



Enhancing Public Perception of Coal

Coal is Good for America:
If not us, then who will tell the public?

Presented by Richard F. Storm
Storm Technologies, Inc.

American Coal
Council Presentation
October 2008

ACC
American
Coal Council

2008 Coal Market Strategies Conference, Oct. 6-8th



FYI, Storm Technologies, Inc. Business is Improving Overall Coal Plant Performance

High furnace exit gas temperatures contribute to overheated metals, slagging, excessive sootblower operation, production of popcorn ash, fouling of SCR's and APH's

High furnace exit gas temperatures contribute to high de-superheating spray water flows that are significant steam turbine cycle heat-rate penalties.

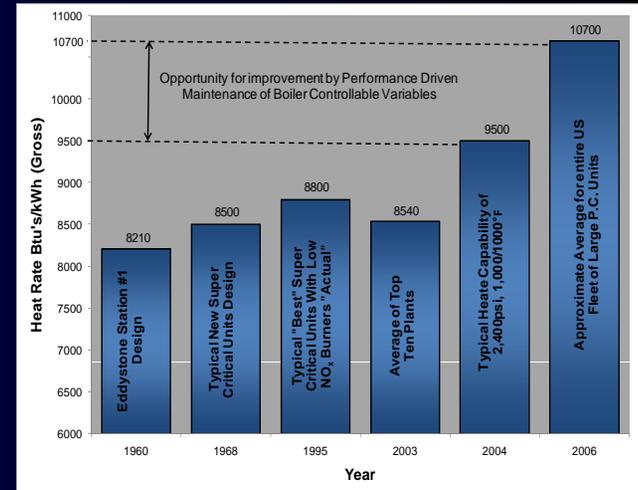
Coal pulverizer spillage from pulverizer throats that are too large

Flyash Carbon losses

Bottom ash carbon content

High primary airflows contribute to unnecessarily high dry gas losses. Also poor fuel distribution and poor coal fineness.

Non optimum primary airflow measurement and control ; Excessive NO_x levels

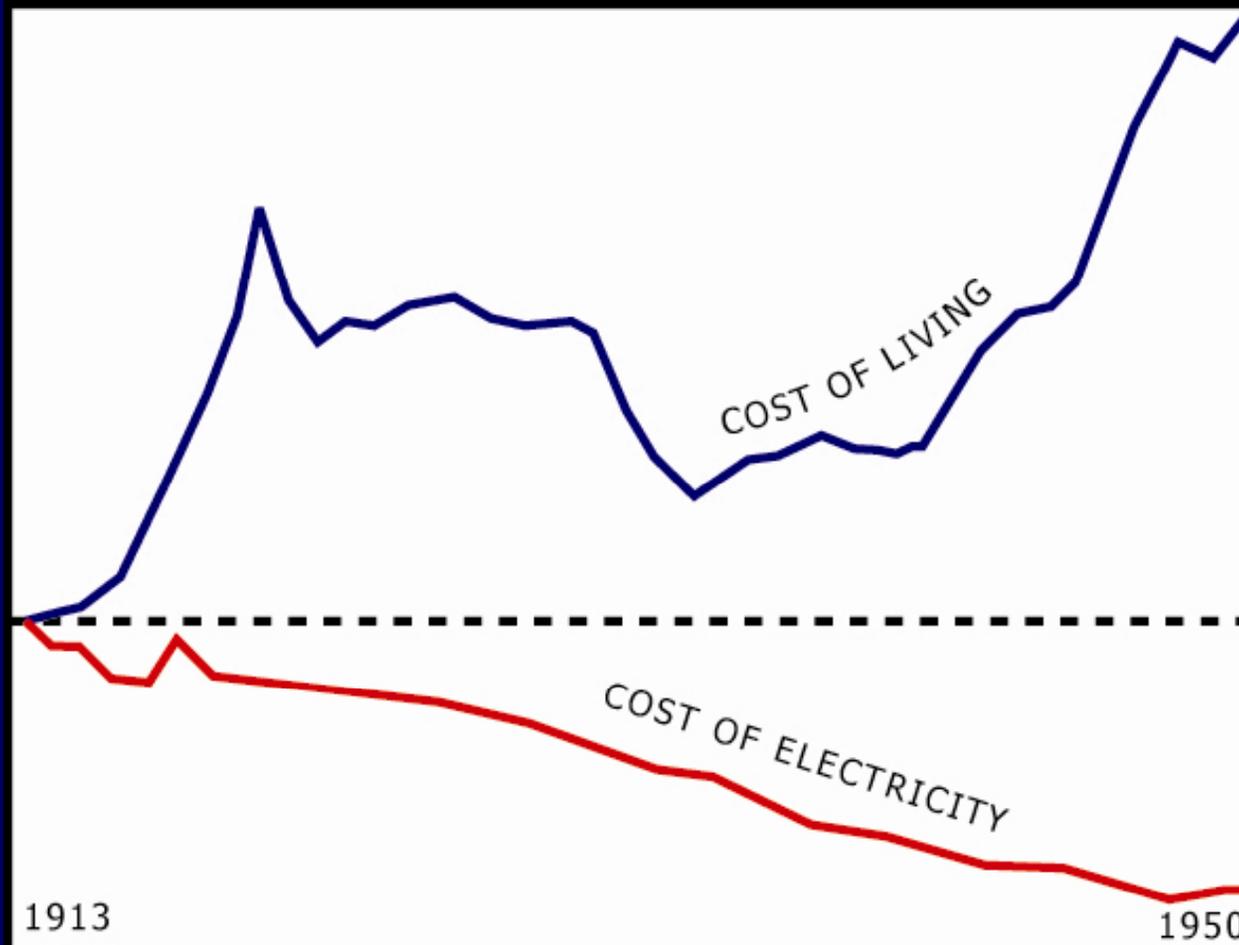




The “Happy Days” of Coal 1950’s-1970’s

- Cost of Energy was declining
- Manufacturing was expanding
- “Living Better Electrically” was the common theme for utility companies
- The Public better understood where/how electricity was produced
- “Reddy Kilowatt” as a symbol of Living Better Electrically was known by almost everyone

Coal energy was once accepted as the driver of economic prosperity. It still is, but coal does not command the respect that it did forty or fifty years ago.





Electricity and Economic Prosperity

were once widely understood



Electricity... LIFEBLOOD OF AMERICA



ELECTRICITY...
so much for so many
... for so little

One of a series of advertisements sponsored by The Babcock & Wilcox Company in bringing the facts about electric power to the public.

Sixty seconds of every minute every hour... around the clock... day in and day out... all America lives, moves, and works to the rhythmic pulse of electric power. It is the lifeblood that puts the colossal productive strength into U.S. Industry... that gives our nation the healthiest living standards the world has ever known. For few indeed are the present day activities of factory, mine, farm, home, and office... of your own daily routine... that are not dependent on electric power... and to a far greater extent than is generally realized. For instance, its large-scale use in industry today gives each worker the equivalent of over 200 helpers. Add in the fact that many of today's vital materials—such as aluminum, high-grade steels and abrasives to work them, electro-chemical and metallurgical products—are available only through the magic of electric power. And Mrs. America hardly needs reminding of the freedom she gets from household drudgery of bygone days with her myriad electrical servants... merely by flicking a switch. Yet nothing we in America now have, use, or do is so generally taken for granted as the

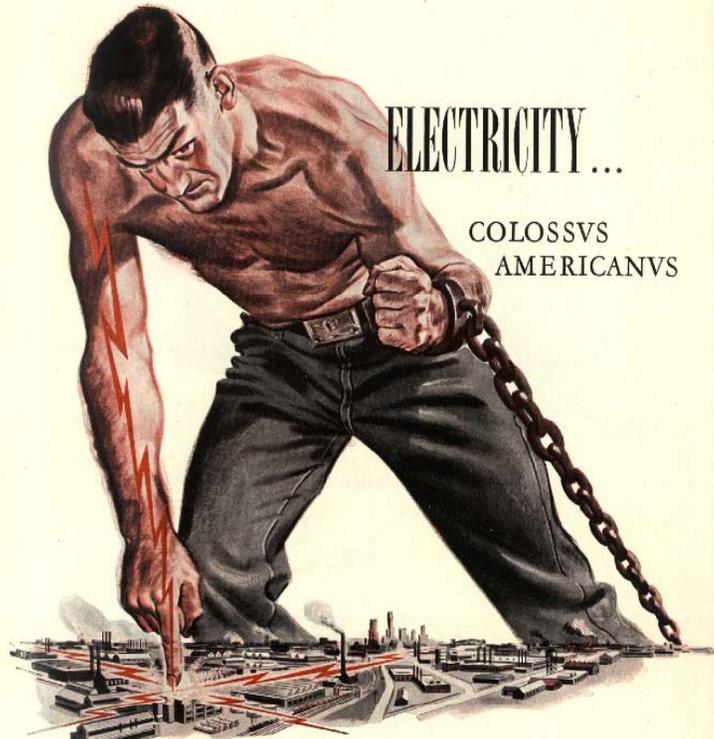
great multiplier of productivity, the greatest work-time—and-trouble-saver ever known...ELECTRICITY. Essential as it is to our national economic strength, security, and modern standard of living, electric power is still America's best buy... costs industry less than one per cent of total product value... the average family only a few cents a day... with both now using more of it than ever before.

To keep the giant electrical heart of America beating healthily, the nation's power companies have already planned far in advance to meet foreseeable growing demands. Only a lack of necessary materials for construction and equipment will prevent their fulfillment.

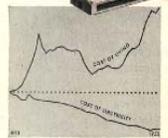


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1941/42 February 1942 211



ELECTRICITY... COLOSSUS AMERICANUS



ELECTRICITY...
so much for so many
... for so little

One of a series of advertisements sponsored by The Babcock & Wilcox Company in bringing the facts about electric power to the public.

Shackling this giant could put us all in chains!

Despite his phenomenal strength of 72,693,000 kw, America's colossus, ELECTRICITY, suffers a delicate balance of health. His strength falls even slightly under minimum industrial and domestic requirements—as could happen if deprived of materials needed to keep growing—a chain of serious consequences is set in motion.

Steel mills, manufacturing plants, mines, farms, and factories...the manifold appliances of American Homes...consume electric power in gigantic portions. Their appetites for electricity, as they struggle to produce our increasingly important securities against fear and want, can grow with startling rapidity compared to the two or more years needed for construction or expansion of a power-generating station. One major interruption of

the flow of critical materials into our power companies' carefully planned expansion programs, and *Colossus Americanus* goes to his knees...or worse.

It has never happened here. Let's see that it never does!

Your power company foresees your electric power needs. Its plans are completed far in advance to meet them. But it must be permitted to finish the job it has started...obtain the necessary materials and tools to provide for defense and civilian demands.

Let's keep our Colossus strong, and we'll all remain free!



N-122

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1970 the beginning of the “War on Coal”

- EPA
- Environmental Extremists Become better known, better funded and more bold
- About 1975 Electric Utilities begin scaling back Public Service Ad's and public education programs on energy
- Environmental activist groups begin to align with leftist political groups



An old saying that applies to us

**The only thing necessary
for the triumph of evil is
for good men to do
nothing....**

This sums up the electric utilities and large energy suppliers from the mid 70's till now, in my observations. We have allowed a minority of Americans to demonize carbonaceous fuels and the process of powering America

The War on Coal: How it Came to Be



Strong Fortune 500 Companies: B&W, Combustion Engineering, Westinghouse, Allis Chalmers
Reddy Kilowatt and theme "Living Better Electrically"

First Arab Oil Embargo
EPA; First Earth Day
Second Arab Oil Embargo

Three Mile Island Nuclear Plant Mishap;
"New Source Performance Standards" NSPS

Coal power thrives and is doing well because of the cost difference between coal and any other fuel

"Clean Air Act" amendment passed
Coal becomes cleaner yet

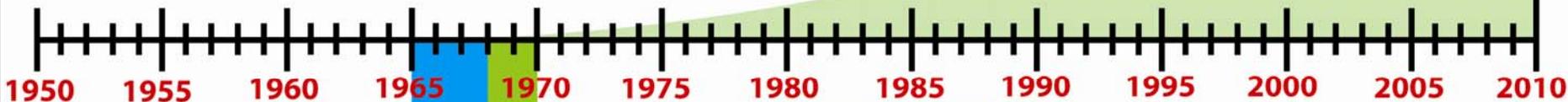
Theory of Manmade Global Warming is promoted by a minority of scientists

IPCC begun by The United Nations

United Nations and many left leaning governments favor criticizing USA on GHG emissions, even though the developing countries will use more carbonaceous fuels than the USA

2006: Al Gore movie released, "An Inconvenient Truth." Wins Nobel Peace Prize in 2007.

Environmental Extremist Groups become even stronger and secure millions of dollars in funding



Nuclear Power expected to be "Too cheap to Meter"

Start of "Clean Air Council," Environmental Defense, Greenpeace, Students for a Democratic Society, Weather Underground and other environmental activist groups

Responsible Environmental Activism has evolved into Eco-Freakism



Power companies with "Citizenship-Service-Power" in their logos

Budget cutbacks by utilities. Dropped most public education programs of "Living Better Electrically."

Utility stocks drop due to TMI reaction in markets. Further cutbacks in budgets.

September Iraq invades Iran. War lasts 8 years and oil prices soar on inflation adjusted value to about \$100.00 per barrel

"New Source Review" for power plant upgrades becomes an issue with improving efficiency of older coal plants

Far left political groups allied with what began as well meaning sincere environmental protection groups. This combination of leftist and environmental activists then became extreme.

Supreme Court Ruling regarding GHGs and possible regulation by the EPA



~Funding for "War on Coal" in Millions of Dollars



Some Organizations that have “bought in” on leftist anti-coal beliefs

- Clean Air Council
- American Lung Association
- Sierra Club
- Environmental Defense Fund
- The Pew Charitable Trusts
- National Council of Churches
- The We Campaign
- StopGlobalWarming.org
- Wyoming Outdoor Council
- Louisiana Environmental Action Network
- Citizens Coal Council
- Great Basin Mine Watch
- Sustainable Obtainable Solutions
- Apollo Alliance
- The Union Sportsmen’s Alliance
- Committees for Awarding “Oscars, Emmy and Nobel Prizes/Awards
- League of Conservation Voters
- League of Women Voters
- Turner Foundation
- National Resources Defense Council
- Heinz Foundation
- Alliance for Climate Protection
- Greenpeace
- Blue Breen Alliance (United Steelworkers and the Sierra Club)
- Powder River Basin Resource Council
- Environmental Law Center at Vermont Law School
- United Nations
- Theodore Roosevelt Conservation Partnership
- Open Society Institute (George Soros)



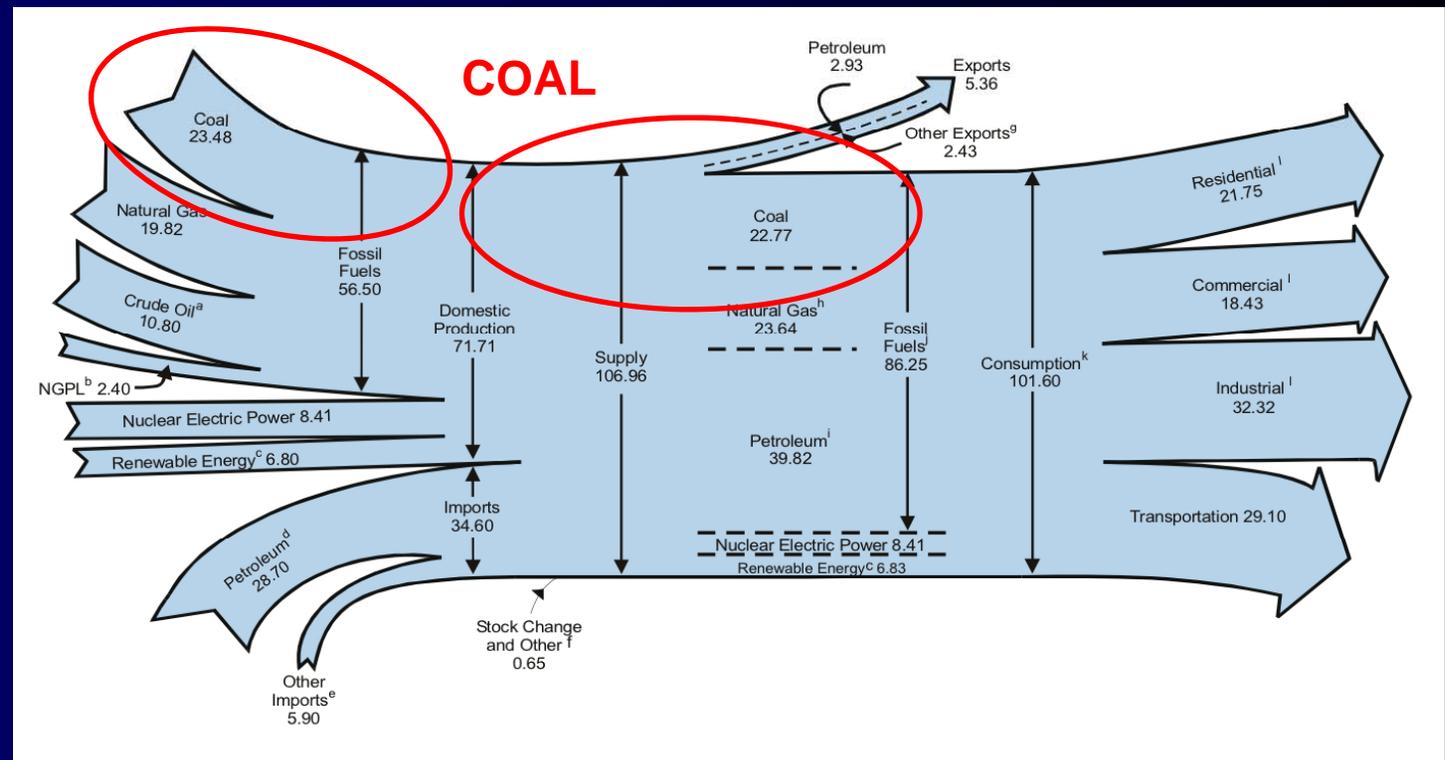
Popular Misconception: Renewable Power CAN Power America

- 93% of America's energy is used as heat energy for prime movers such as steam turbines, jet engines, diesel locomotives, ship propulsion, buses and automobiles.
- Renewable Energy – including old hydropower dams is about 7% now and cannot replace the 93% energy forms that America Depends on now.





Coal remains an important fuel for America at about 24% of our total energy. Coal is needed for national security and continued economic prosperity.



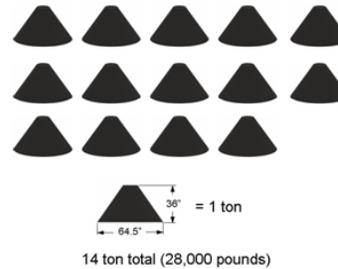
All Forms of Energy are Needed to Power America



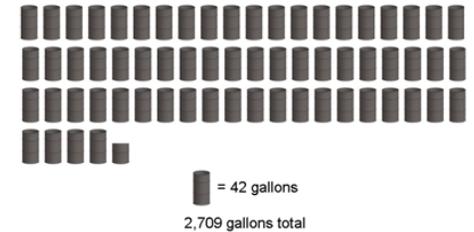
334 million Btu's each for all Americans. The raw fuel cost at an average of 8.00/million Btu would be \$3,340/yr per capita or a trillion dollars.

- There are over 300 million residents in the United States
- In 2007, the U.S. consumed 101.605 quadrillion Btu's
- That is 334.4 MMBtu/yr per person
- The equivalent of this amount of energy from each resource is shown

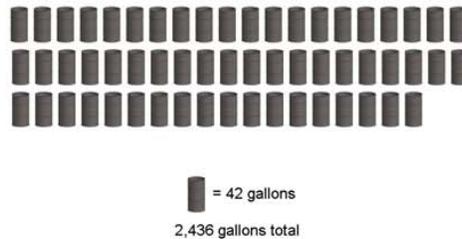
Each US Resident uses an equivalent of
14 Tons of Coal



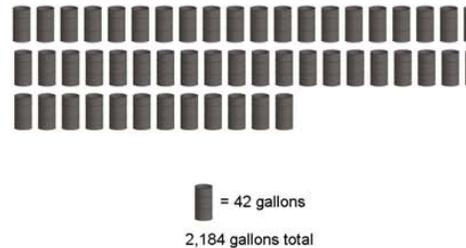
Each US Resident uses an equivalent of
64.5 Barrels of Gasoline



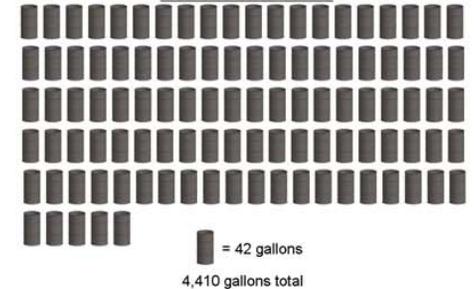
Each US Resident uses an equivalent of
58 Barrels of Diesel Fuel



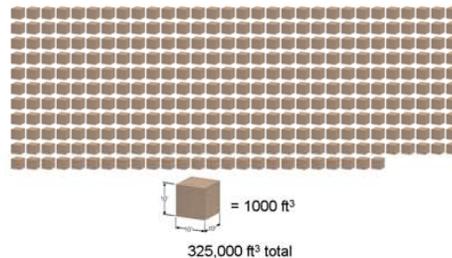
Each US Resident uses an equivalent of
52 Barrels of #6 Oil



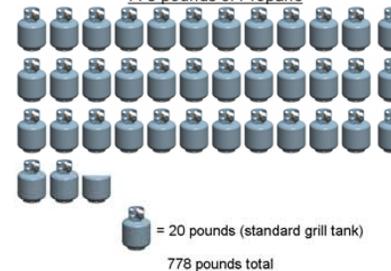
Each US Resident uses an equivalent of
105 Barrels of Ethanol



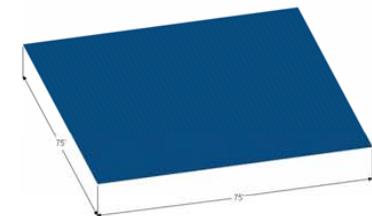
Each US Resident uses an equivalent of
325,000 cubic feet of Natural Gas



Each US Resident uses an equivalent of
778 pounds of Propane



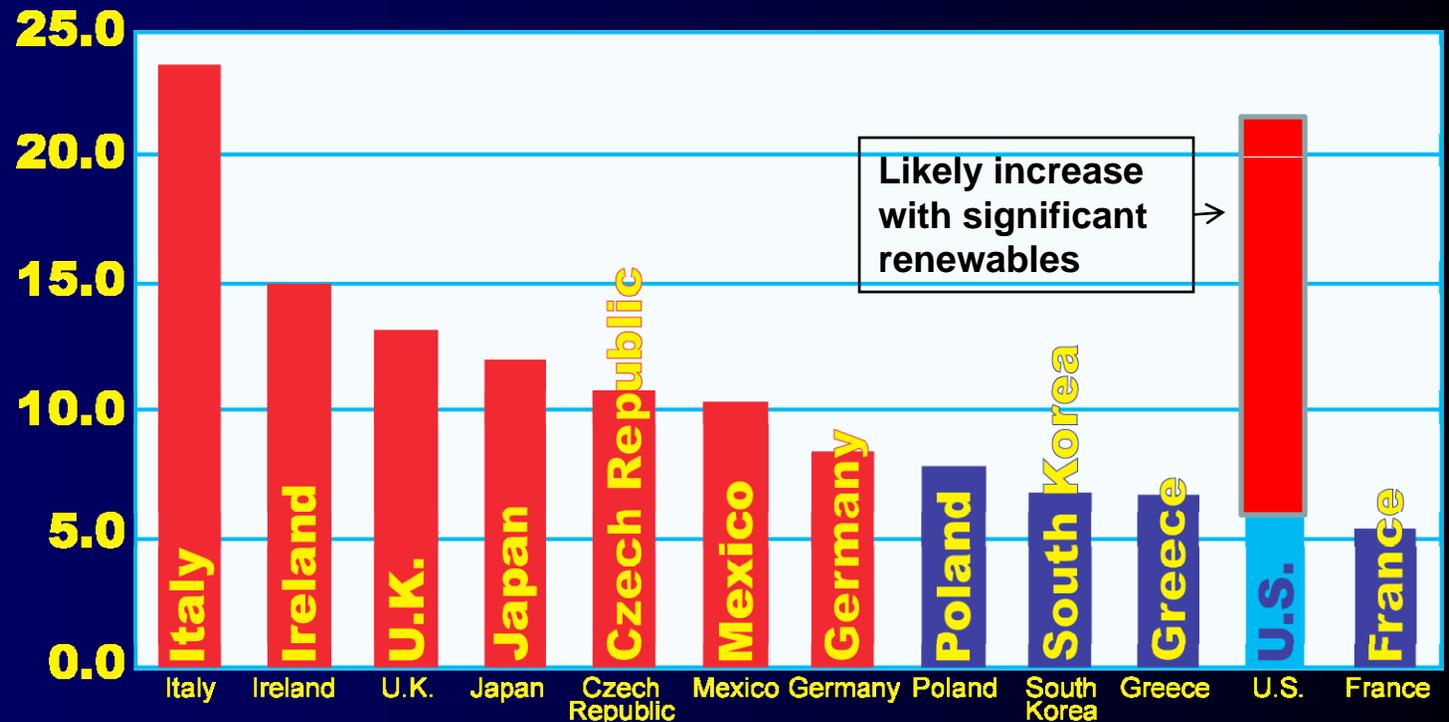
Each US Resident uses an equivalent of
a 75'x75' Solar Panel





Manufacturing In America depends on low cost electricity

Approx. cost per kWh, First quarter 2007



**The politicians do not get it!
Energy drives economic prosperity.**

**Help spread the good word of how to use
coal cleanly and efficiently!**



Storm Technologies personnel involved with Indian power production engineers to tour America and Learn America's best and clean methods of burning coal.



An Example of a Clean Coal Power Plant in the USA



2008 Coal Market Strategies Conference, Oct. 6-8th



Stewardship is more than merely saying
“NO” to Industrial Progress!

If America is not Economically Strong, then
Who will help the developing world?





We have got a lot of “Coal Cheerleading” and inspiring of our peers to get active. We have at least twelve advantages of workable solutions on our side:

- We are on the right side of the issue – is coal good for America
- Truth and facts
- Coal is an American Treasure that can replace much of our imported energy
- Global temperatures have been declining for seven years, increasing the possibility that the public will notice and attribute climate change to being primarily a natural phenomena
- The American Economy depends on reasonable cost Energy
- Coal Power works in the dark and when the wind not is blowing
- Transmission infrastructure is already set up for citing more coal plants, not for wind turbines or solar, even if they could supply significant power
- Coal is less cost than renewables
- Coal power and PHEV’s could, in fact, reduce imported oil quantites
- American dollars and investment stay at home
- Coal is the most plausible Bulk power supply to build in say 5-10 years until nuke’s can be built and started up
- If we got rid of NSR (New Source Review), then old plants could be made more efficient and even updated. With NSR “Uprates or Upgrades” are not allowed.

All we lack is changing public opinion. (All we have to do is overcome a generation of not educating the public of why Coal is good for America)

We are the one’s that are on the right side of this issue and what is best for America.





Here is what Storm Technologies, Inc. has done and we suggest as an action plan for other ACC members

- Use your web site for public education on energy
- Present programs to civic clubs, Rotary, Lions, Optimists
- Newspaper advertisements – PSAs
- Radio PSAs – EFMs (Energy Fact Minutes)
- Visit schools and teach energy matters – particularly the Four Es – Energy – Environmental Protection – Economic Prosperity and Education in Energy Science
- Engage neighbors and friends. Help educate everyone you can



Examples of PSAs

Several times per year Storm Technologies, Inc. prepares and publishes full page and two page public service ads in the newspaper. These are to supplement the radio EFMs with written facts. We also take space to advertise for employees and to tell the public what we do. Several example newspaper display ads follow.



The Four E's: We Promote all forms of energy of which coal is a vital part

The theme is to educate the public on the need of all forms of energy that originate from America. All forms of energy are needed in our national interest and we should align our PSAs with nuclear, gas, oil and renewables. Truly, America needs all forms of energy and no one is doing a credible effort at promoting the true story of energy. Here are some examples of how Storm Technologies, Inc. has attempted to do so in our county and area.

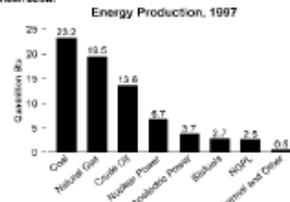
Newsletters



The newsletter on the left was published and distributed in Feb. 1999

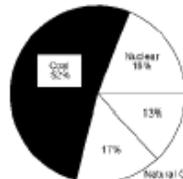
Editorial: Has Anyone Else thought about a coming Energy Crisis?

We are basically dit under the fingernails, hands-on practical test and tune engineers. So what do we know about the global view of energy use and consumption? Well, there are high paid Big Brains in Washington, D.C. who ought to know and plan for these things, and maybe they have. From our viewpoint, the focus of the Big Brains in Washington is out of kilter with reality. Cheap gasoline, presently abundant natural gas, low oil prices, and hopes of de-regulated and lower cost electricity have lulled the public and energy policy makers into dream worlds. Let's consider some facts that point toward greatly increased electricity costs and insufficient energy supplies in the next decade or so: The USA produced about 70 quadrillion British Thermal Units of energy, and exported about 5 quadrillion BTUs (Let's call them "Quads?") The USA in 1997 consumed about 94 Quads requiring imports of about 25 Quads. The energy production of fuels for energy is shown below:

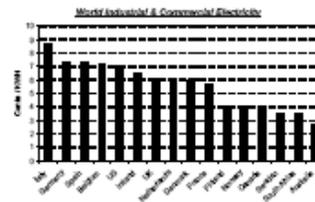


The point here is that most of this country's energy production is in coal. Electricity production in the USA is largely from the combustion of coal. Between 50-63% depending on whose statistics are used.

Sources of Electricity Net Generation, 1997



Again, the point is, over half of our electricity is generated from the combustion of coal. Our economy (jobs) depends on economical electricity. About two-thirds of our electricity is used in the industrial sector, for manufacturing. We, the great United States of America, land of abundant and low cost energy, may be enjoying low gasoline prices, and low electricity prices, for now. However, the USA does not have the lowest coal electricity in the world, and our electricity costs are likely to increase further. Note the graph below from "Energy Manager" magazine.



Remember the government mandated Clean Air Act Amendment and how it stimulated work for companies like ours? Well it did, and we should not bite the hand that feeds us. Big concern for the next generation is more important to us than our next paycheck. The Clean Air Act Amendment of 1990 has created a substantial improvement in power plant emission levels. Now, due apparently to a disreputable bunch of usually well intentioned politicians in Washington — the regulations have pushed to the point that, in our view, our economy could be endangered for more than the Y2K concerns, and that is, shortages of electricity, and greatly increased prices.

- Why do I say this? Well let's consider the facts:
- The Kyoto agreement is impossible to achieve unless our economy is crushed. That is, we cannot return to 7% less than 1990 CO₂ emissions without reducing energy consumption some 20% less than we are using now.
 - Natural gas is the fuel of choice to satisfy new generation capacity. Fine, when fuel cost is \$1.50/MMBtu and natural gas fuel is abundant. Natural gas production in the U.S. peaked in 1971 at 435 thousand cubic feet per day, and has declined since. Since then, natural gas imports have grown to about 12.8% of our total. Presently (1997 data) we use about 20 billion cubic feet of natural gas per year.



Coal: Our National Treasure

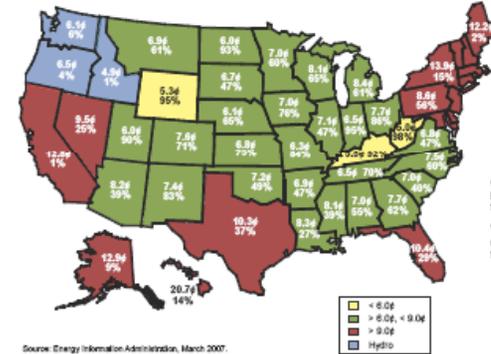
Using America's National Treasure of Coal efficiently and cleanly is important, just because it is the right thing to do.

First, let's review why we should all practice Excellence in the Combustion of Coal. Thermal

meaning American citizens is misguided about the true facts of why our Nation needs more coal utilization, not less! Many otherwise benign groups, such as the faith based community, including most organized religions (including mine, and I am a Methodist) have applied pressure to politicians, banks and regulators at all levels. Coal at this time, is a fuel our country needs to use more of — for reasons of economic prosperity, reducing

States that Rely on Coal Have Low-Cost Electricity

16 States: 21% from Coal & 12.7 Cents/kWh Average
31 States: 65% from Coal & 7.0 Cents/kWh Average



Source: Energy Information Administration, March 2000.

power plants fueled by coal are vital to our Nation's economy, our national security and our high standard of living. Coal fueled power plants produce over 50% of our Nation's electricity. In states where it is used for the highest percentage fuel mix, the electricity production costs are the lowest. I know, all of the readers of this newsletter know these facts. In spite of the facts supporting more coal power and the building of new coal plants and refuting the man-made part of "Global Warming" nearly every non-technical group of well

the outflow of US dollars, increasing American industry's competitiveness, reducing dependence on foreign energy and to keep our supply of abundant electricity secure and reliable.

I urge everyone in this business and every technically trained individual that is fair and objective, to write your congressmen, senators, governor, regulators and candidates for elected office. We need to teach them the truth, because most are inundated with distorted facts, Hollywood

A coming energy crisis was apparent to most of us – way back in 1998

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PRODUCTS

13 ESSENTIALS

NEWS & INFO

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Who We Are

Storm Technologies is a full service boiler consulting services organization which specializes in:

- ▶ **Technical Direction**
- ▶ **General and Comprehensive Inspections**
- ▶ **Performance Testing Services**
- ▶ **Pulverizer and Burner Performance Improvements**
- ▶ **Replacement Parts**
- ▶ **Short Courses**
- ▶ **Boiler Optimization Programs**

Our Services



Combustion Optimization Programs

Whatever the need - Plant Efficiency & Heat Rate Improvement Programs, NO_x Control, Condition Based Maintenance or Performance Preservation - STORM[®] can meet your needs.



Plant Testing

STORM[®] provides all types of Comprehensive Diagnostic Testing services utilizing specialized equipment with a results oriented attitude..



Short Courses

STORM[®] provides formal 3 day training seminars and/or in-house customized programs.

Events & Reminders

Events & Reminders

08/12/2008

3rd Quarter Newsletter

Why is coal fuel needed as a major contributor to America's energy [more...]

05/28/2008

Public Radio Service Announcements

Want to know more about the need for new energy production and how it [more...]

04/22/2008

2nd Quarter Newsletter

2008 Coal Market Strategies Conference, Oct. 6-8th

WSPC – Local radio station website linked to Storm website



1010 WSPC
Power Of The Spoken Word

HOME STATIONS ADVERTISE CONTACT

Rush Limbaugh
Radio Program
Noon until 3:00 pm

stanly
COMMUNITY COLLEGE

Weather Forecast
Sponsored by Stanly
Community College

Albemarle, NC
Weather
Partly Cloudy,
64°F

Who's doing amazing things in the Energy Industry worldwide and operating from Stanly County?
STORM TECHNOLOGIES
[Click here for more information!](#)

What's your Global Warming IQ?
[Click Here to take the Global Warming Quiz for the facts!](#)

Find out about Energy, Environmental Extremism, Economic Prosperity and Education - Download this presentation from Dick Storm of Storm Technologies in PDF Format.
[Click here](#)

Want to know more about the need for new energy production and how it affects our economy? Click on the links below (or right click and choose "save as") to hear podcasts of the **Storm Technologies Energy Fact Minutes**

- [Storm Technologies #44 - Renewables - The Letter - NEW](#)
- [Storm Technologies #43 - Hurricane Ike - NEW](#)
- [Storm Technologies #42 - Sixteen Tons](#)
- [Storm Technologies #41 - High School Science](#)
- [Storm Technologies #40 - Traditional Energy](#)
- [Storm Technologies #39 - Renewable Energy](#)
- [Storm Technologies #38 - Homegrown Energy](#)
- [Storm Technologies #37 - Energy Costs](#)
- [Storm Technologies #32 - Do Nothing Congress](#)
- [Storm Technologies #31 - Congress on Vacation](#)
- [Storm Technologies #30 - Domestic Solutions](#)
- [Storm Technologies #29 - Nuclear Aircraft](#)
- [Storm Technologies #28 - Education and PR](#)
- [Storm Technologies #27 Economic Prosperity](#)
- [Storm Technologies #26 Unintended Consequences](#)
- [Storm Technologies #25 Thermal Energy](#)
- [Storm Technologies #24 T Boone Pickens](#)
- [Storm Technologies #23 Cloudy & No Wind](#)
- [Storm Technologies #22 Wolves in Sheep's Clothing](#)
- [Storm Technologies #21 Drill Now Petition](#)
- [Storm Technologies #20 Coal Capacity](#)
- [Storm Technologies #19 Four Steps](#)
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What can the ACC do as a body?

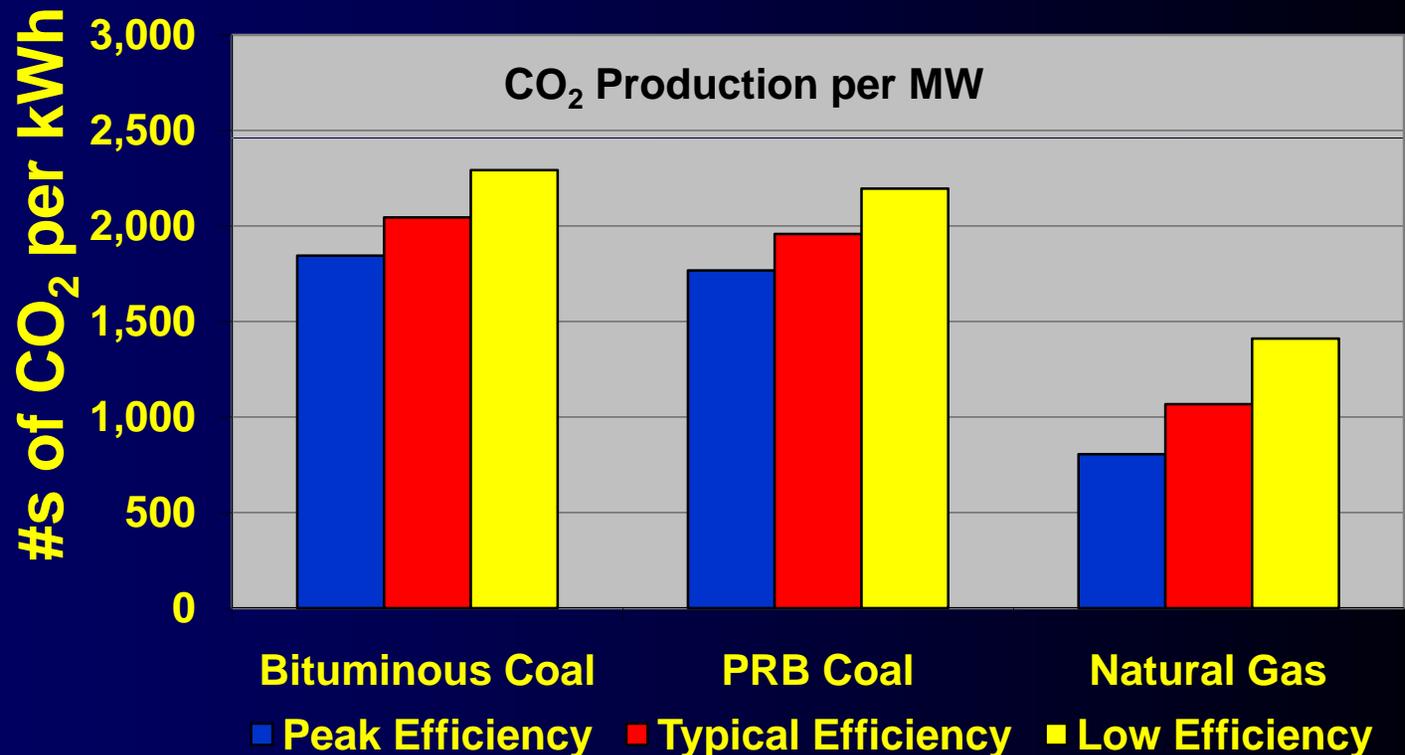
Some suggestions:

- Convince other energy groups to put America's interest first. We should not compete at the expense of America's national security
 - Begin an active web based information campaign to spread the truth
 - Form coalitions with "Friends of Coal" and "Friends of Industry"
- US Chamber of Commerce
 - American Society of Mechanical Engineers
 - National Association of Manufacturers (NAM)
 - IEEE
 - API (American Petroleum Institute)
 - The Heartland Institute
 - AGA (American Gas Association)
 - National Rifle Association
 - Competitive Enterprise Institute
 - American Enterprise Institute
 - EEI
 - Radio Broadcasters Association
 - Instrument Society of America
 - Media Research Center
 - The Heritage Foundation
 - Hudson Institute
 - The Cato Institute
 - Any other organizations or foundations that are for keeping America strong
 - Twenty First Century Energy Institute



Improve what we do now!

- Reduce Heat Rates
- Educate the politicians on the negative impact of new source review



By the way, natural gas can produce up to 80% of the same GHGs/kWh as a well run efficient coal generating station without carbon sequestration.



Summary of What We Can Do

- Publicize, Promote, Educate the Four E's
 - Energy
 - Economic Prosperity
 - Environmental Protection (We are responsible!)
 - Education in schools of youth – and public through PSAs

MOST IMPORTANTLY: Explain publically
Why Coal is Good for America!

Together – we can help keep America strong and less energy dependent from others for:

- National Security
- Economic Prosperity
- Our Children & Grandchildren



Thank You !
**Go home and
spread the good word on
“Why Coal is Good for America”**

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