

# TECHNOCRACY, CARBON CURRENCY AND SMART GRIDS

*An economic system based on energy production and consumption instead of price and a global electrical network using interconnected smart technologies may fulfil Technocracy's ideological plan to exert centralised control over the world's population.*

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## Part 1: Carbon Currency—A New Beginning for Technocracy?

Critics who think that the US dollar will be replaced by some new global currency are perhaps thinking too *small*. On the world horizon looms a new global currency that could replace *all* paper currencies and the economic system upon which they are based.

The new currency, simply called Carbon Currency, is designed to support a revolutionary new economic system based on energy (production and consumption) instead of price. Our current price-based economic system and its related currencies that have supported capitalism, socialism, fascism and communism is being herded to the slaughterhouse in order to make way for a new carbon-based world.

It is plainly evident that the world is labouring under a dying system of price-based economics as evidenced by the rapid decline of paper currencies. The era of fiat (irredeemable paper currency) was introduced in 1971 when US President Richard Nixon decoupled the US dollar from gold. Because the dollar-turned-fiat was the world's primary reserve asset, all other currencies eventually followed suit, leaving us today with a global sea of paper that is increasingly undesired, unstable, unusable. The deathly economic state of today's world is a direct reflection of the sum of its sick and dying currencies, but this could soon change.

Forces are already at work to position a new Carbon Currency as the ultimate solution to global calls for poverty reduction, population control, environmental control, global warming, energy allocation and blanket distribution of economic wealth. Unfortunately for individual people living in this new system, it will also require authoritarian and centralised control over all aspects of life, from cradle to grave.

What is Carbon Currency and how will it work? In a nutshell, Carbon Currency will be based on the regular allocation of available energy to the people of the world. If not used within a period of time, the currency will expire (like monthly minutes on your cellphone plan) so that the same people can receive a new allocation based on new energy production quotas for the next period.

Because the energy supply chain is already dominated by the global elite, setting energy production quotas will limit the amount of Carbon Currency in circulation at any one time. It will also naturally limit manufacturing, food production and people movement. Local currencies could remain in play for a time, but they would eventually wither and be fully replaced by the Carbon Currency, in much the same way that the euro displaced individual European currencies over a period of time.

Sounds very modern in concept, doesn't it? In fact, these ideas date back to the 1930s when hundreds of thousands of US citizens were embracing a new political ideology called Technocracy and the promise it held for a better life.

## Background

Philosophically, technocracy found its roots in the scientific autocracy of Henri de Saint-Simon (1760–1825) and in the positivism of Auguste Comte (1798–1857), the father of social sciences. Positivism elevated science and the scientific method above metaphysical revelation. Technocrats embraced positivism because they believed that social progress was possible only through science and technology.

The social movement of Technocracy, with its energy-based accounting system, can be traced back to the 1930s when an obscure group of engineers and scientists offered it as a solution to the Great Depression.

The principal scientist behind Technocracy was M. King Hubbert, a young geoscientist who would later (in 1948–1956) invent the now-famous Peak Oil theory, also known as the Hubbert Peak theory. Hubbert stated that the discovery of new energy reserves and their production would be outstripped by usage, thereby eventually causing economic and social havoc. Many modern followers of peak oil theory believe that the 2007–2009 global recession was exacerbated in part by record oil prices that reflected the validity of the theory.

Hubbert received all of his higher education at the University of Chicago, graduating with a PhD in 1937, and later taught geophysics at Columbia University. He was highly acclaimed throughout his career, receiving many honours such as the Rockefeller Public Service Award in 1977.

In 1933, Hubbert and Howard Scott formed an organisation called Technocracy, Inc. "Technocracy" is derived from the Greek words *techne*, meaning "skill", and *kratos*, meaning "rule". Thus, it is government by skilled engineers, scientists and technicians as opposed to elected officials. It was opposed to all other forms of government, including communism, socialism and fascism, all of which function with a price-based economy.

As founders of the organisation and political movement called Technocracy, Inc., Hubbert and Scott also co-authored the *Technocracy Study Course*, published in 1934. This book serves as the "bible" of Technocracy and is the root document to which most all modern technocratic thinking can be traced.

Technocracy postulated that only scientists and engineers were capable of running a complex, technology-based society. Because technology, the founders reasoned, changed the social nature of societies, previous methods of government and economy were made obsolete. They disdained politicians and bureaucrats, whom they viewed as incompetent. By utilising the scientific method and scientific management techniques, technocrats hoped to squeeze the massive inefficiencies out of running a society,

thereby providing more benefits for all members of society while consuming fewer resources.

The other integral part of Technocracy was to implement an economic system based on energy allocation rather than price. They proposed to replace traditional money with Energy Credits. Their keen focus on the efficient use of energy is likely the first hint of a sustained ecological/environmental movement in the United States. The modern emphasis on curtailing carbon fuel consumption that causes global warming and CO<sub>2</sub> emissions is essentially a product of early technocratic thinking.

As scientists, Hubbert and Scott tried to explain (or justify) their arguments in terms of physics and the law of thermodynamics, which is the study of energy conversion between heat and mechanical work. Entropy is a concept within thermodynamics that represents the amount of energy in a system that is no longer available for doing mechanical work. Entropy thus increases as matter and

energy in the system degrade towards the ultimate state of inert uniformity. In layman's terms, entropy means that once you use it, you lose it for good.

Furthermore, the end state of entropy is "inert uniformity" where nothing takes place. Thus, if man uses up all the available energy and/or destroys the ecology, there can be no restoration ever again.

The technocrat's way of avoiding social entropy is to increase the efficiency of society by the careful

allocation of available energy and the measurement of subsequent output in order to find a state of "equilibrium", or balance.

To facilitate this equilibrium between man and nature, Technocracy proposed that citizens would receive Energy Certificates in order to operate the economy:

"...[Energy Certificates] are issued individually to every adult of the entire population..."

"The record of one's income and its rate of expenditure is kept by the Distribution Sequence, so that it is a simple matter at any time for the Distribution Sequence to ascertain the state of a given customer's balance..."

"When making purchases of either goods or services an individual surrenders the Energy Certificates properly identified and signed..."

"The significance of this, from the point of view of knowledge of what is going on in the social system, and of social control, can best be appreciated when one surveys the whole system in perspective. First, one single organization is manning and operating the whole social mechanism. The same organization not only produces but distributes all goods and services..."

Two key differences between price-based money and Energy Certificates are that:

**The other integral part of Technocracy was to implement an economic system based on energy allocation rather than price.**

a) money is generic to the holder while Certificates are individually registered to each citizen, and  
b) money persists while Certificates expire.  
The latter facet would greatly hinder, if not altogether prevent, the accumulation of wealth and property.

### Transition

At the start of World War II, Technocracy's popularity dwindled as economic prosperity returned; however, both the organisation and its philosophy survived.

Today, there are two principal websites representing Technocracy in North America. Technocracy, Inc., located in Ferndale, Washington, is represented at [www.technocracy.org](http://www.technocracy.org). A sister organisation in Vancouver, British Columbia, is Technocracy Vancouver; it can be found at [www.technocracyvan.ca](http://www.technocracyvan.ca).

While Technocracy's original focus was exclusively on the North American continent, the movement is now growing rapidly in Europe and other industrialised nations. For instance, the Network of European Technocrats (NET) was formed in 2005 as "an autonomous research and social movement that aims to explore and develop both the theory and design of technocracy". The NET website claims to have members around the world.

Of course, a few minor-league organisations and their websites cannot hope to create or implement a global energy policy, but it's not because the ideas aren't still alive and well.

A more likely influence on modern thinking is due to Hubbert's Peak Oil theory introduced in 1954. It has figured prominently in the ecological and environmental movement. In fact, the entire global warming movement indirectly sits on top of the Hubbert Peak theory.

### The Modern Proposal

Because of the connection between the environmental movement, global warming and the technocratic concept of Energy Certificates, one would expect that a Carbon Currency would be suggested from that particular community, and in fact this is the case.

In 1995, Judith Hanna wrote in her article "Towards a Single Carbon Currency" in *New Scientist*: "My proposal is to set a global quota for fossil fuel combustion every year, and to share it equally between all the adults in the world."

In 2006, the prestigious *Harvard International Review* published "A New Currency", which stated:

"For those keen to slow global warming, the most effective actions are in the creation of *strong national carbon*

*currencies*... For scholars and policymakers, the key task is to mine history for guides that are more useful. Global warming is considered an environmental issue, but its best solutions are not to be found in the canon of environmental law. Carbon's ubiquity in the world economy demands that cost be a consideration in any regime to limit emissions. Indeed, emissions trading has been anointed king because it is the most responsive to cost. And since *trading emissions for carbon is more akin to trading currency* than eliminating a pollutant, policymakers should be looking at trade and finance with an eye to how carbon markets should be governed. We must anticipate the policy challenges that will arise *as this bottom-up system emerges*,

including the governance of seams between each of the nascent trading systems, liability rules for bogus permits, and judicial cooperation." (Emphasis added.)

The authors concluded that "after seven years of spinning wheels and wrong analogies, the *international regime to control carbon* is headed, albeit tentatively, down a productive path". (Emphasis added.)

In 2006, the then UK Environment Secretary David Miliband spoke to the Audit Commission Annual Lecture and Debate and flatly stated: "Imagine a country *where carbon becomes a new currency*. We carry bank cards that store both pounds and carbon points. When we buy electricity, gas and fuel, we use our carbon points, as well as pounds. To help reduce carbon emissions, the Government would set limits on the amount of carbon that could be used." (Emphasis added.)

In 2007, the *New York Times* published "When Carbon Is Currency" by Hannah Fairfield. She pointedly stated: "To build a carbon market, its originators must create a *currency of carbon credits* that participants can trade." (Emphasis added.)

Point Carbon, a leading global consultancy, is partnered with Bank of New York Mellon to assess rapidly growing carbon markets. In 2008, it published "Towards a Common Carbon Currency: Exploring the prospects for integrated global carbon markets". This report discusses both environmental and economic efficiency in a similar context as originally seen with Hubbert in 1933.

Finally, on 9 November 2009, the *UK Telegraph* presented an article "Everyone in Britain could be given a personal 'carbon allowance':

"...implementing individual *carbon allowances for every person* will be the most effective way of meeting the targets for cutting greenhouse gas emissions. It would involve people

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being issued with a *unique number* which they would hand over when purchasing products that contribute to their carbon footprint, such as fuel, airline tickets and electricity. *Like with a bank account*, a statement would be sent out each month to help people keep track of what they are using. If their 'carbon account' hits zero, they would have to pay to get more credits." (Emphasis added.)

As you can see, these references are hardly minor league in terms of either authorship or content. The undercurrent of early technocratic thought has finally reached the shore where the waves are lapping at the beach.

### Energy Card Prototype

In July 1937, an article by Howard Scott in *Technocracy Magazine* described an Energy Distribution Card in great detail. It declared that using such an instrument as "a means of accounting is a part of Technocracy's proposed change in the course of how our socioeconomic system can be organized".

Scott further wrote:

"The certificate will be issued directly to the individual. It is nontransferable and nonnegotiable; therefore, it cannot be stolen, lost, loaned, borrowed, or given away. It is noncumulative; therefore, it cannot be saved, and it does not accrue or bear interest. It need not be spent but loses its validity after a designated time period."

This may have seemed like science fiction in 1937, but today it is wholly achievable. Technocracy, Inc. has offered an updated idea of what such an Energy Distribution Card might look like. Its website states: "It is now possible to use a plastic card similar to today's credit card embedded with a microchip. This chip could contain all the information needed to create an energy distribution card as described in this booklet.

Since the same information would be provided in whatever form best suits the latest technology, however, the concept of an 'Energy Distribution Card' is what is explained here."

If you study the prototype card, you will also note that it serves as a *universal identity card* and contains a microchip. This reflects Technocracy's philosophy that each person in society must be meticulously monitored and accounted for in order to track what they consume in terms of energy and also what they contribute to the manufacturing process.

### Carbon Market Players

The modern system of carbon credits is an invention of the Kyoto Protocol and started to gain momentum in 2002 with the establishment of the first domestic economy-wide trading scheme in the UK. Written into international law in 2005, the trading market is now predicted to reach US\$3 trillion by 2020 or earlier.

## Global Electric Energy Grid "The World Game's highest priority objective."

Dr. R. Buckminster Fuller

Linking the renewable energy resources around the world reduces global pollution, population growth, world hunger, and increases living standards, international trade, cooperation and world peace.

**"While directing the Foreign Affairs of Egypt between 1977-1991, I have advocated the integration of the electricity grids of all African countries of the Nile River."**

**Boutros Boutros-Ghali, Former Secretary General, UN**

**"We are absolutely in agreement with this initiative and we want to let you know that we will be supporting all works that you develop in this relation."**

**Vicente Fox, President, Mexico**

Dymaxion Map (C) Buckminster Fuller Institute

**Eash dot represents 1% of humanity (60+ million people) and the color represents the following energy statistics:**

- Less than 1000 kWh/capita -- Regions in Emergency
- 1000 - 2000 kWh/capita -- Regions in Transition
- Over 2000 kWh/capita -- Developed Regions

**"We need more comprehensive thinking and long-range global planning. I invite you to investigate the GENI Initiative as I have. It offers hope for all humanity."**

**Walter Cronkite, News Anchorman**

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Graciela Chichilnisky, director of the Columbia Consortium for Risk Management and a designer of the carbon credit text of the Kyoto Protocol, stated in her article "Who Needs a Carbon Market?":

"The carbon market is therefore all about cash and trading—but it is also a way to a profitable and greener future."

Who are the "traders" that provide the open door to all this profit? Currently leading the pack are J. P. Morgan Chase, Goldman Sachs and Morgan Stanley. A Bloomberg article, "Carbon Capitalists Warming to Climate Market Using Derivatives" (4 December 2009), noted: "The banks are preparing to do with carbon what they've done before: design and market derivatives contracts that will help client companies hedge their price risk over the long term. They're also ready to sell carbon-related financial products to outside investors."

At J.P. Morgan, the woman who originally invented credit default swaps, Blythe Masters, is now head of the department that trades carbon credits for the bank.

Considering the sheer force of the global banking giants behind carbon trading, it's no wonder that analysts are already predicting that the carbon market will soon dwarf all other commodities trading.

Of course, a currency is merely a means to an end. Whoever controls the currency also controls the economy and the political structure that goes with it. Technocracy and energy-based accounting are not idle or theoretical issues. If the global elite intends for Carbon Currency to supplant national currencies, then the world economic and political systems will also be fundamentally changed forever.

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## Part 2: Smart Grid—The Implementation of Technocracy?

The *Technocracy Study Course* established a detailed framework for Technocracy in terms of energy production, distribution and usage. According to Scott and Hubbert, the distribution of energy resources must be monitored and measured in order for the system to work—and this is the key: *monitoring* and *measuring*.

They wrote that the system must do the following things:

- "1. Register on a continuous 24 hour-per-day basis the total net conversion of energy..."
- "2. By means of the registration of energy converted and consumed, make possible a balanced load."
- "3. Provide a continuous inventory of all production and consumption."
- "4. Provide a specific registration of the type, kind, etc., of all goods and services, where produced, and where used."
- "5. Provide a specific registration of the consumption of each individual, plus a record and description of the individual..."

In the 1930s, such technology did not exist. Time was on the technocrat's side, however, because this technology *does* exist today and it is being rapidly implemented to do exactly what Scott and Hubbert specified: namely, to exhaustively monitor, measure and control every kilowatt of energy delivered to consumers and businesses on a system-wide basis. It's called Smart Grid.

## What is Smart Grid?

Smart Grid is a broad technical term that encompasses the generation, distribution and consumption of electrical power, with an inclusion for gas and water as well. America's ageing power grid is increasingly fragile and inefficient. Smart Grid is an initiative that seeks to completely redesign the power grid using advanced digital technology, including the installation of new digital meters in every home and business in the United States.

These digital meters provide around-the-clock monitoring of a consumer's energy consumption using continuous two-way communication between the utility and the consumer's property. Furthermore, the meters will be able to communicate with electrical devices within the residence to gather consumption data and to control certain devices directly without consumer intervention.

According to a US Department

of Energy publication:

"The Department of Energy has been charged with orchestrating the wholesale modernization of our nation's electrical grid... Heading this effort is the Office of Electricity Delivery and Energy Reliability. In concert with its cutting edge research and energy policy programs, the office's newly formed, multi-agency Smart Grid Task Force is responsible for coordinating standards development, guiding research and development projects, and reconciling the agendas of a wide range of stakeholders."

This is a relatively new initiative, but it is racing forward at breakneck speed. The Office of Electricity Delivery was created in 2003 under President George W. Bush, and was elevated in stature in 2007 by the creation of the position of Assistant Secretary of Electricity Delivery and Energy Reliability to head it. It is not clearly stated who "charged" the Department of Energy to this task, but since the Secretary of Energy answers directly to the President, it is assumed that it was a directive from the President. There certainly was no congressional directive or mandate.

## Implementation

On 27 October 2009, the Obama administration unveiled its Smart Grid plan by awarding \$3.4 billion to 100 Smart Grid projects. According to the Department of Energy's press release, these awards will result in the installation of:

- more than 850 sensors, called "phasor measurement units", to monitor the overall power grid nationwide;
- 200,000 smart transformers;
- 700 automated substations (about five per cent of the nation's total);
- 1,000,000 in-home displays;
- 345,000 load-control devices in homes.

One such project in the Northwest is headed by the Battelle Memorial Institute, covering five states and targeting 60,000 customers. The project was actually developed by the Bonneville Power Administration (BPA), a federal agency underneath the Department of Energy. Since it is pointedly illegal for a federal agency to apply for federal funds, BPA passed the project off to Battelle, a non-profit and non-governmental organisation, which was promptly awarded \$178 million.

It is interesting to note that BPA takes credit for originating the Smart Grid concept in the early 1990s; termed Energy Web, it is comprehensive in scope from production to consumption.

According to Battelle's 27 August 2009 press release:

"The project will involve more than 60,000 metered customers in Idaho, Montana, Oregon, Washington and Wyoming. Using smart grid technologies, the project will engage system assets exceeding 112 megawatts, the equivalent of power to serve 86,000 households...

"The proposed demonstration will study smart grid benefits at unprecedented geographic breadth across five states, spanning the electrical system from generation to end-use, and containing many key functions of the future smart grid," said Mike Davis, a Battelle vice president. "The intended impact of this project will span well beyond traditional utility service territory boundaries, helping to enable a future grid that meets pressing local, regional and national needs."

Battelle and BPA intend to work closely together, and there is an obvious blurring as to who is really in control of the project's management during the test period.

In a "For Internal Use Only" document written in August 2009, BPA offered talking points to its partners:

"Smart Grid technology includes everything from *interactive appliances* in homes to *smart meters*, substation automation and sensors on transmission lines." (Emphasis added.)

## A Network of Things

As the World Wide Web (WWW) is to people, so the Network of Things (NOT) is to appliances. This brand-new technology creates a wireless network between a broad range of inanimate objects from shoes to refrigerators. This concept is "shovel ready" for Smart Grid implementation

because appliances, meters and substations are all inanimate items that technocrats would have communicating with each other.

For instance, in 2008, the Pacific Northwest National Laboratory (PNNL) developed a small circuit board called a Grid Friendly Appliance™ (GFA) Controller. According to a Department of Energy brochure:

"The GFA Controller developed by Pacific Northwest National Laboratory is a small circuit board built into household appliances that reduces stress on the power grid by continually monitoring fluctuations in available power. During times of high demand, appliances equipped with the controller automatically shut down for a short period of time, resulting in a cumulative reduction that can maintain stability on the grid."

According to PNNL's website: "The controller is essentially a simple computer chip that can be installed in

**You can see how automatic actions are intended to be triggered by direct interaction between objects, without human intervention.**

regular household appliances like dishwashers, clothes washers, dryers, refrigerators, air conditioners, and water heaters. The chip senses when there is a disruption in the grid and turns the appliances off for a few seconds or minutes to allow the grid to stabilize. The controllers also can be programmed to delay the restart of the appliances. The delay allows the appliances to be turned on one at a time rather than all at once to ease power restoration following an outage."

You can see how automatic actions are intended to be triggered by direct interaction between objects, without human intervention. The rules will be written by programmers under the direction of technocrats who understand the system, and then downloaded to the controllers as necessary. Thus, changes to the rules can be made on the fly, at any time and without the homeowner's knowledge.

PNNL is not a private enterprise, however. It is "owned" by the US Department of Energy and operated by Battelle Memorial Institute!

All of this technology will be enabled with Wi-Fi circuitry that is identical to the Wi-Fi-enabled network modems and routers commonly used in homes and businesses throughout the world. "Wi-Fi" is a trademark of the Wi-Fi Alliance and refers to wireless network systems used in devices from personal computers to mobile phones, connecting them together and/or to the Internet.

According to the Wi-Fi Alliance, "[t]he need for Smart Grid solutions is being driven by the emergence of distributed power generation and management/monitoring of consumption". In its white paper, "Wi-Fi® for the Smart Grid", it lists the specific requirements for interoperability posted by the Department of Energy:

- Provide two-way communication among grid users,

e.g. regional market operators, utilities, service providers and consumers

- Allow power system operators to monitor their own systems as well as neighbouring systems that affect them so as to facilitate more reliable energy distribution and delivery

- Coordinate the integration into the power system of emerging technologies such as renewable resources, demand response resources, electricity storage facilities and electric transportation systems

- Ensure the cyber security of the grid".

Thus, the bi-directional and real-time Smart Grid communications network will depend on Wi-Fi from end to end. This is easily understood from the two figures included in the Wi-Fi Alliance white paper.

While the consumer is pacified with the promise of lower utility costs, it is the utility company that will enforce the policies set by the regional, national and global regulators. Thus, if a neighbouring system has a shortage of electricity, your thermostat might automatically be turned down to compensate; if you have exceeded your monthly daytime quota of electricity, energy-consuming tasks like washing and drying clothes could be limited to overnight hours.

Smart Grid and the utility's control extends beyond electricity. There is a Wi-Fi linkage to gas and water meters as well.

### Going Global

A *BusinessWeek* article, "How Italy Beat the World to a Smarter Grid", published on 16 November 2009, stated: "After several false starts, 2010 finally could be the year when smart meters go global." Indeed, it was:

- Italy has already implemented Smart Grid technology in 85 per cent of its homes nationwide;
- Earth2tech.com reports that Smart Grid will generate \$200 billion of global investment in the next few years;
- The International Electrotechnical Commission has laid out a global roadmap to ensure interoperability of Smart Grid systems between nations;
- Global companies are rushing to gain their share of the global Smart Grid market: IBM, Siemens, GE, Cisco, Panasonic, Kyocera, Toshiba, Mitsubishi, etc.;
- China is spending \$7.32 billion to build-out Smart Grid in Asia.

Other countries with Smart Grid pilot projects already launched include Germany, France, England, Russia, Japan, India, Australia, South Africa and a host of others. Regional

organisations such as Smart Grids Africa have been set up to promote Smart Grid in smaller countries.

In every case, Smart Grid is being accelerated by government stimulus spending. The global vendors are merely lining up their money buckets to be filled up with taxpayer funds. As is the case in the US, there was little, if any, pre-existing or latent demand for Smart Grid technology. Demand has been artificially created by the respective governments of each country.

### Part 3: Technocracy Endgame—Global Smart Grid

Today in 2011, the development and implementation of Smart Grid technology in the US—reinventing the electrical grid with Wi-Fi-enabled digital power meters—is proceeding at breakneck speed.

Global companies like IBM, GE and Siemens are putting their full effort behind the "build-out" that will consolidate all of America into a single, integrated, communication-enabled electricity delivery and monitoring system, with planners working on standards that will integrate all of North America including Mexico and Canada into a single, unified, Smart Grid system.

Moreover, there is a serious initiative underway to create a *Global* Smart Grid that will integrate all the continents on the globe!

The Global Energy Network Institute (GENI) presents its Dymaxion™ Map of the world, from the perspective of the North Pole, which reveals the global grid currently under construction (see diagram on page 28).

The only part of planet Earth left untouched is Antarctica.

The yellow lines represent high-voltage electrical transmission

links that are capable of transferring large amounts of energy from continent to continent.

The GENI project is gathering momentum and is endorsed by the Dalai Lama, Archbishop Desmond Tutu, US Senator James Jeffords, Dr Noel Brown ([the now former] North American director of the UN Environment Programme), the United Nations and the governments of Canada, New Zealand, Switzerland and China, among others.

The nature of the global grid is revealed on the TerraWatts.com website:

"There is a *new world wide web* emerging right before our eyes. It is a global energy network and, like the Internet, it will change our culture, society and how we do business. More importantly, it will alter how we use, transform and exchange energy...

**“There is a new world wide web emerging right before our eyes. It is a global energy network and, like the Internet, it will change our culture, society and how we do business.”**

"There is no energy *supply* problem, there is an energy *distribution* problem, and the emerging solution is a *new world wide web* of electricity."

### Genesis of the Global Smart Grid

The GENI website credits the late R. Buckminster Fuller (1895–1983) as the conceptual father and designer of the global energy network. In his 1981 book *Critical Path*, Fuller wrote:

"...This world electric grid, with its omni-integrated advantage, will deliver its electric energy anywhere, to anyone, at any one time, at one common rate. This will make a world-around uniform costing and pricing system for all goods and services based realistically on the time-energy metabolic accounting system of [the] Universe.

"In this cosmically uniform, common energy-value system for all humanity, costing will be expressed in kilowatt-hours, watt-hours and watt-seconds of work. Kilowatt-hours will become the prime criteria [*sic*] of costing the production of the complex of metabolic involvements per each function or item.

"These uniform energy valuations will replace all the world's wildly intervening, opinion-gambled-upon, top-power-system-manipulatable monetary systems. The time-energy world accounting system will do away with all the inequities now occurring in regard to the arbitrarily maneuverable international shipping of goods and top economic power structure's banker-invented, international balance-of-trade accountings.

"It will eliminate all the tricky banking and securities-markets exploitations of all the around-the-world-time-zone activities differences in operation today, all unbeknownst to the at-all-times two billion humans who are sleeping."

If this sounds familiar, it should. It is an unvarnished rehash of 1930s-style Technocracy, except on a global, versus continental, scale.

Electricity is delivered equally to all, and the price-based economic system is replaced by a "time-energy world accounting system" based on kilowatt-hours, watt-hours and watt-seconds.

There is no evidence that such a system will ever work, but that hasn't stopped global groups from rushing headlong into this global initiative. Take, for instance, the World Economic Forum...

### World Economic Forum and Climate Change

If sceptics were to question the seriousness of organisations like TerraWatts and GENI, they should consider that the elitist World Economic Forum (WEF) has

thrown its collective weight behind the initiative. It has managed to link the advancement of Smart Grid to the reduction of carbon emissions, thus promising a tangible way to fight global warming.

Founded in 1971, the WEF meets annually in Davos, Switzerland. Attendees are mostly the "who's who" of the global elite.

The WEF presented a major progress report in January 2011 on the Energy Industry Partnership Programme and referred to a recent energy publication:

"'Accelerating Successful Smart Grid Pilots', a World Economic Forum report developed with Accenture and industry experts, sets out the centrality of smart grids as *key enablers for a low-carbon economy* and in response to increasingly growing energy demands. Over 60 industry, policy and regulatory stakeholders were engaged in the 'Accelerating Successful Smart Grid Pilots' report, to identify the factors that determine the success, or otherwise, of smart grid pilots... There is an opportunity to

launch the next wave of development towards a *lower carbon energy system*, and successful smart grid pilots will be a key step in this process." (Emphasis added.)

Mark Spelman, Global Head of Strategy at Accenture, participated in the WEF's 2010 Smart Grid Workshop. When asked the question, "What value can Smart Grid add in the next 30 years?", Spelman replied: "Smart grids are absolutely fundamental if we are going to achieve some of

our climate change objectives. If you like, smart grids are the glue, they're the energy Internet of the future, and they are the essential component which is going to bring demand and supply together."

### The IEEE Standards Association

The global energy network, or Smart Grid, will operate according to universally accepted engineering standards that make data and energy flows compatible with each other. Who will supply such standards? The venerable Institute of Electrical and Electronics Engineers (IEEE).

The IEEE claims that it is "the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity".

Founded in 1884, it has been involved with electricity standards and development since Thomas Edison invented the light bulb. Today, however, the IEEE is massively global, with 395,000 members in 160 countries, and it supports approximately 900 active standards in various fields of engineering and electronics.

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**Continued on page 81**

## Technocracy, Carbon Currency and Smart Grids

### Continued from page 32

As it states on its Smart Grid website, the IEEE has staked its claim, in clear language, on the global energy initiative:

"There's no global organization to oversee all nations' energy systems transformations—it is a vast movement and it's in its infancy. With our 38 societies and seven councils IEEE is positioned to lead the smart grid initiative. Through them and our 395,000 members, who work in the world's academic, government and private sectors, IEEE touches virtually every aspect of the smart grid.

"We leverage our strong foundation and inclusive collaboration to evolve standards, share best practices, publish developments and provide related educational offerings to further the smart grid. We are at the forefront of advancing technology and facilitating successful deployments throughout the world.

"Working hand in hand with other

leading organizations to create one set of standards for the smart grid is the way we can ensure success."

IEEE's bravado is not unwarranted. It truly is the *only* global organisation capable of such a monumental task. When given the challenge to unify the global energy network, 395,000 engineers should be enough to complete the mission!

### Conclusion

Technocracy is a collectivist, utopian political-economic system run by engineers, scientists and technicians. It has the potential to be far more oppressive and controlling than communism, socialism or fascism. Smart Grid is born out of Technocracy, and not the other way around.

It is not clear who will oversee any or all facets of the Global Smart Grid. The implied suggestion is that it will be the same engineers and global corporations that are currently developing it.

With the global groundswell of

activity to create the Global Smart Grid, it is doubtful that the initiative can be stopped, especially since it is so closely intertwined with the global warming movement and, hence, with sustainable development and even the United Nations' Agenda 21 program. ∞

### About the Author:

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### Editor's Note:

Due to space constraints we are unable to publish the complete versions of Patrick Wood's three articles, "Carbon Currency" (26 January 2010), "Smart Grid" (2 March 2010) and "Technocracy Endgame" (23 June 2011). To view these and the accompanying references, go to <http://www.augustreview.com>.