strategically place so that there is always enough wind blowing in some combination of places that we can be sure there will always be enough electricity, nationally. Here we see that the most wind, in purple, is blowing in the great plains states

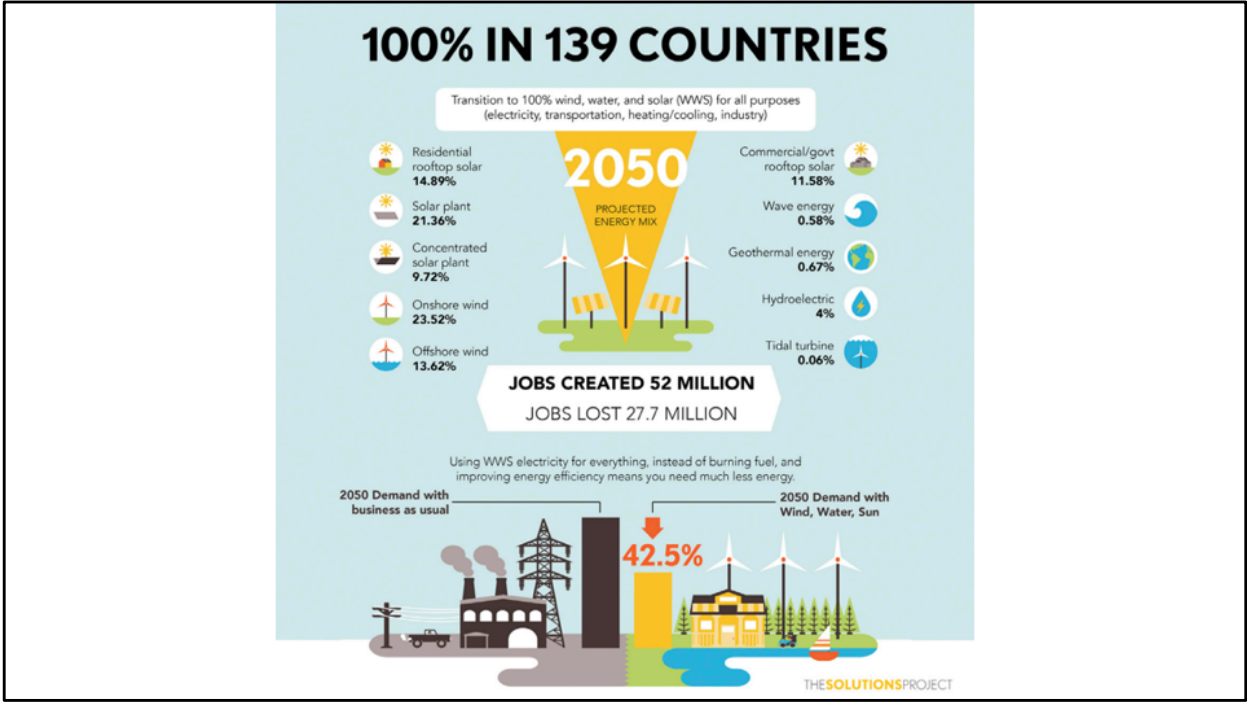
Green New Deal Plan

Interstate Renewable Electricity System



Since we call our national road system the Interstate Highway System, let's stick with that wording and call it

the Interstate Renewable Electricity System. After all, if the Federal government can build one Interstate, why not a few more? Here we are starting to rebuild the green new deal plan diagram, first with the electrical interstate



We see here that sometimes it is actually *more* efficient for the Federal government to do something than the market, as Stanford professor Mark Jacobson has been showing with his studies for many years now

Federal construction of Interstate Renewable Electricity System

More reliable

Less expensive for consumers

Healthier – no pollution

Millions of guaranteed jobs

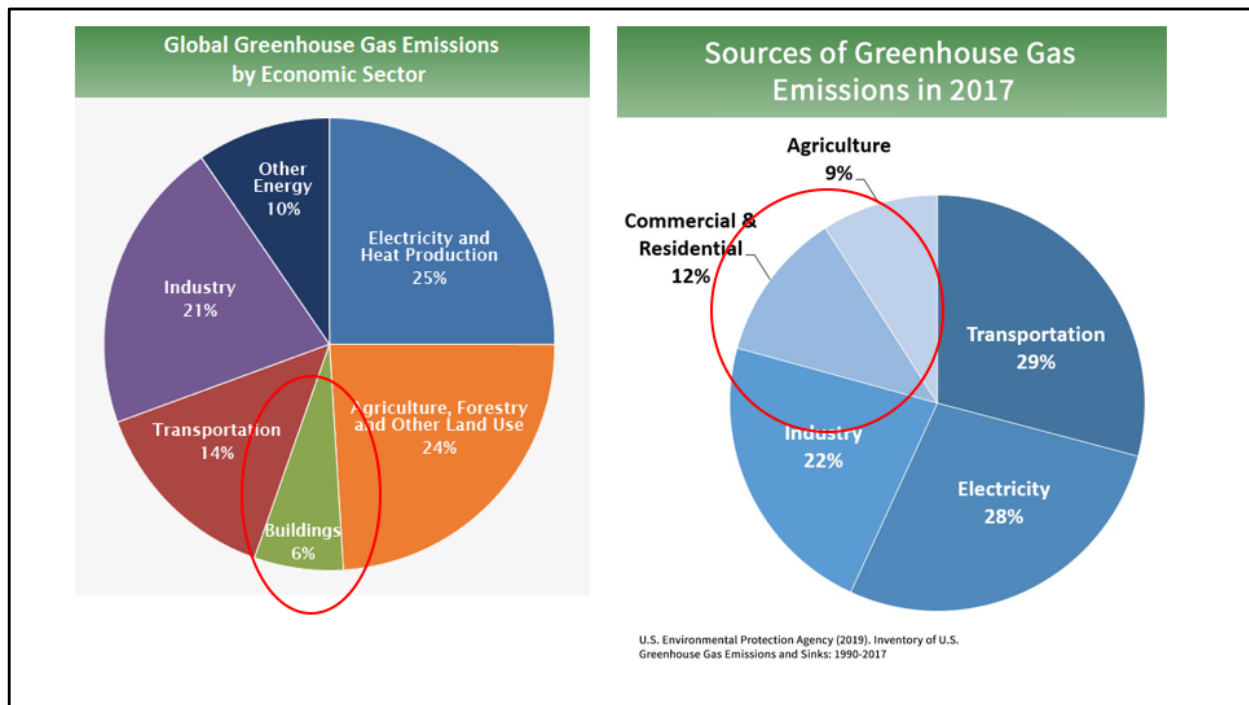
If the Federal government undertook to design and manage the construction of a brand new, smart electrical system, the system would be

more reliable,

would be cheaper,

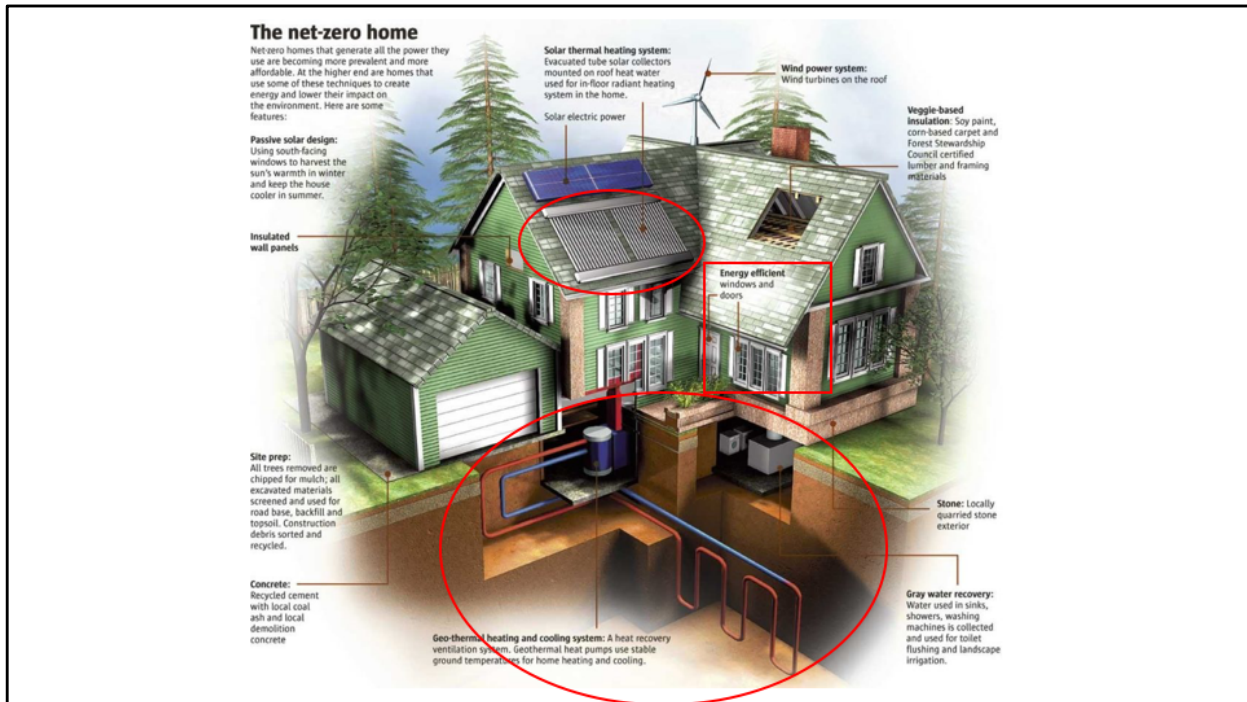
and would be more healthy than the current system – more healthy because it is estimated that the pollution from coal plants kill over 30,000 people per year.

And it would generate millions of new jobs. And therefore such a system should be something that people would want to have.



next, Buildings account for

12% of emissions, even after we have made all of the electricity buildings use carbon-free. The Federal government can engage in a Building Energy Self-Reliance Program

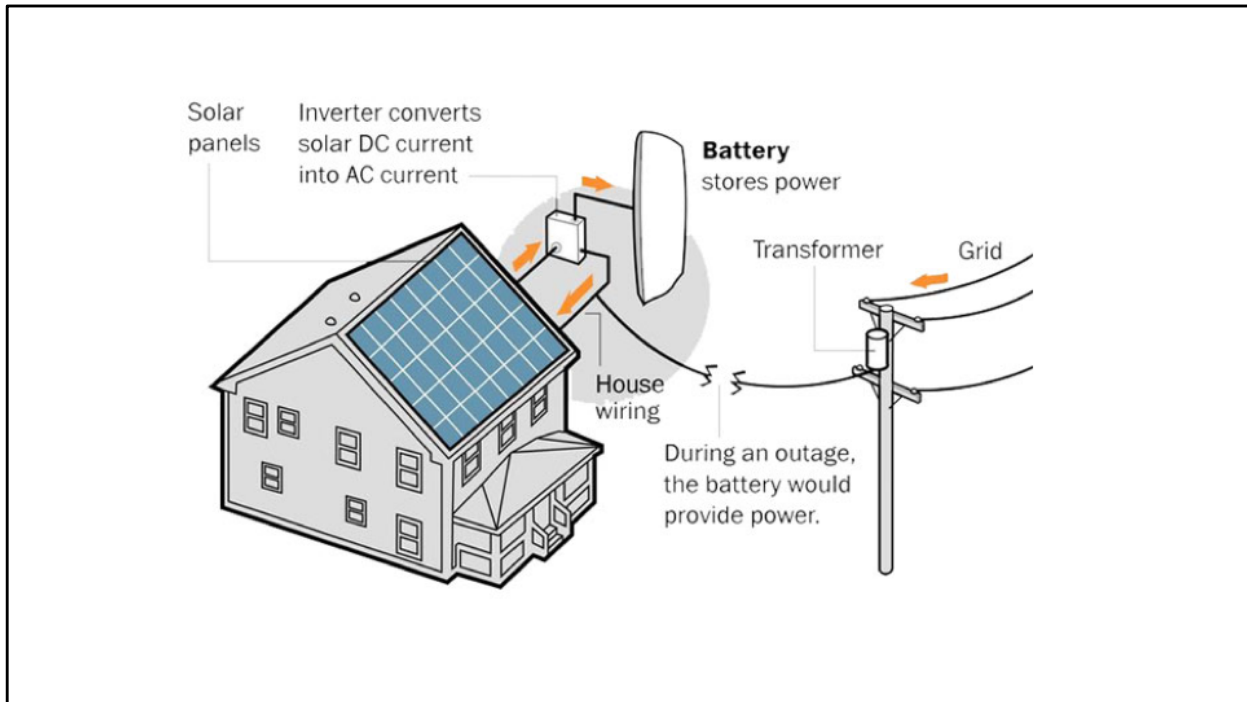


that can put

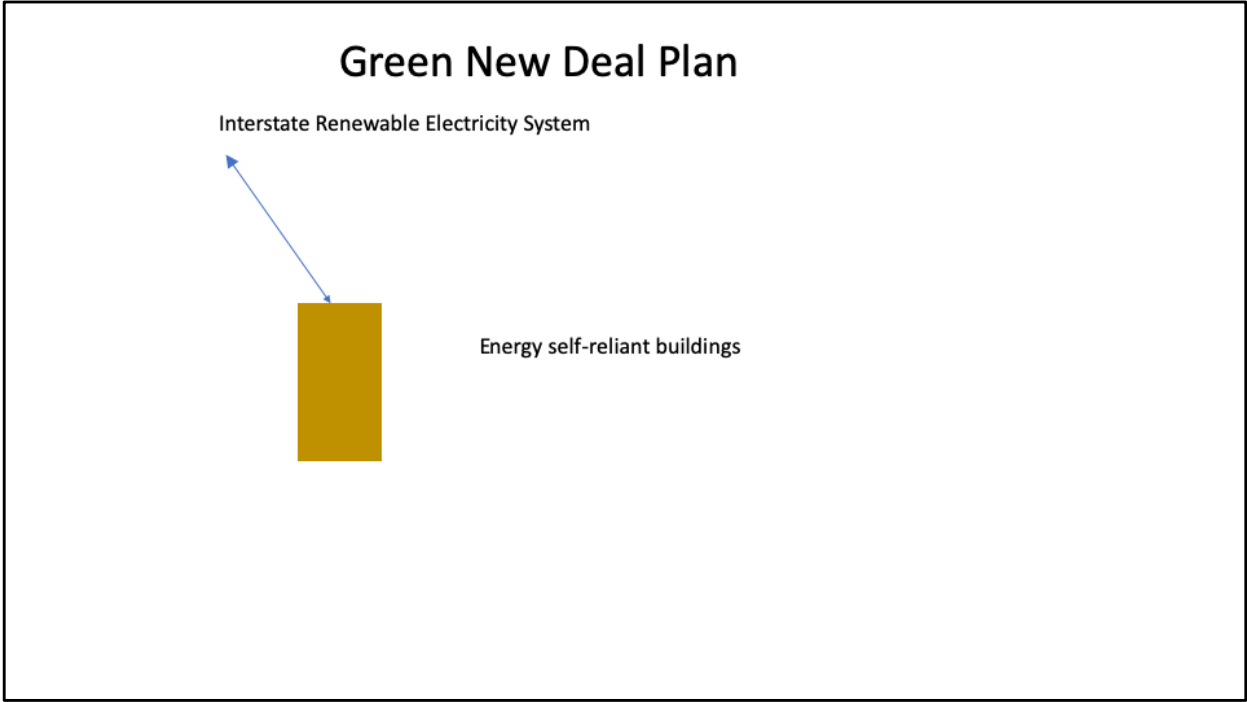
solar panels on the top of buildings, what are called

geothermal heat pumps below to handle most heating and cooling,

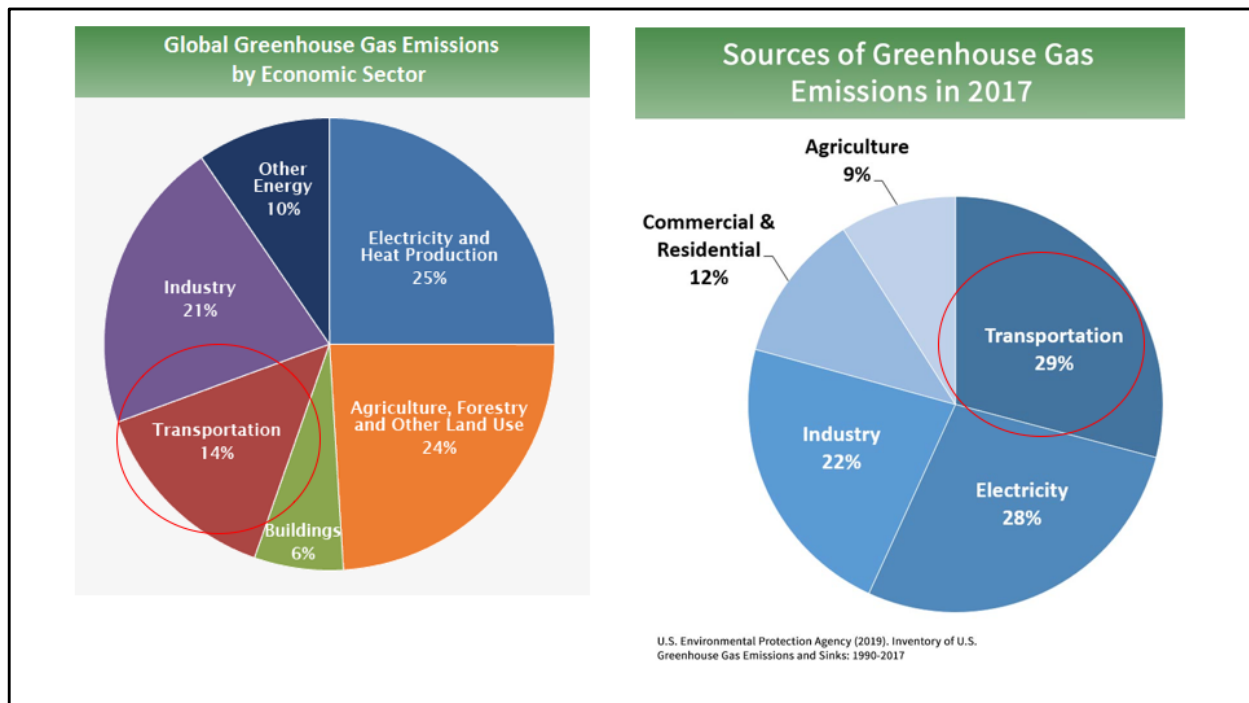
retrofit the building,



and then add a storage battery. The solar panel and battery can combine to make buildings part of the Interstate Renewable Electricity System, because the solar electricity and stored electricity can be fed back to the Interstate, and the Interstate can store electricity in the building's storage battery,

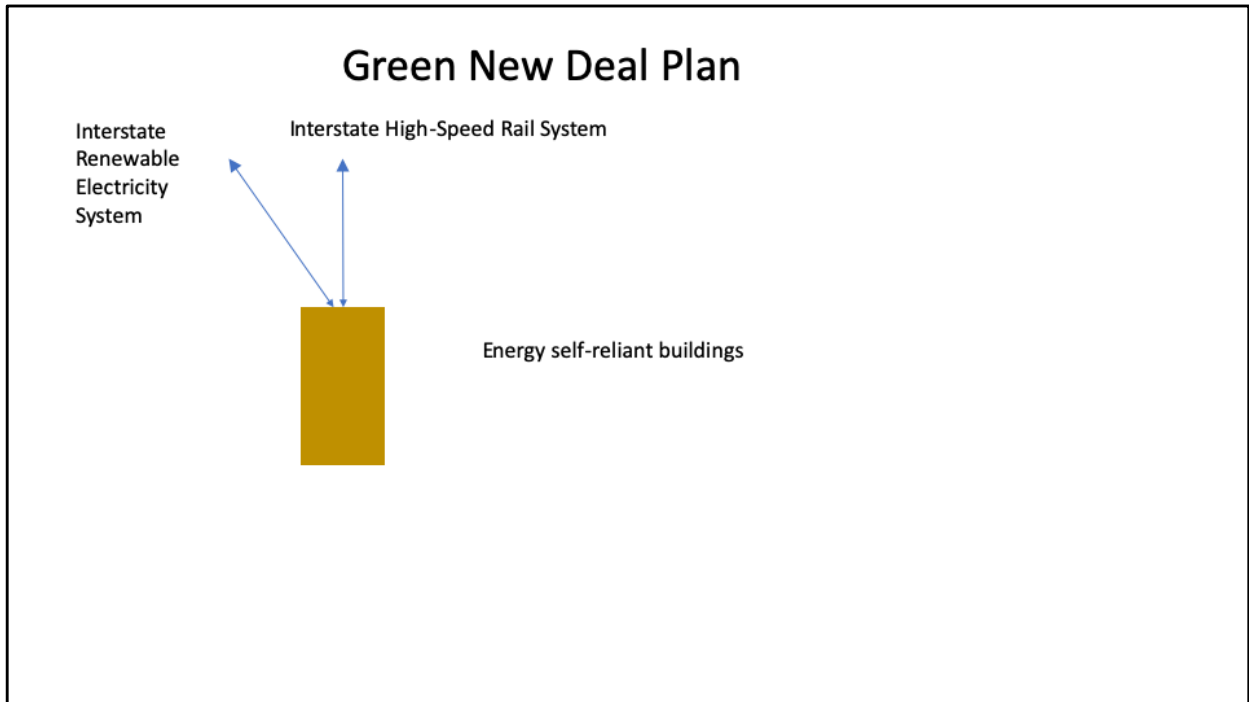


And thus we include energy self-reliant buildings in the diagram



It would be great if we could also have a nationally and locally integrated transportation system. Globally, transportation accounts for about

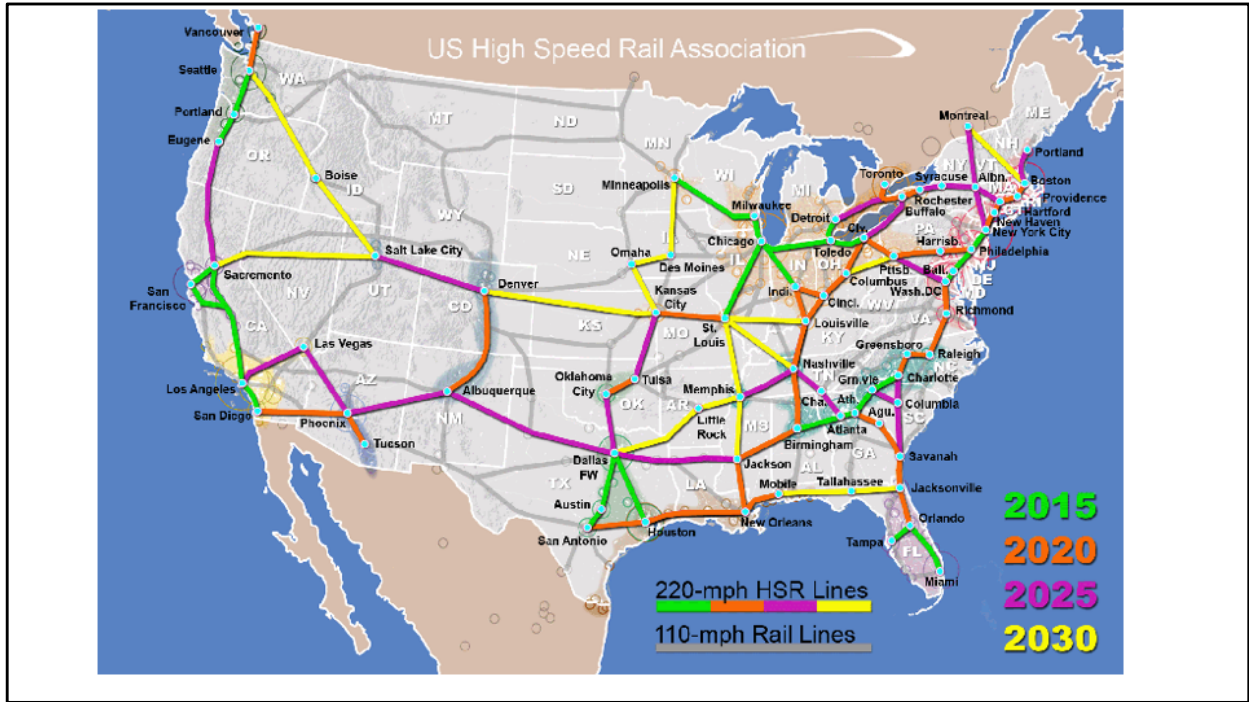
14% of greenhouse gases, in the U.S., 29%, and in California, a whopping 41%. Let me sketch for you what an ideal electrical transportation system would look like



At the center of a green transportation system the federal government could build another

Interstate,

an Interstate High-Speed Rail System

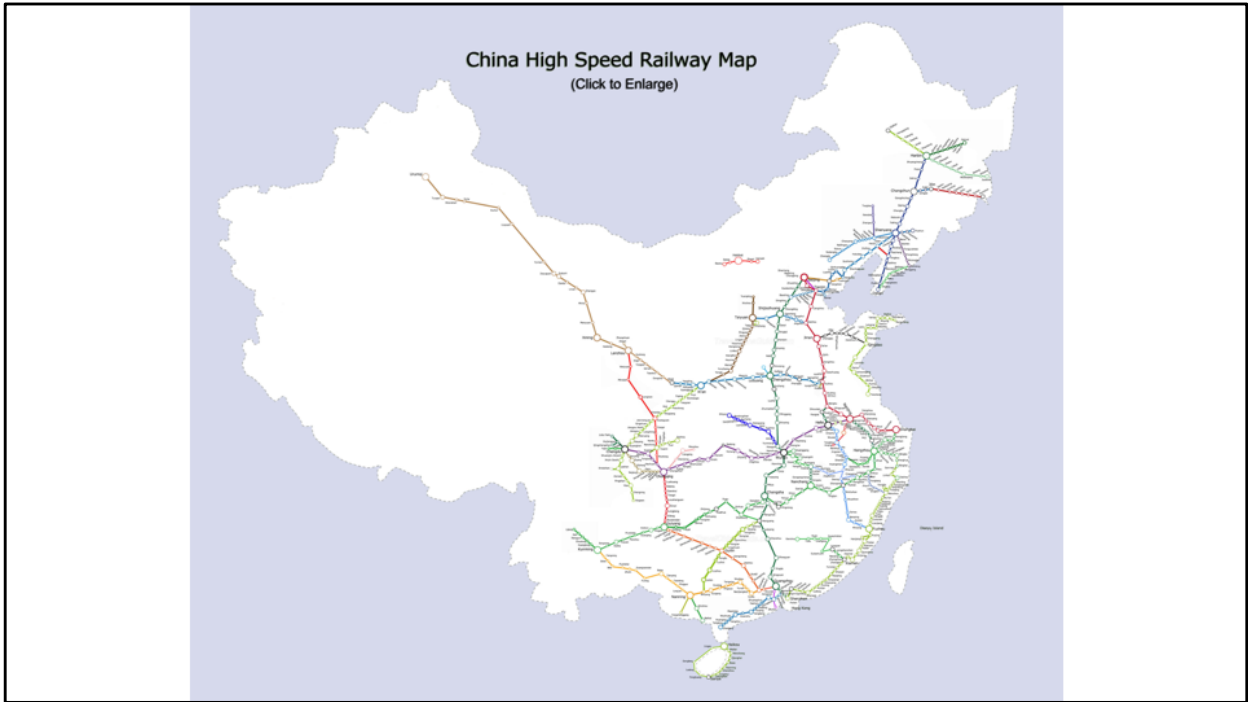


This Interstate could even follow much of the current Interstate, except that it would go all the way into the center of cities, which would make it very easy to connect with transit systems of subways, light rail, and fast buses. All of these trains and buses would use clean electricity from our electricity Interstate.

Chinese High-Speed Rail



Despite the problems California is having, much of the rest of the world has constructed nice, shiny new high-speed rail systems, so we know that they can definitely work. For example, this Chinese train

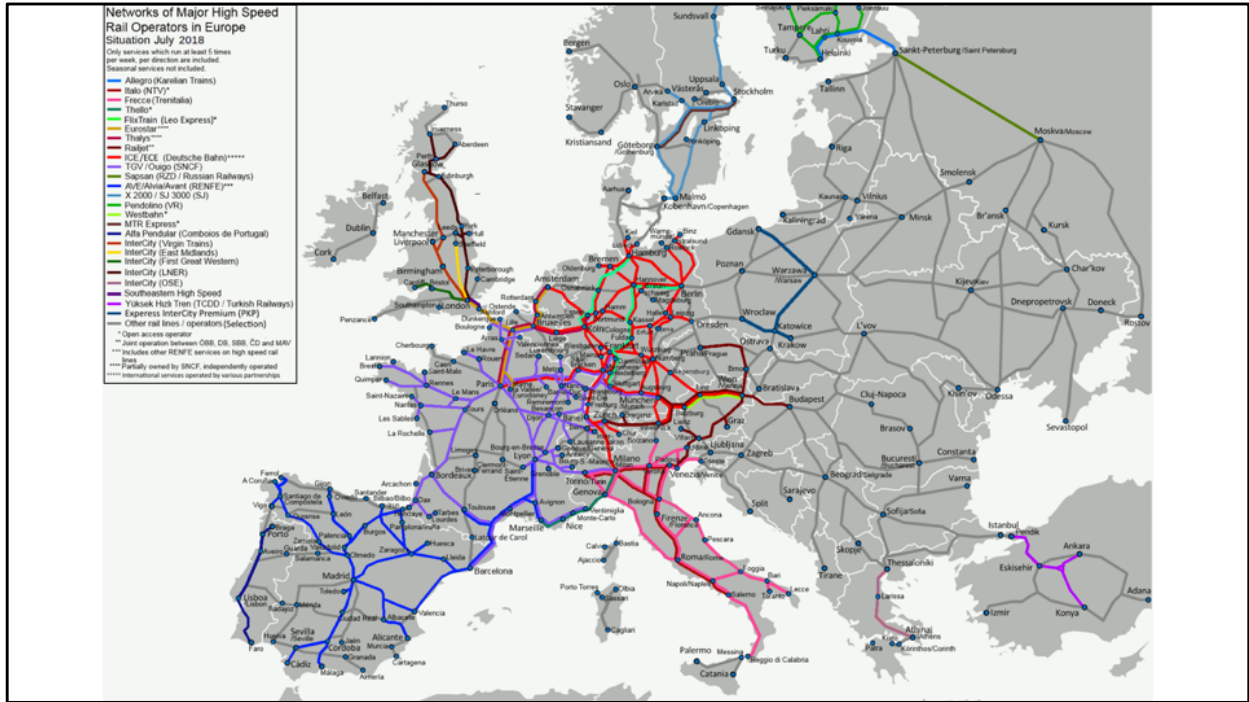


This enormous Chinese high speed rail network

French high-speed train



This French high speed train



And European high speed rail network, in color

Japanese high-speed rail

List of Shinkansen Lines: (click on each line for more details)

Tokaido Shinkansen

Train Categories:

Nozomi, Hikari, Kodama

Sanyo Shinkansen

Train Categories:

Mizuho, Nozomi, Sakura, Hikari, Kodama

Tohoku Shinkansen (and Yamagata and Akita Shinkansen)

Train Categories:

Hayabusa, Hayate, Yamabiko, Nasuno, Komachi (Akita), Tsuzumi (Yamagata)

Hokkaido Shinkansen

Train Categories:

Hayabusa, Hayate

Joetsu Shinkansen

Train Categories:

Tokai, Tanigawa

Hokuriku Shinkansen

Train Categories:

Kagayaki, Hakutaka, Adama, Tsurugi

Kyushu Shinkansen

Train Categories:

Mizuho, Sakura, Tsunami



And the Japanese system and train



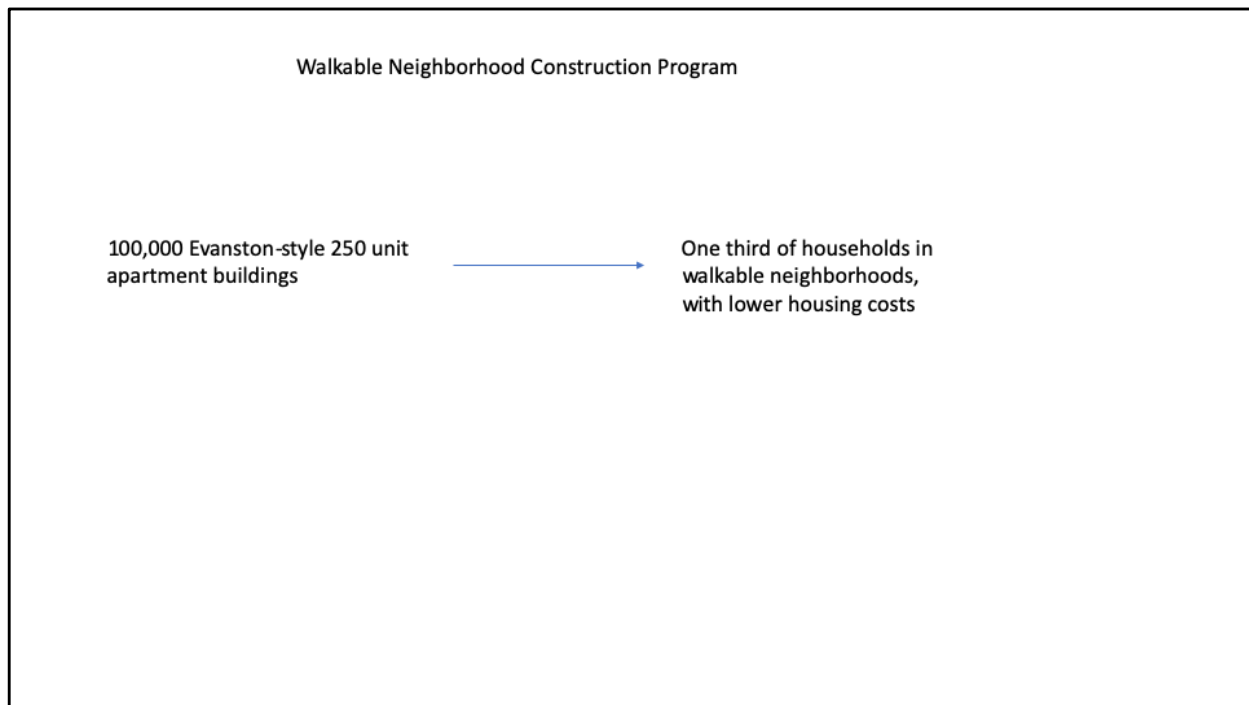
Now, ideally everybody would be able to get to the electrified train and bus system very easily. If you lived in what is called a 'walkable neighborhood', this would be pretty easy to do, because you just walk to transit which then whisks you to the rail system, to go wherever you want to go. But only 5% of the population lives in walkable neighborhoods, and mostly in NYC. Here you see that subways lead to the train stations, grand central and penn station



according to polls, another 25% would like to live in a walkable place. In other words, if a significantly larger share of the population could live where they did not *have* to use a car then it would make it much easier to construct a clean transportation system. But to do that, the Federal government will have to engage in a massive program to create and expand walkable neighborhoods



My family and I lived a couple of years in downtown Evanston, on the northern border of Chicago, in a comfortable 250-unit apartment building. Their downtown had been devastated by malls, but they have revived the downtown by building affordable, desirable apartment buildings, and now they have their town center back

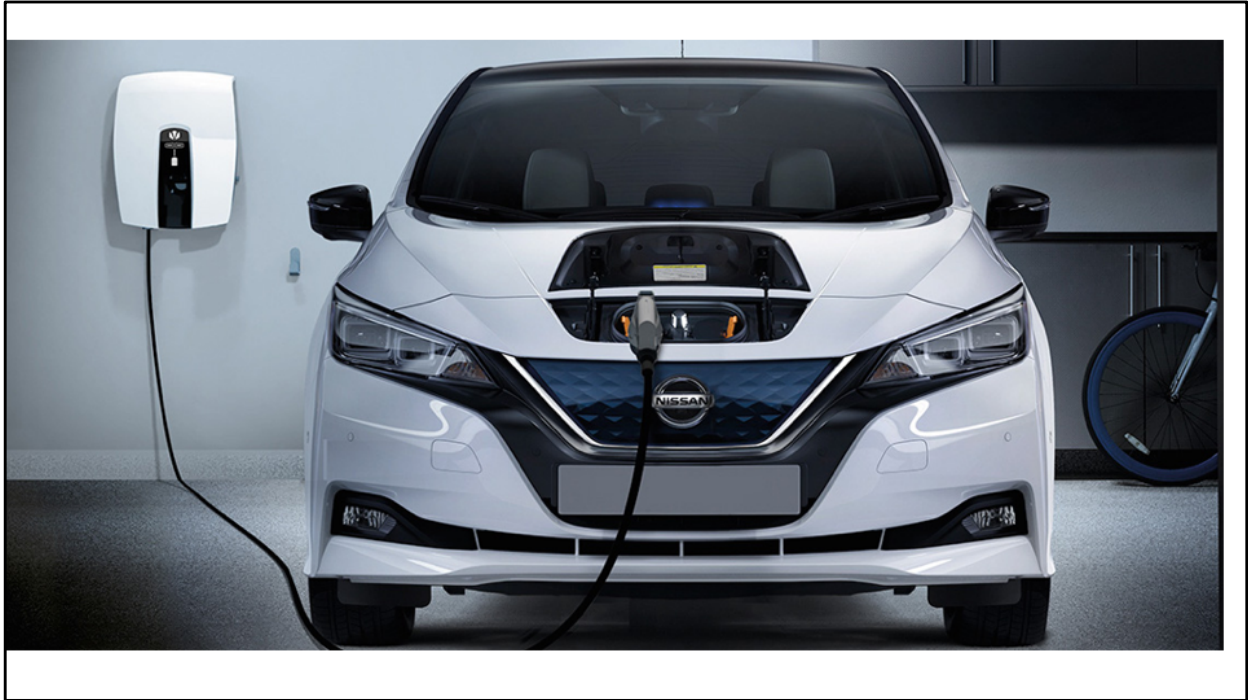


According to my calculations, if the Federal government built

100,000 of these buildings, spread throughout the cities and towns of the country in order to create walkable neighborhoods so that people could get to transit and rail easily,

after 20 years

about one-third of the population would have a choice as to how they are going to travel. And living in a walkable neighborhood, instead of being prohibitively expensive as it is now, because it is so desirable, would be affordable for working and middle class people – another selling point for a Green New Deal.



For the other two-thirds of households who would live in suburbia and rural areas, the Federal government could aggressively help everyone convert to electric cars by paying, say, half of the expense of a new, reasonably priced, electric car. Since the electricity cost for an electric car is about one third of the gas cost for a gasoline car, this would lead to lower prices for consumers



THE REAL REASON YOUR
CITY HAS NO MONEY

JANUARY 10, 2017
BY CHARLES MAROHN

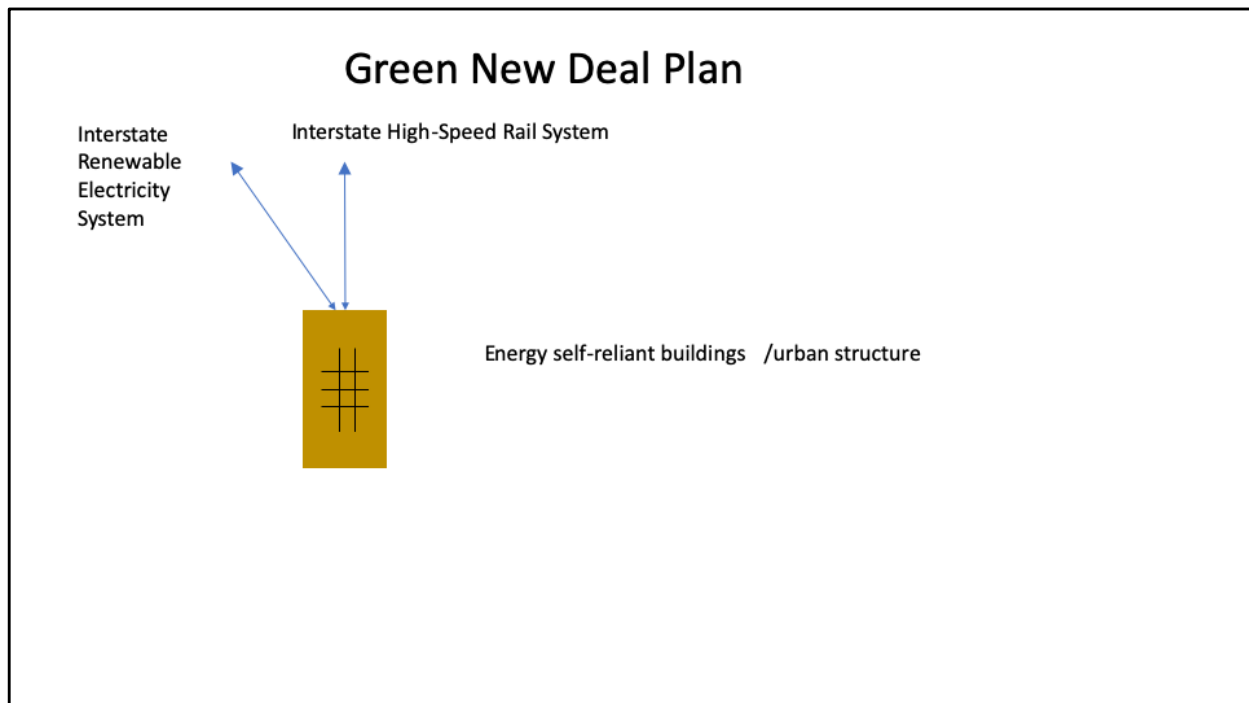
But the suburbs have another problem, all those roads and other infrastructure are basically unaffordable. You see, the Federal government and developers originally built all that infrastructure, but left it to the towns to maintain it. But according to the civil engineers at the site StrongTowns.org, there aren't enough people per square mile to pay for that maintenance. In walkable neighborhoods, on the other hand, there *are* enough people. So suburbs and rural areas are slowly going bankrupt,



and the infrastructure is falling apart. So the easiest thing to do, perhaps, is for the Federal government to keep the whole creaky machine going for a few more decades, until we figure out a better long term solution, or most people like what they see in the new walkable neighborhoods and want live there

2016-2025 (10 YEARS)			
Infrastructure Systems	Total Needs	Estimated Funding	Funding Gap
Surface Transportation ¹	\$2,042	\$941	\$1,101
Water/Wastewater Infrastructure ¹	\$150	\$45	\$105
Electricity ¹	\$934	\$757	\$177
Airports ¹	\$157	\$115	\$42
Inland Waterways & Marine Ports ¹	\$37	\$22	\$15
Dams ²	\$45	\$5.6	\$39.4
Hazardous & Solid Waste ³	\$7	\$4	\$3
Levees ⁴	\$80	\$10	\$70
Public Parks & Recreation ⁵	\$114.4	\$12.1	\$102.3
Rail ⁶	\$154.1	\$124.7	\$29.4
Schools ⁷	\$870	\$490	\$380
TOTALS	\$4,590	\$2,526	\$2,064

the federal government could invest a few more trillion into reconstructing the suburbs and rural areas – and we have a roadmap on how to rebuild the infrastructure, from the American Society of Civil Engineers’ Infrastructure Report Card.



So the Green New Deal could be a win for everybody – people who want to live in an urban-type neighborhood could do so, and people who wanted to live in a suburban environment could do so.

City centers and main streets would be revived, housing prices would come down, and everyday infrastructure could finally get fixed.



An important reason that people have not wanted to live in cities is because of the declining state of public schools. So people aren't going to want to live in cities unless the schools improve.

Upgrading the technological capacity of the American workforce

Free public colleges

More free technical schools

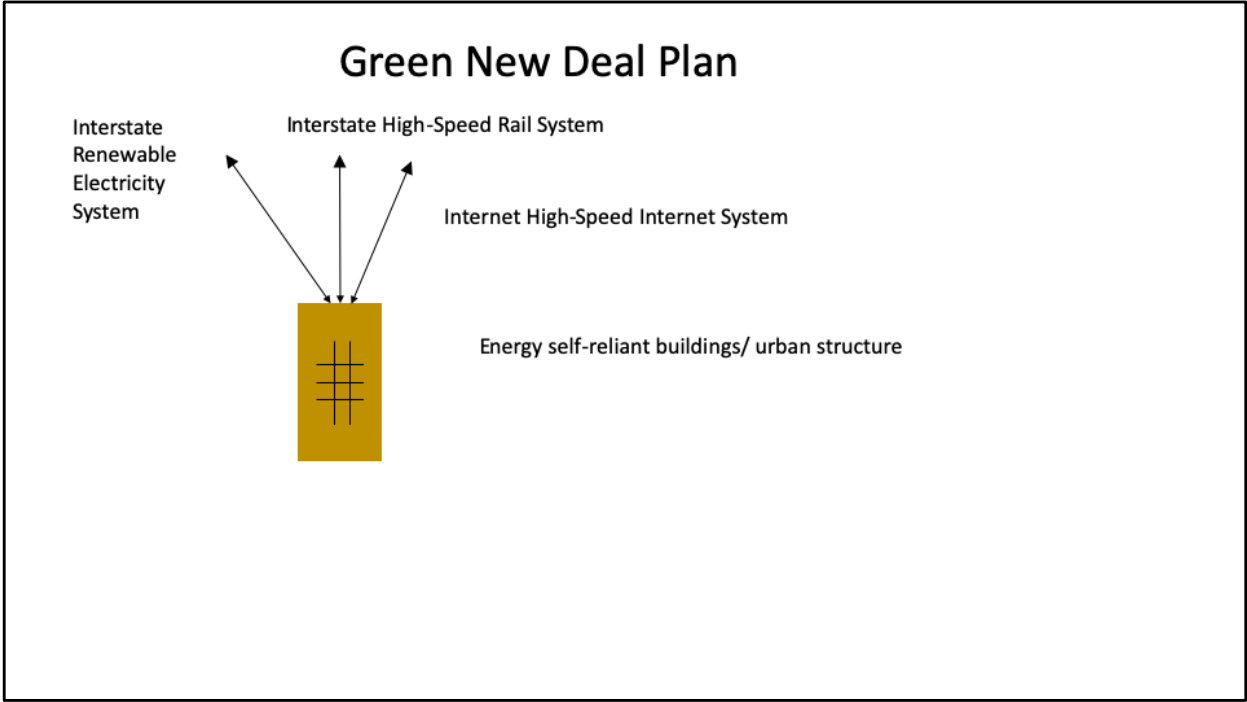
Federal aid to public schools (higher teacher salaries, no more than 15 students per class)

Universal pre-K and childcare

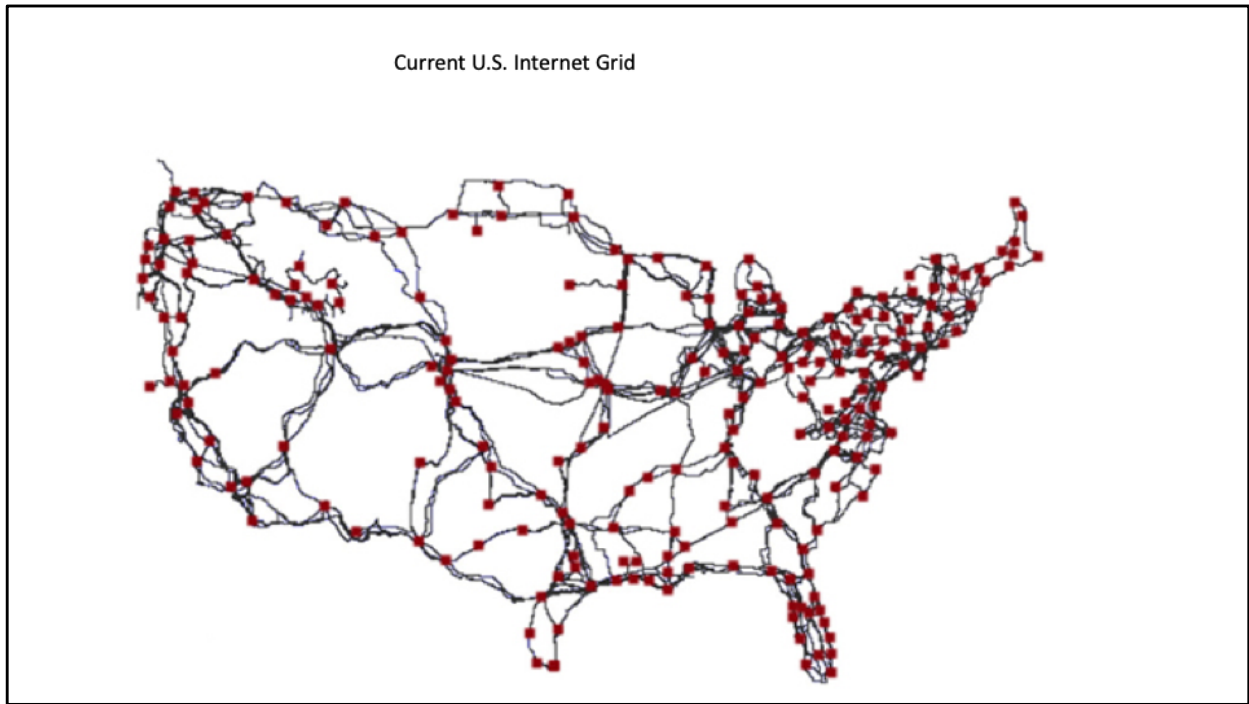
We need to improve all schools and education, because the Green New Deal will require tens of millions of new workers who need to be highly skilled in order to upgrade and create these new, higher tech infrastructure systems.

So free public college, seen from this perspective, is also a necessity, not an add-on, as would be creating more technical schools, and helping public schools, say by providing enough money to keep class sizes at a maximum of 15 students,

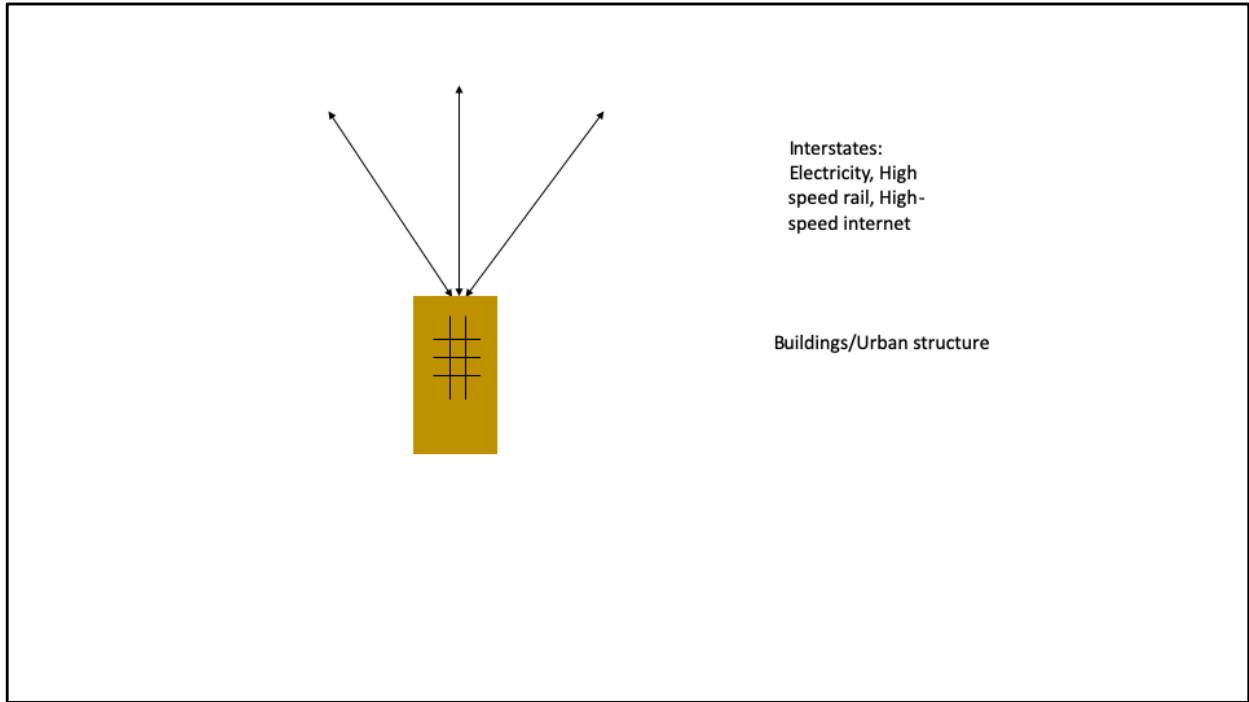
and it would also be a smart investment, as would universal pre-K and childcare. We simply can't afford to lose the potential of most of the population



In order to maximize this potential, I would propose that the Federal government build a third new Interstate, an Interstate High-Speed Internet System



We are behind South Korea and many other countries in terms of reliability and speed, and a national, cutting-edge, government-owned network that provided low-cost service would be another selling point of a Green New Deal, but it could also provide free internet service to schools at all levels,



So we have several systems that would provide clean, cheaper, improved services to the entire population, without requiring hardship, in fact, the Federal government can upgrade many aspects of daily life.

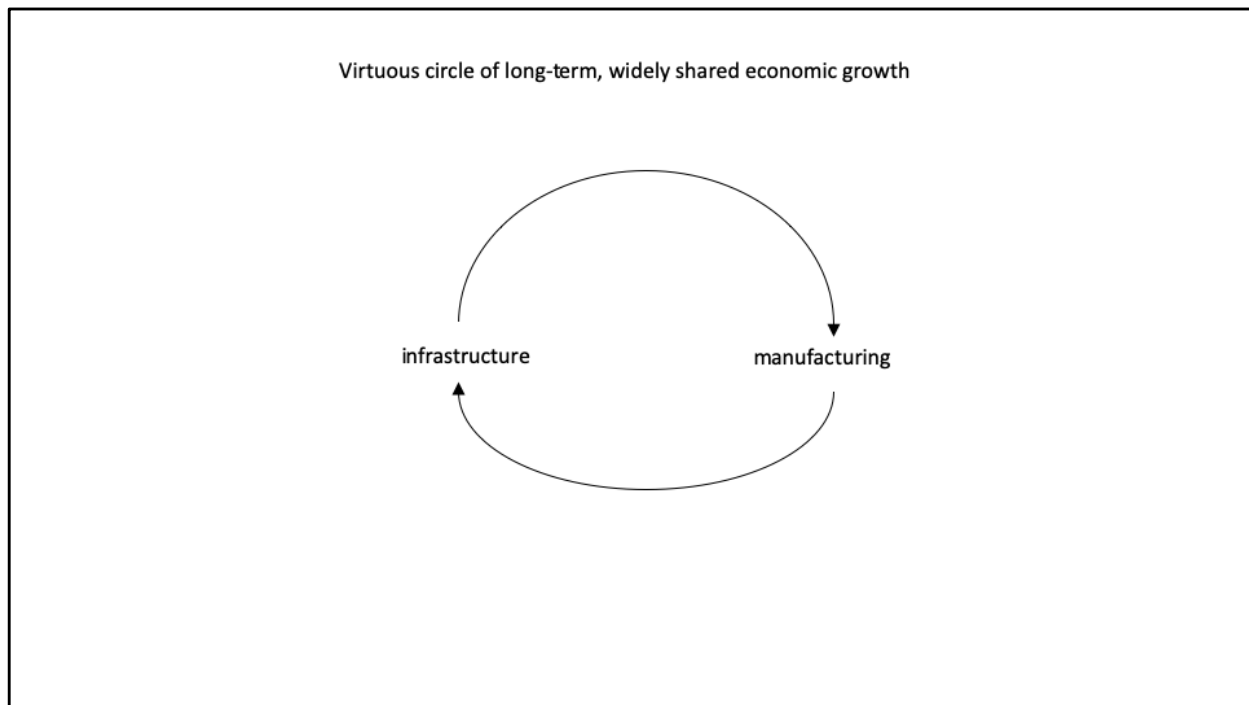
Green New Deal manufacturing



Doing all of this construction would require a lot of output from factories, there would have to be a lot of manufacturing being done. And if the manufacturing was all done in the United States, then millions of good factory jobs could be created,



thus engendering a critical level of support from people in the working class, that I think the Green new deal will need in order to be implemented.

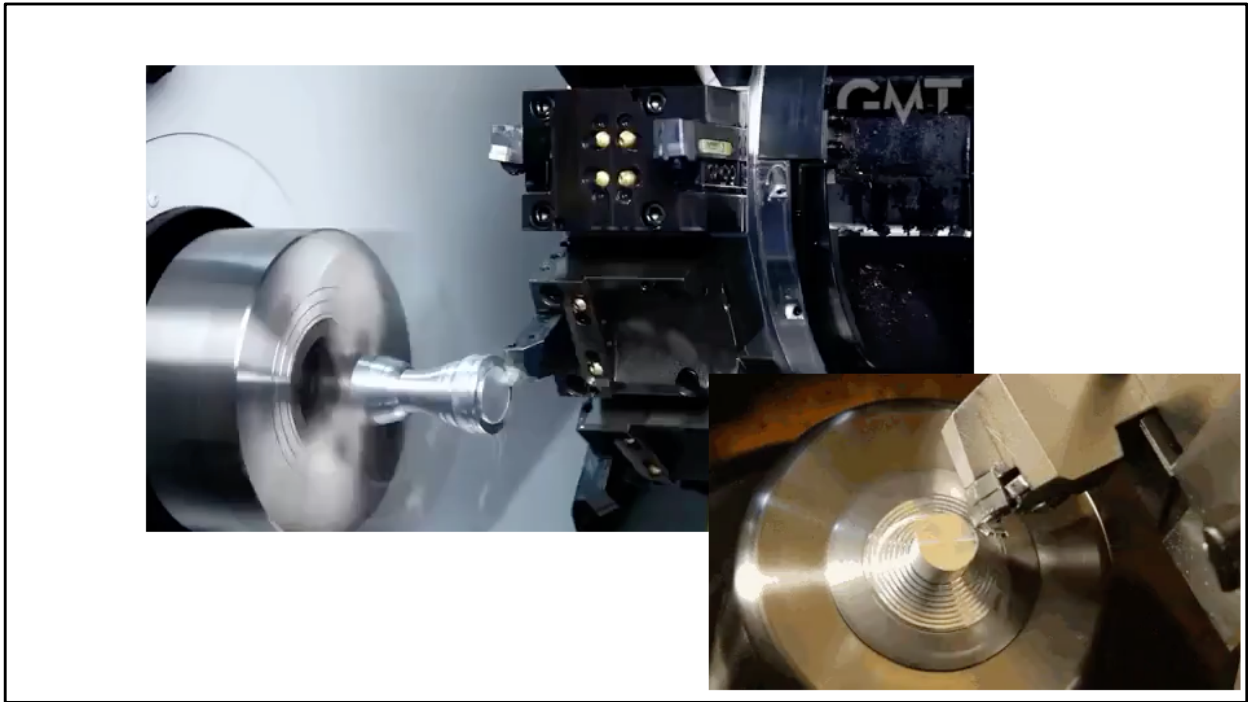


And this is all to the good, because by rebuilding manufacturing, we can rebuild the working and middle class, and recreate the engine of economic growth that led to the widely shared prosperity of the 30 years after World War II – and this time, we can make sure that all communities share in the prosperity, including communities of color. You see, when the Federal government builds infrastructure, it helps the manufacturing sector by becoming a source of orders,

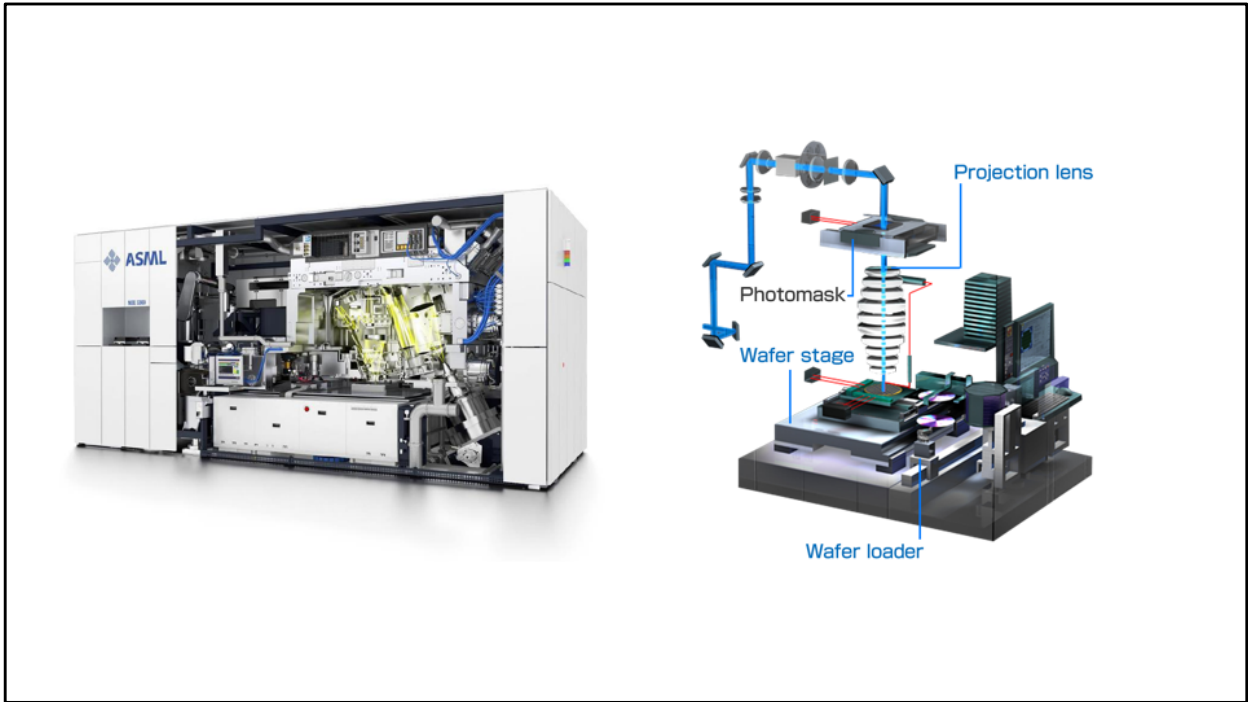
and when the manufacturing sector produces goods more cheaply and in ever more technologically advanced ways, then the infrastructure becomes better. This ‘virtuous circle’ of manufacturing and infrastructure is what drives widely shared economic



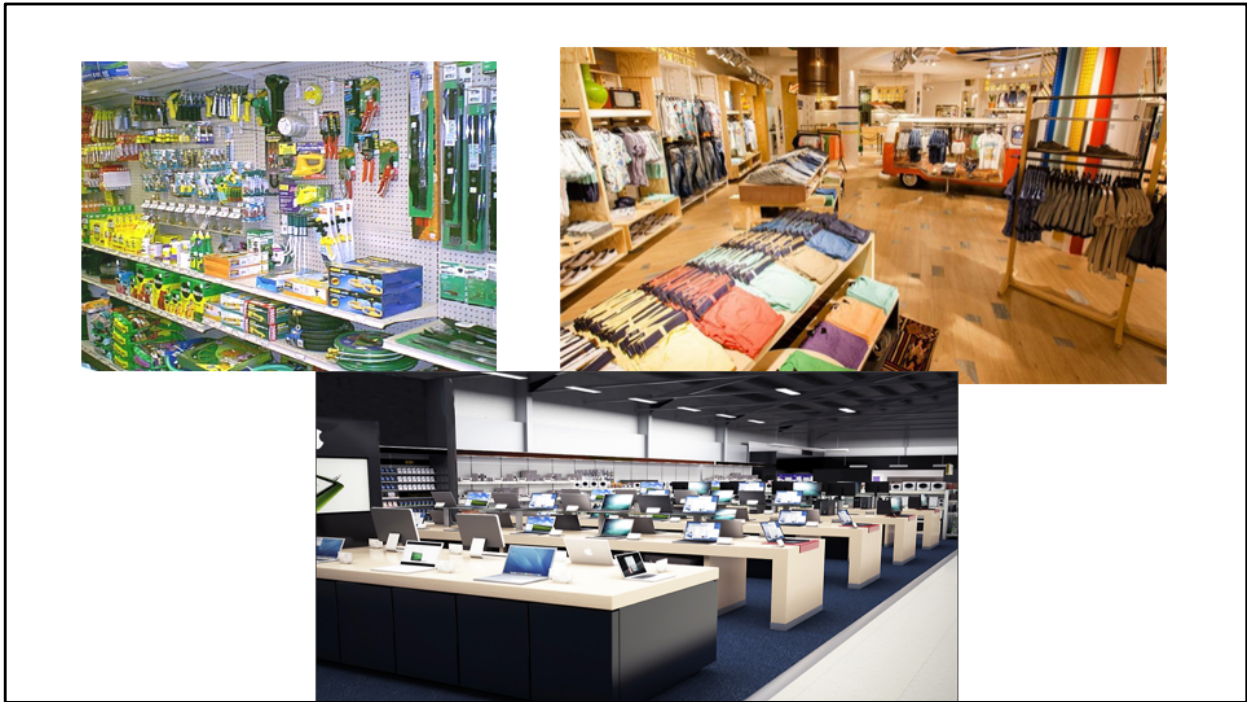
For instance, near where I live, they recently rebuilt the bridge over the Hudson River. They used a floating crane that cost about \$50 million, and it has been estimated that using that crane saved about \$1 billion in building costs



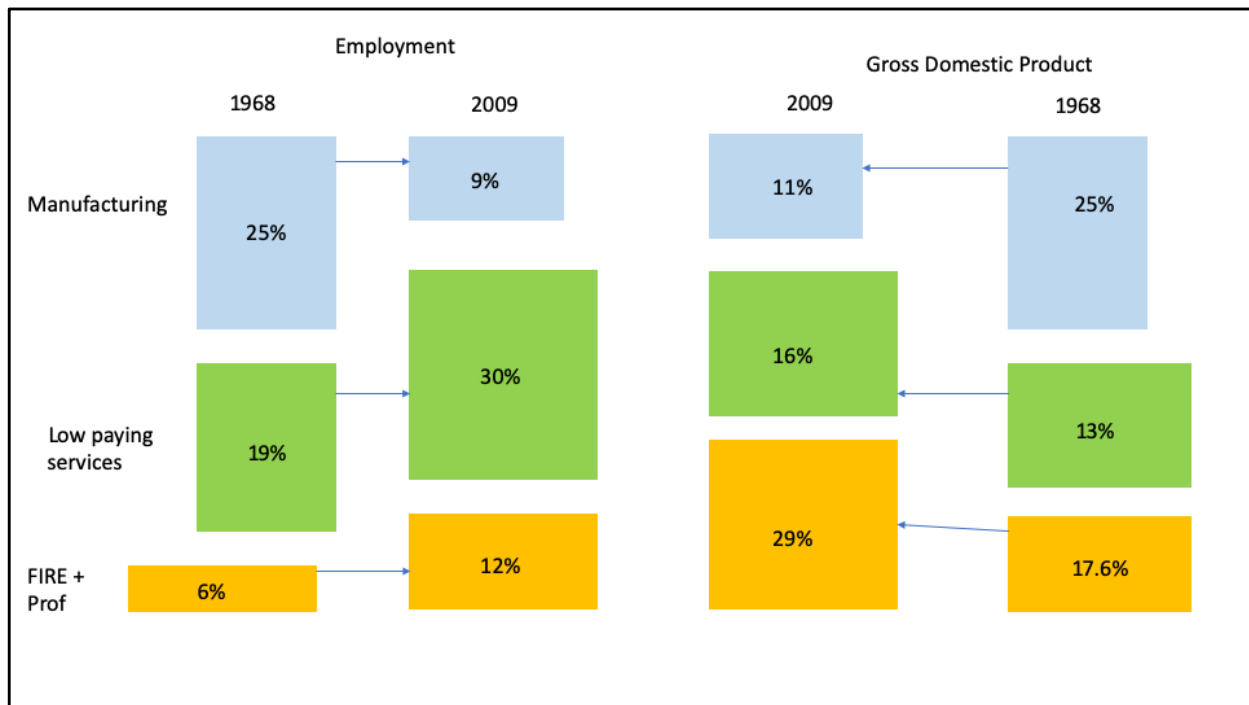
So improvements in machinery, like machine tools, are what drive improvements in building things, which makes the society richer



The smart phones in your pocket are more and more powerful because the machinery that makes the components of the phone become more and more technologically advanced. And those machines also make the pieces of the internet, the infrastructure that allows you to interact with sites around the world.



Manufacturing produces the goods that then are used by the service sectors, so when manufacturing improves, the service sectors improve. For instance, everyone who works in retail are selling manufactured goods, but those service sector jobs are usually not as good as the factory jobs.



But here is where the decline of manufacturing has hurt most Americans, not just the ones who lost their factory jobs. If manufacturing plus infrastructure powers economic growth, then its decline leads to working and middle class decline. And so what happened when manufacturing fell from 25% of

employment and

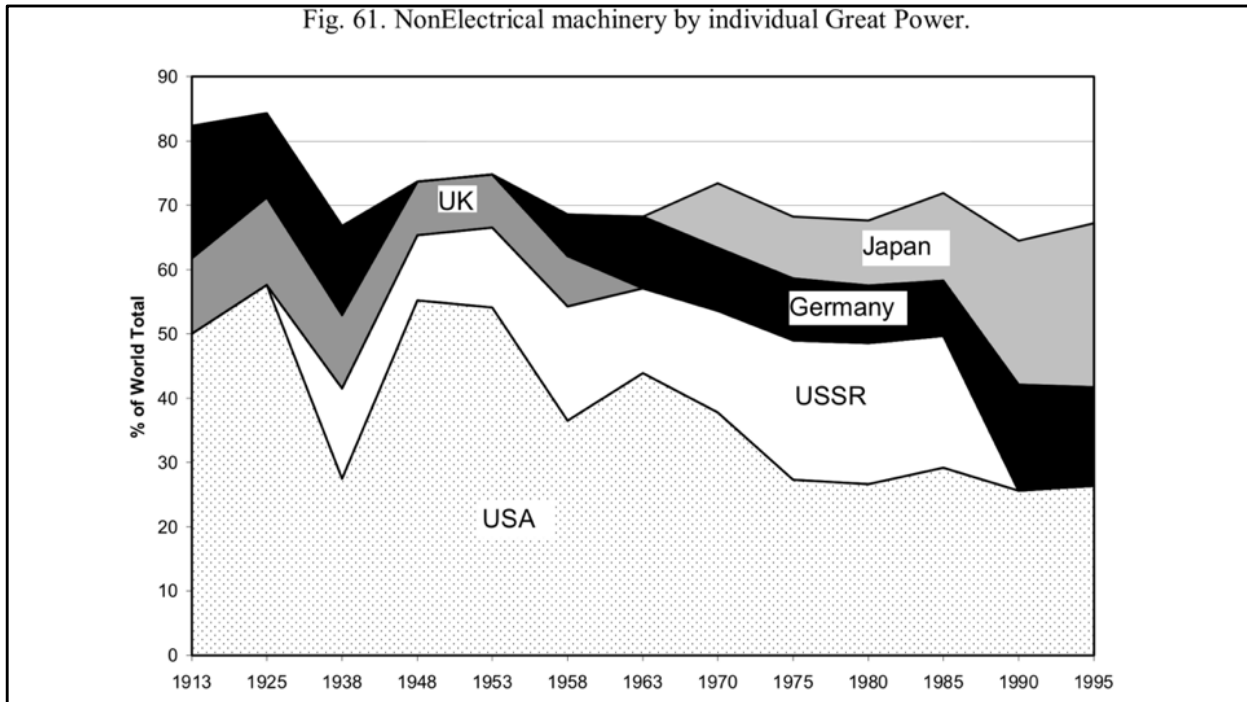
economic output down to about 10%, was that most of the lost 15% in employment went to

low paying service occupations, while

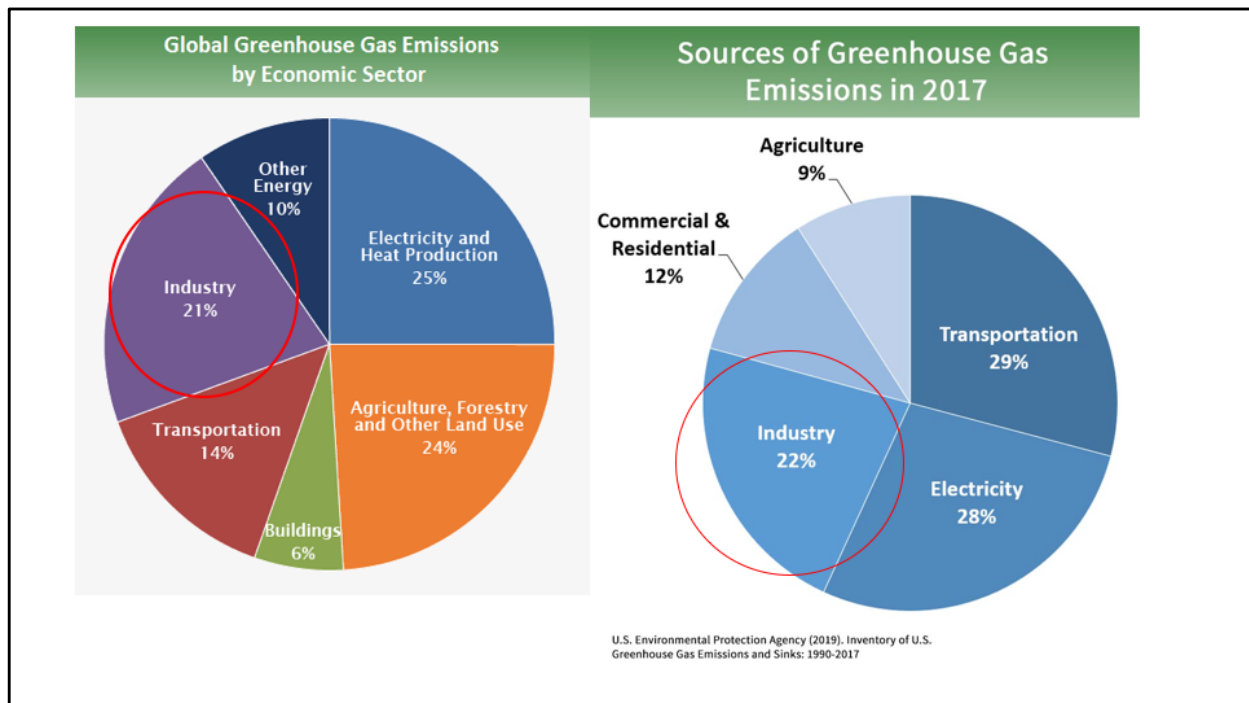
the income went to the financial sector. This, plus changing tax and regulatory policies, is the most important reason that income inequality has increased in this country.

But since the Green New Deal can revive manufacturing, the Green New Deal can lead to a more equal society.

Fig. 61. NonElectrical machinery by individual Great Power.



The key to reviving manufacturing is to rebuild the most important part of manufacturing, and indeed the most important part of an economy, the industrial machinery sector. As you can see here, the most powerful countries in the world are those countries that produce most of the production machinery – because you need production machinery to both make military equipment which leads to military power, and you need it to produce manufactured goods and infrastructure, which leads to economic power.

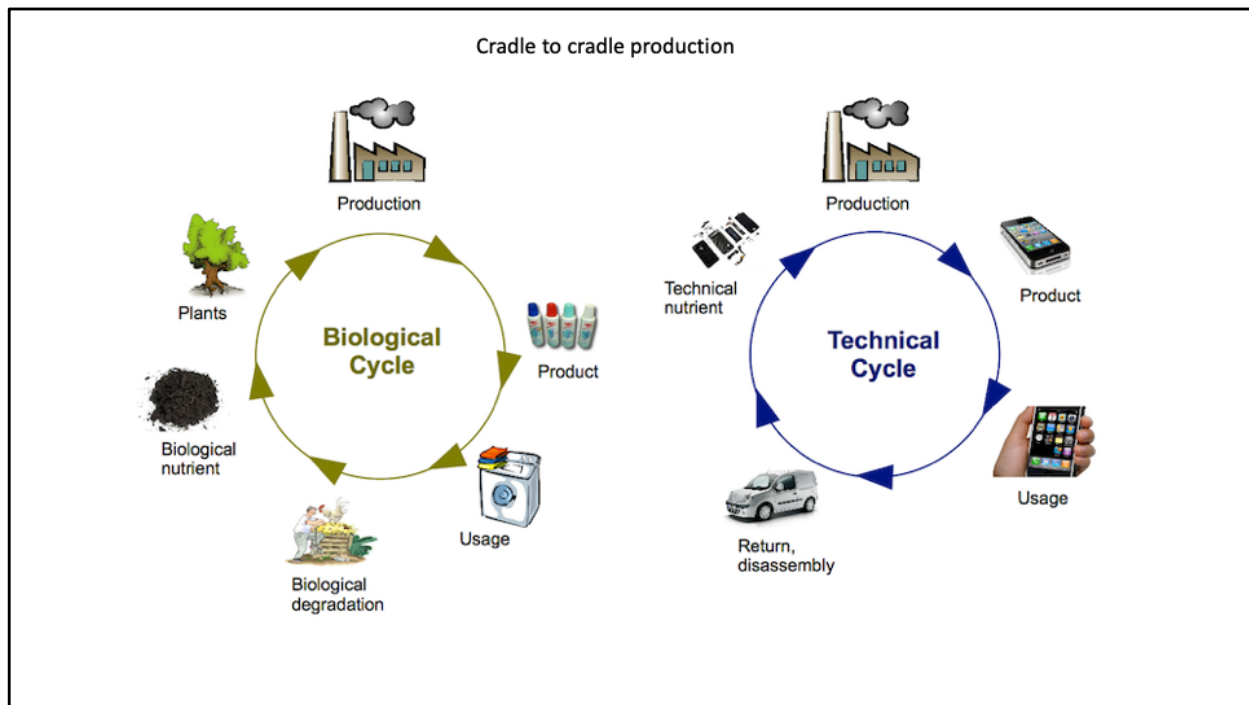


In order to save the planet, we need to manufacture new infrastructure, but we also need to manufacture in an environmentally benign way. If we have an Interstate Renewable Electricity System, the electricity used to power the industrial machinery will be clean.

But still, 22% of emissions come from the nonelectrical use of fossil fuels, for instance to make new steel



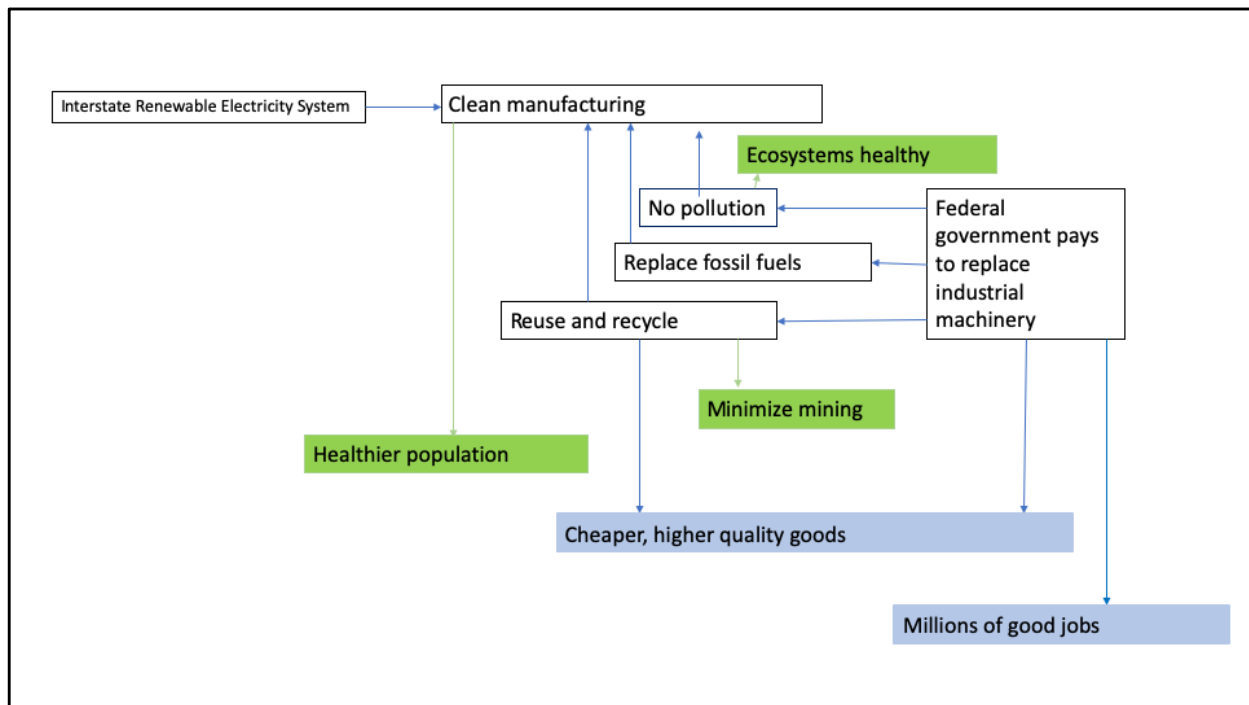
There are many ways to cut this down to about zero, but they all involve replacing the 'dirty' kinds of industrial machinery with a new set of industrial machinery. We also need to manufacture without polluting, so that our air and water is not destroyed



and that will also require new machinery, and most difficult, we need to manufacture goods that can be recycled and reused, so that we can keep mining to a minimum,



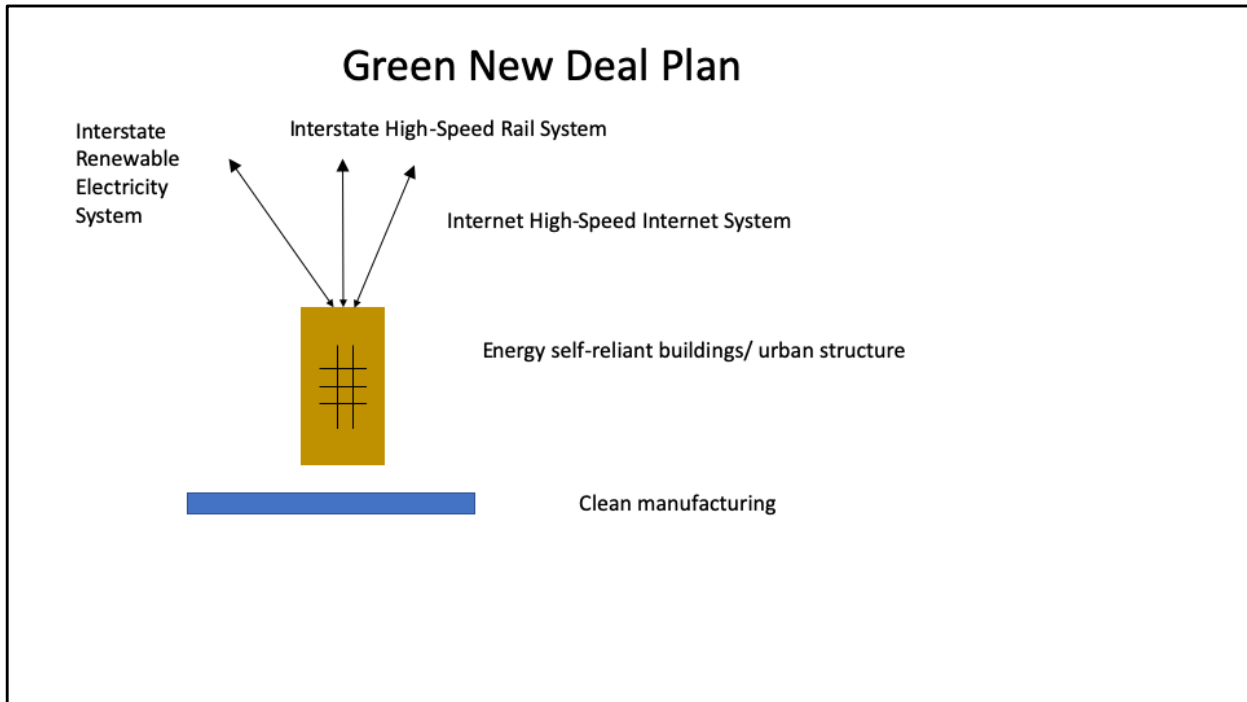
and thus not destroy all our ecosystems with mining and extraction.



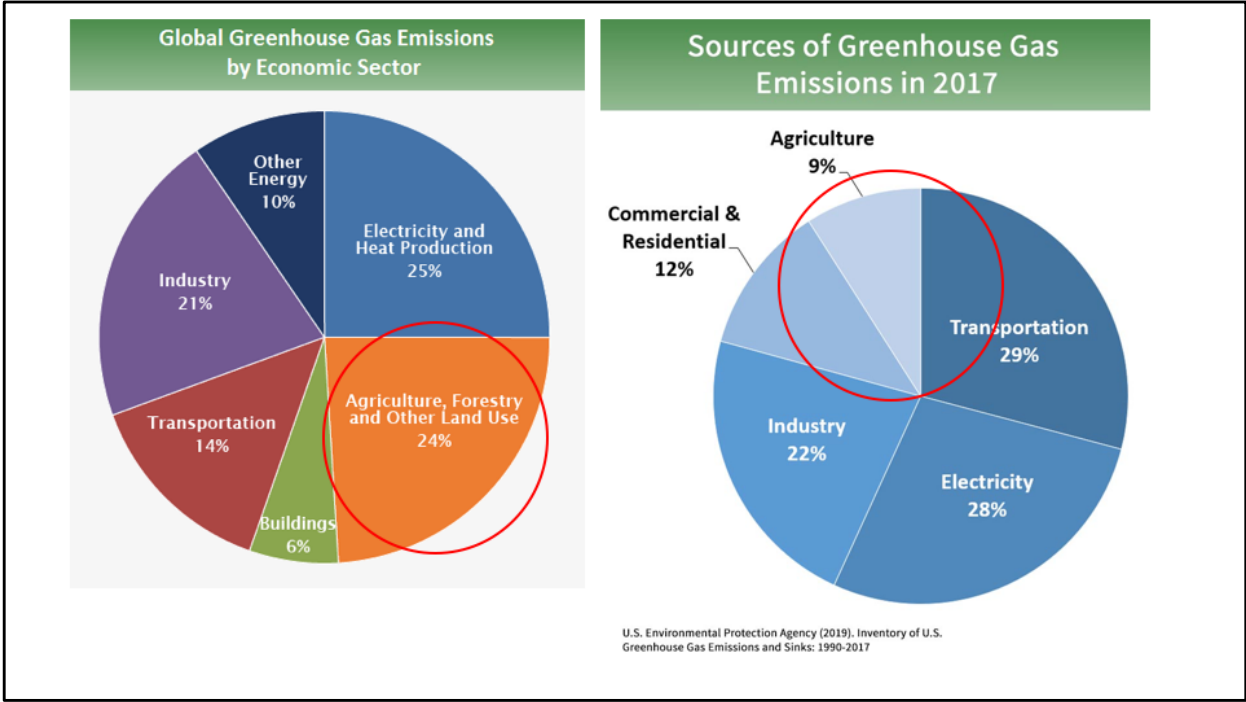
So what I am proposing is that the Federal government, over a period of 20 years, pay for a whole new set of industrial machinery that does not pollute, that does not use fossil fuels, and that reuses products,

which will provide millions of new, good jobs, and products would be cheaper and could be recycled,

which will result in a manufacturing sector that does not pollute, emit greenhouse gases, and means that any economic growth that occurs will not be at the expense of ecosystems, the problems that motivated the creation of Earth Day in the first place.



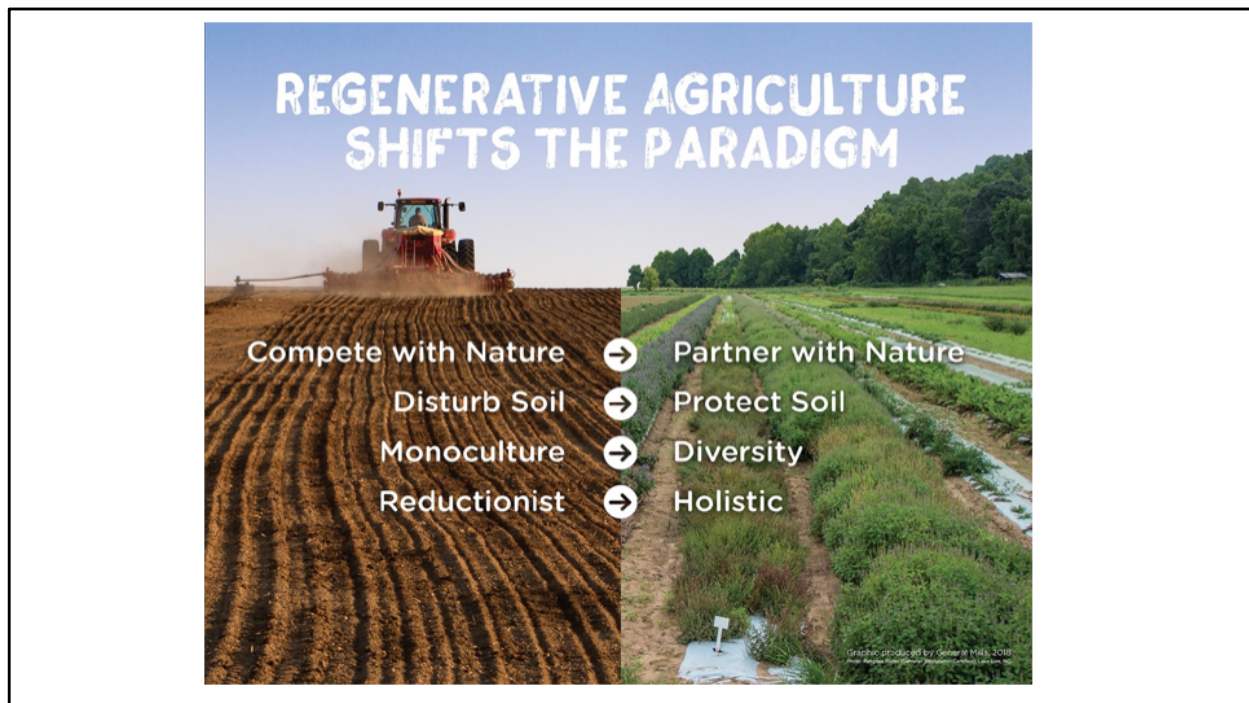
So we have in effect designed a new ecosystem, made up of renewable electricity, walkable neighborhoods, trains, electric cars, internet and a more advanced educational system, all produced by a clean and environmentally benign manufacturing system. Except that the *natural* ecosystems are being destroyed by the sector that has the biggest impact on the environment, the agricultural sector.



The way we produce food now accounts for about one quarter emissions globally,

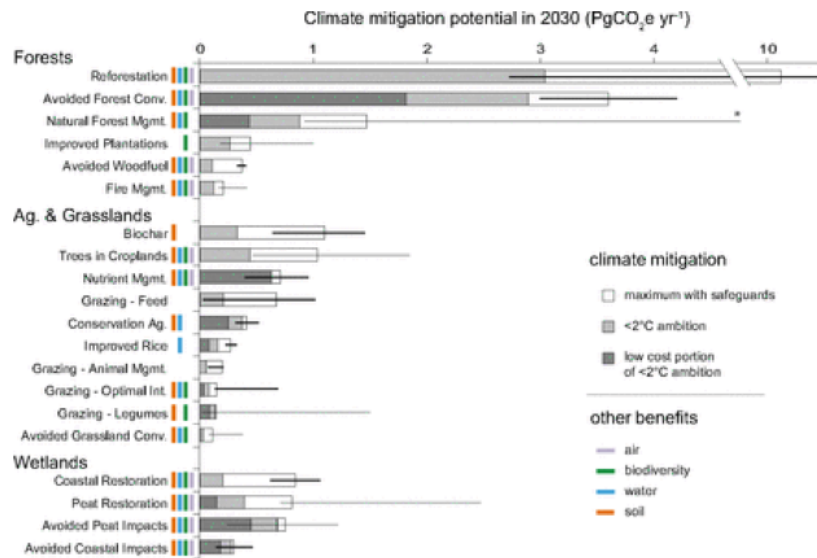


almost half of which is the result of massive deforestation, which not only adds greenhouse gas emissions, it destroys important ecosystems and species to grow the grains that are force-fed to cattle, in other words, in order to make more and more burgers as the world's middle class increases

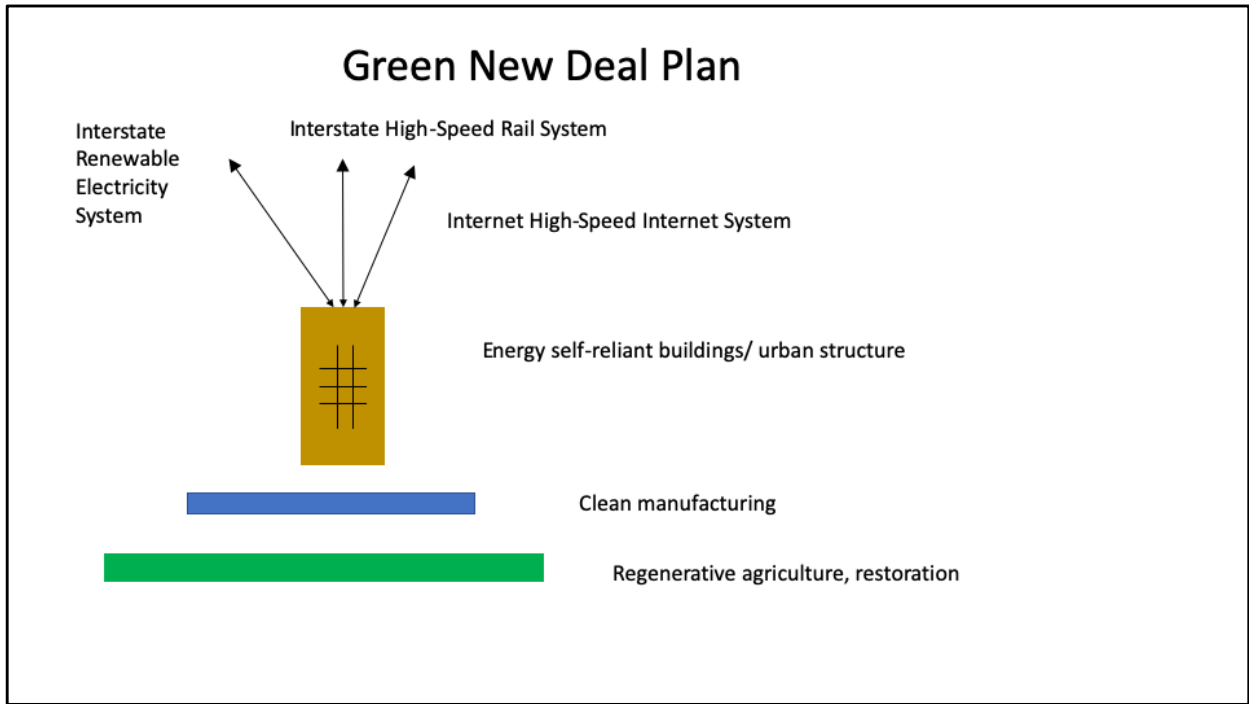


The corn fed to cows is also subsidized for humans, so it is cheaper to eat chips and soda than to eat healthy fruits and vegetables, thus leading to a health crisis in the developed world. So we need to do for the agricultural sector what we would do for the manufacturing one – let the Federal government buy all the machinery and other material that farmers would need to convert to organic farming, with emphasis on fruits, vegetables, and environmentally sustainable ways of raising livestock. But we also need a couple of other critical programs.

Restoring ecosystems could take about half of greenhouse gases out of annual emissions (23.8 out of ~50 CO₂-eq GT)



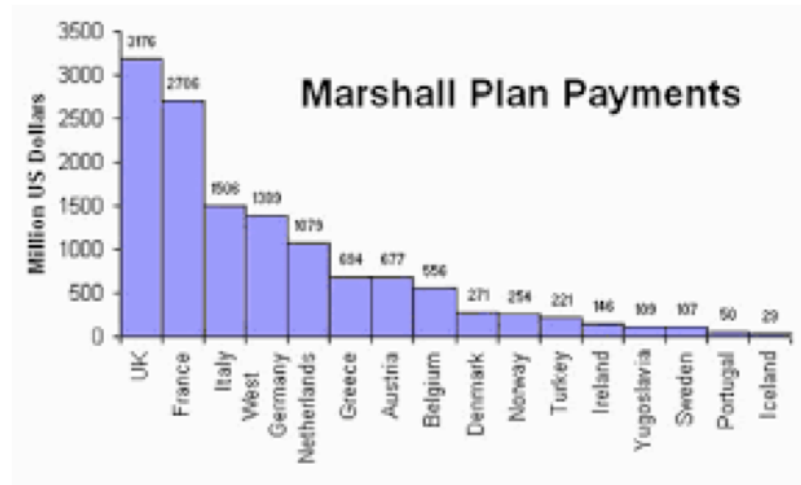
First, it looks like the only way to prevent global warming reaching the potentially catastrophic 2 degrees, is to pull carbon out of the air, mostly by planting trees and also by restoring the soils and other parts of ecosystems that have been damaged and contribute to global warming and environmental destruction. As I pointed out earlier, the Civilian Conservation Corps, during the original new deal, employed a million people to restore ecosystems. We need something even bigger now, employing many millions, to restore ecosystems and plant trees to draw down carbon dioxide. This could revive rural economies by providing lots of jobs, including for Native American communities.



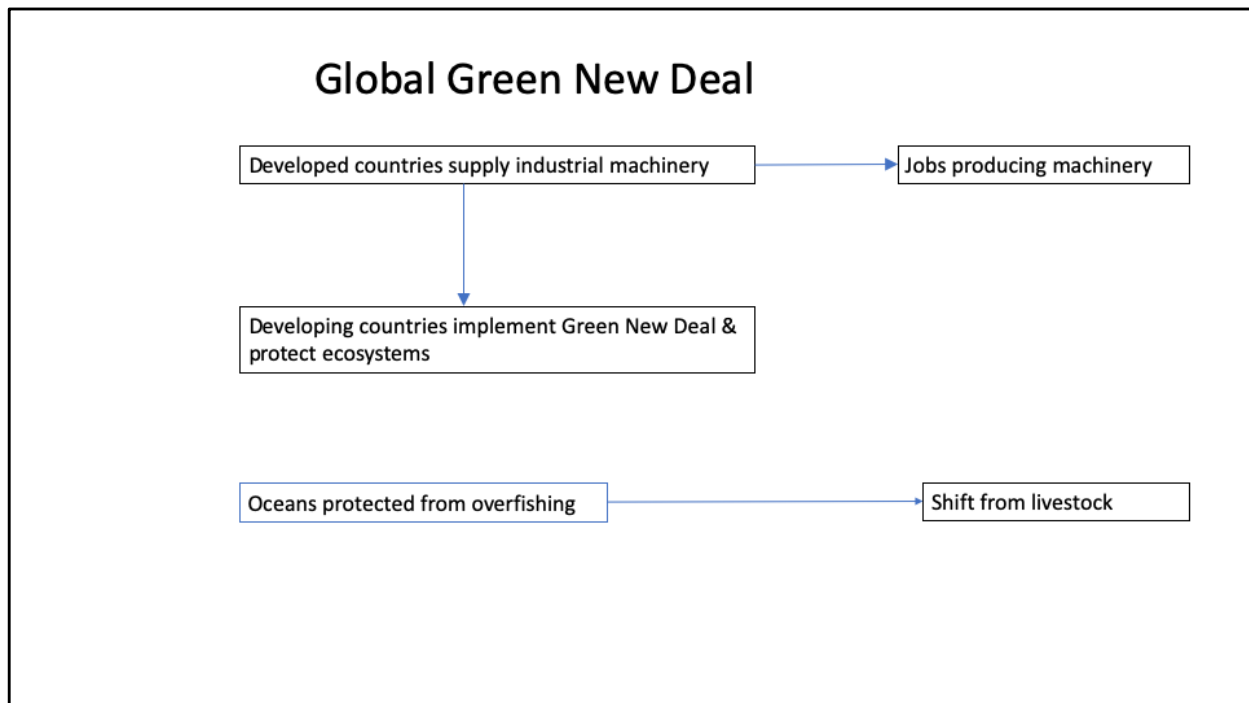
So here we are, having constructed the entire diagram,
but we need one more piece:

How to make the Green New Deal Global

the biggest need is to prevent the destruction of ecosystems that is going on mainly in places like Brazil in the Amazon rain forest or in Indonesia in Borneo. And this is one reason why we need to make the Green New Deal a Global Green New Deal, but we need the rest of the planet to implement their own Green New Deals



I think we could do this by doing something that was done after WWII, in something called the Marshall Plan, which involved helping the European and Japanese economies revive after WWII, much of it by supplying them with the industrial machinery I was talking so much about earlier



We could do something similar –

give them industrial machinery, including perhaps the machinery to directly put together renewable electricity and high-speed rail systems,

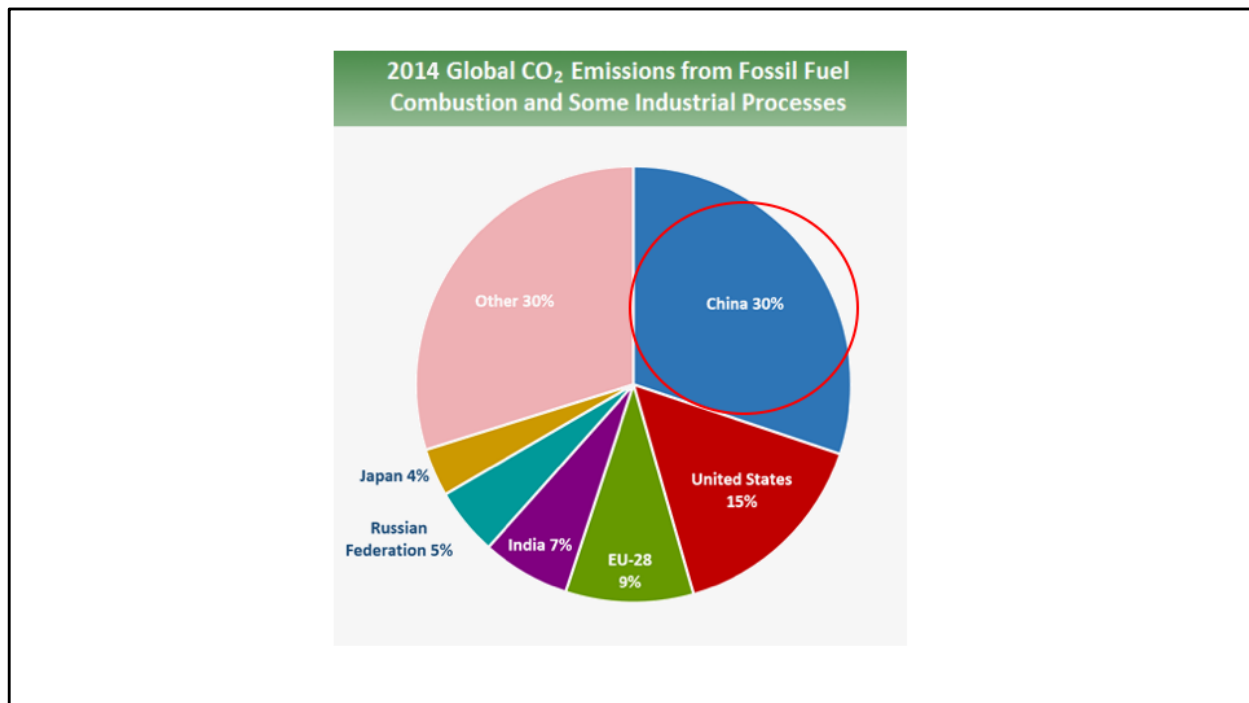
in return for which they would agree to stop destroying their ecosystems, in fact, like the U.S. and other developed countries, they would restore their ecosystems and plant lots of trees.

This would mean millions more good jobs in the U.S., and other countries, producing that industrial machinery.

Also, A Global Green New Deal can try to replace livestock with fish as a source of protein. At the rate we are going, most fish populations are going to disappear. But if we strictly enforce scientifically derived limits, then those populations could recover, and

then we could probably replace much of the former burger meat with a diet of fish – which hopefully people would prefer. So protecting the oceans would be a necessary

part of a Green New Deal in order to encourage people to stop eating burgers, therefore limiting the greenhouse gases from the agricultural sector.



it is not just the United States, which generates 15% of greenhouse gases that has to get its act together.

For instance, if the U.S. rebuilds its manufacturing sector, then China can reorient itself to cleaning up its economy, instead of exporting goods to us using dirty methods. All regions of the world need to implement something similar to the Green New Deal Plan sketched here, to pull us back from the brink of climate catastrophe. The international effort should move from accords that advocate for a long-term goal, such as the Paris accords, and move toward actually building new infrastructure projects and programs of economic reconstruction, projects that can be done at a continental level, such as a rail system that spans Europe and Asia, or a renewable electricity system that spans most of Africa, Europe. And Asia.

Advantages of Federal Planning

- Can use as a platform to elect officials
- Can calculate employment (e.g., 20 million new jobs)
- Eliminate poverty with a job guarantee
- Can assure people in all communities that jobs will be fairly distributed
- Can determine what good jobs people in disappearing industries can have

I hope you can see the advantage of the Federal government planning out, in great detail, all the elements of this plan, because we can get a good idea of what a future might look like,

and if we like it, we can elect people who will implement a transformation.

We can also know with great certainty about how many people would be employed by this program – according to my calculations, over 20 million. Thus, it would be easy to guarantee a good job to anyone who wanted one, since there is so much that needs to be done.

In fact, we could even eliminate poverty by guaranteeing a job

This planning, though, has to be done with the full participation of the local communities and states in which it is to be done.. With full participation from local communities in making decisions – where and how to build walkable neighborhoods, where to place the factories that will make everything, who wants what kind of renewable energy, where trains should run, how schools are improved – every community, white, African-American, Latino, Asian and Native American, can feel

confident that they will also participate fully in the benefits of a green new deal. Planning makes local, inclusive participation possible.

Planning counters another problem that green new deal skeptics focus on – the people who could lose their jobs, for instance, in coal plants and oil refineries. If the placement of factories is carefully planned, we can identify exactly what good, equivalent jobs those workers will get in a green new deal.

How do you pay for it?

- Create money with a Federal Infrastructure bank, like private banks do
- Generating revenue from infrastructure construction programs
- Taxing the very wealthy and large corporations for 10 to 20 years
- Redirecting money from the military budget and other unnecessary programs
- No new taxes on middle and working class

Paying for all of this would involve the creation of a public, Federal Infrastructure bank, which would do what private banks do – create investment money out of thin air, money that eventually gives a return on investment.

Almost all of the Green New Deal, after all, is investment in revenue-generating enterprises. The electricity, train services, apartment buildings, internet, and so on, would eventually provide a revenue stream to the government to keep everything going and to continually expand and upgrade these systems, as technology improves. That money could even be used to reduce income taxes.

But before we get to that point, besides creating money from an Infrastructure bank, we can create taxes on the richest individuals and most powerful corporations, for about 10 to 20 years.

Part of the military could be redirected to helping to build a Green New Deal as well.

There is no need to tax the bottom 90%, with a carbon tax or anything else. There are plenty of ways to pay for it all.

Benefits of a Green New Deal

- Higher income, better jobs
- Better health from better food, no pollution, more walking
- Better education system, starting at birth
- More affordable housing in walkable neighborhoods
- Cheaper, better, American-made reusable manufactured goods
- Cheaper, more comfortable electric travel in trains and cars

Costs?

- More expensive burgers, Uber rides?
- Taxes if you are rich or a big corporation
- Power in the economy if you are powerful, maybe

There are certain things we have to do in order to prevent the collapse of global civilization, but I hope I have shown that the consequences of a Green New Deal are something that most people will *want*. If people decide that they want the benefits that the Green New Deal can bring, then it will be possible to implement a Green New Deal. If they think all it will entail is a lot of sacrifice, higher prices, and lost jobs, the Green New Deal will fail. If it can be shown that building these things will help people in their daily life, then the job becomes much easier. The Green New Deal can succeed because the new systems it builds would *outcompete* the old ways of doing things, that is, people will prefer the new systems over the old.



I hope you have seen, almost 50 years after the first Earth Day, how we can finally fulfill its promise. What we distantly saw, all those years ago, was that something terribly wrong was going on, and that we had to do something about it. What we now know is that the civilization itself has to be redesigned. The energy, transportation, manufacturing, agricultural and housing systems have to be reconstructed. In order to do that, we have to create tens of millions of good jobs and make sure the public is well-educated, healthy, and well-informed. We can't just let the market, which has its good points, control the direction of our civilization. We need the democratically elected government, working with the participation of local communities and citizens, to create a new blueprint for a sustainable, just civilization

Planet Earth needs a Global Green New Deal

This PowerPoint will be available at
GreenNewDealPlan.com shortly

Twitter: [@jonathanrynn](https://twitter.com/jonathanrynn)

JonRynn@gmail.com

Other writings available at JonRynn.com

. Planet Earth needs a Green New Deal.