

**Testimony of Reed Hundt**  
**Chief Executive Officer**  
**Coalition for Green Capital**  
**Before the**  
**Committee on Ways and Means**  
**United States House of Representatives**  
**April 14, 2010**

Thank you Chairman Levin, Ranking Member Camp, and members of the Committee. Mr. Chairman, I am Reed Hundt, CEO of the Coalition for Green Capital, a non-profit formed for the purpose of developing and advocating tax and finance policies that support the conversion of the American and global economies from carbon emissions-intensive practices to methods that are clean, renewable, and affordable.

I am very honored to testify to this important and learned committee. I want to acknowledge the fine work that this committee has done in the past on renewable tax credits and in the stimulus bill. Your work has led, among other things, to significant job creation in 2009. Indeed, as I suggest to you today certain tax and finance measures, I am standing on the shoulders of the great work this committee has already done in the past. In addition, I want to acknowledge the wisdom of the House in passing ACES, also known as Waxman-Markey, which contains some of the measures that I will suggest today.

I am here to discuss a way to escape the slough of recession and unemployment in which our country finds itself. If Congress makes a long-term, large-scale, and economically prudent commitment to the right tax and finance policies, then starting immediately and continuing at least through the present decade, private

sector investors, utilities, merchant power companies, energy service companies, transmission line builders, contractors, construction companies, and firms with many other skill sets will be able to do the following:

First, over ten years, replace existing building materials with better insulated walls, windows, and roof spaces so as to reduce energy use by at least 20% in up to 80 million buildings – ranging from most owner-occupied homes to virtually every small and big business building.

Second, over the same ten years, replace at least half of carbon emission intensive electricity generation with carbon-light, renewable alternatives, such as onshore and offshore wind, solar, nuclear, biomass, combined cycle natural gas , and carbon capture and sequestration coal generation.

#### Job Creation and Carbon Abatement: Two birds with one loan (and tax program)

By engaging in these two activities in every region, state, and locality, thousands of private sector firms will create up to seven million new jobs. The energy retrofit and generation initiatives would then contribute more than any other single sector of the economy to achieving a return to full employment.

When the private sector will have reduced our buildings' electricity consumption by 20 percent or more, and reduced by at least half the carbon emissions from electricity generation, we will have reduced total American carbon dioxide emissions by almost two billion tons annually – a drop of 30 percent from what we produce today. This reduction will show the world that traditional American know-how, entrepreneurial spirit, and innovative skills are alive and active in the energy sector. We know we can transform this sector, because we did it not long ago in a similar sector of the economy: private sector investment of about a trillion dollars in digital networks starting in the early 1990s gave us world leadership in information and communications technology, while creating directly and indirectly one-fifth of the more than 20 million net new jobs that made that decade a great one for American workers.

The path from the valley of the worst unemployment since the Great Depression of the 1930s to the sunny uplands of full employment and rising national income

for all income quintiles, as we had in the 1990s, cannot run over the backs of either America's electricity businesses or electricity consumers. No one wants in the 2010s to drive up the price that people pay for heating, lighting, and air-conditioning, or to mulct shareholders of energy companies of the capability to sustain clean investment. No one intends during an economic downturn to inflict increases in what businesses pay to keep their lights on, do dry cleaning, design software, run computers, or engage in all the myriad activities that our high value-added economy requires to create wealth.

Moreover, every high value-added economy should want the prices of three basic inputs to be as low as economically feasible, so as to be able to achieve the greatest amount of productivity gains in making the goods and services that depend on these key inputs-- communications, capital, and electricity.

Therefore, in order to attract the job-creating and climate-saving investment we need in retrofits and generation, while benefitting electricity consumers, we need to deploy long-term and large scale tax and financing polices. That of course is the province of this committee. In this context we should reflect upon the fact that the United States is eleventh among nations in the amount of investment in renewables relative to gross domestic product (see Exhibit One). Tax and financing policies are far more favorable for renewables in many other countries, and as a result other nations threaten to gut our capacity to construct a world-leading renewables industry within our own borders.

### Retrofitting Investment

If we aim to retrofit tens of millions of residential and commercial buildings, we must overcome the agency problem – that is, the people who pay electricity bills are not necessarily able or willing to invest in retrofits. An owner who occupies his or her own house may not believe that he will stay in the house long enough to recoup in reduced electricity bills the cost of the investment. A renter may bear the cost of electricity but not have the legal right to install insulation. A small business may have a lease that is shorter than the time needed to recapture in savings the outlay for retrofitting the leased building.

In addition, to cause hundreds of thousands of workers to engage in retrofits in millions of buildings, tax and finance policies have to attract to this activity not only small firms and individuals, but also large enterprises that can invest in worker training and provide high quality customer care to building owners and occupants.

The solution is to offer utilities, energy service companies, and building owners a combination of tax benefits and long-term, low cost loans that will create adequate incentives to engage in retrofits at a reasonable profit. Because savings must be and should be realized in monetary terms, both the tax benefits and loans can be recouped in whole or in part over time. Liens on buildings and delayed tax payments can both be used as the form of recoupment. The retrofit program known as Homestar should be attractive to homeowners because they will receive a rebate on the purchase of retrofit products, such as better insulated building materials. But that program's success depends on creating incentives for private firms to market the retrofitting. Similarly, in order to scale out retrofitting to tens of millions of homes it will be necessary to use tax benefits and loans so as to provide various kinds of firms the financial incentives that can attract their investment in this endeavor.

Implementing this combination of tax and finance policy ideally would be the task of a small, specialized institution modeled after the Ex-Im Bank. This Clean Energy Bank should be patterned after the wholesale, nonprofit Green Bank proposed by Congressman Chris Van Hollen in H.R. 1698, introduced in March of 2009. The Clean Energy Bank would have, like Ex-Im, a few hundred employees, and would stay in existence for a decade, or until its mission was fulfilled, whichever comes sooner. A version of such a bank under the name Clean Energy Deployment Administration was inserted, by a bipartisan vote of 51 to 6, in ACES.

As outlined in Exhibit Two attached, as an example, the Clean Energy Bank would guarantee retail loans made to energy service companies or utilities so as to provide below-market capital that created an incentive for those firms to enter the retrofitting business at a large scale and on a long term basis. We need the jobs and we need the carbon emissions abatement; creating private sector profit

opportunities is the appealing way to achieve these goals. Moreover, because real savings would be achieved, the Clean Energy Bank would always aim to have its loan guarantees discharged in the fullness of time, as such savings are monetized.

Our goal needs to be large: let us catalyze at least \$3,000 to \$10,000 of investment in 80 million buildings over as short a time as practical. That would amount, then, to \$240 billion to \$800 billion of investment. Household net worth, which very heavily is dependent on real estate ownership, exceeds \$50 trillion, even after the tremendous drop from 2007 to 2009. Therefore, to invest \$25 billion a year for ten years in long-term wealth enhancement through energy savings represents increased investment of a rate of only one half of one tenth of a percent of aggregate net worth per year. In a society that consumes more than it invests, this plan may not work; in the new investment-oriented America we want to construct for this new century, this goal is not just achievable, but is virtually mandatory.

### Electricity Generation Investment

If we aim to replace half the carbon emissions-intensive electricity generation of the United States with renewable and carbon-light alternatives, then we need to cause the private sector to invest \$200 to \$300 billion in creating up to 200 gigawatts of carbon-free or carbon-light electricity generation capacity. Absent tax and financing policies adopted by Congress, this investment is not likely to occur in the 2010s for at least three reasons:

- (1) A corollary of the recession's dramatic drop in total output relative to total potential supply is that the United States now has ample generation capacity at least until 2016 (except for in a few states, such as California and Colorado). Therefore, we cannot depend solely, as China can, on new demand for electricity to attract new investment in generation. Instead, we need to create incentives for retirement, modification, and replacement of existing facilities.
- (2) Regulation in the form of a carbon cap, a renewable electricity standard or other catalysts to switching from carbon-intensive to carbon-light generation does not appear likely to be sufficiently stringent in the near

future *in and of itself* to cause firms to replace or convert up to 200 gigawatts of capacity in the 2010s. Therefore, we cannot depend solely on a purely regulatory solution – even though internalizing emissions costs will make renewables relatively more attractive than non-renewable energy sources -- to cause firms to achieve our investment goals for the present decade.

- (3) Prices for carbon-intensive electricity are not likely to rise enough, even if environmental costs are internalized over time, and costs of renewable electricity generation are not likely to fall enough in the near future, to cause firms to have an adequate profit motive to replace or convert up to 200 gigawatts of capacity in the 2010s. Therefore, we cannot depend solely upon profit margins in regulated or unregulated electricity markets to attract the desired investment at the scale we want to see.

On the other hand, a silver lining to the global recession is that the unit costs of creating renewable electricity generation are extremely favorable at this time. For example, a firm should have to spend about \$1750 to \$1900 to create a kilowatt of wind capacity at this time. (Prices are higher in difficult terrain or where the wind is less available.) Turbine prices constitute about 70% of the cost, and turbine prices are down to about \$1350 per kilowatt of capacity for immediate delivery, according to industry sources. Costs of other material and construction have also dropped. Innovation will continuously contribute to falling costs for renewables.

However, falling costs for constructing renewable generation facilities have been to a degree offset by the impact of falling prices for natural gas and coal. The relative cost of producing electricity from these sources also is therefore much lower than it was as recently as 2008. Currently, the cost of producing electricity from wind can be 15% higher than comparable coal or gas. In some geographical regions the comparison is less favorable for wind. Nuclear power will reflect a still higher cost; so will solar. Nevertheless, wind and other alternatives are now close enough to carbon-intensive generation in true economic cost (usually discussed in terms of Levelized Cost of Electricity (LCOE)) that it is quite possible to use tax and finance policy to provide clean electricity to consumers at prices competitive with

existing, carbon-intensive electricity prices. In other words, even if we choose to delay until the 2020s the full impact of internalizing of emissions costs in electricity prices, we still can attract significant private investment in clean alternatives now by lowering the effective cost of clean generation through tax and financing policies.

An example is found in Texas, which began to adopt various policies in support of wind investment policies at least ten years ago. For the country as a whole, according to the wind trade association AWEA, investment in wind produced in 2009 the addition of about 10 Gigawatts in wind capacity, increasing the national total from about 25 Gigawatts in 2008 to about 35 Gigawatts by the end of 2009 (about four percent of the national generation capacity). About a quarter of the new wind capacity in 2009 was added to the Texas markets alone. Now, windy days in that large state produce notable benefits to consumers. Prices are down as much as 25% in some parts of Texas since 2001. Exhibit Three provides further information on the Texas model.

Behind this price drop lie various factors, especially including the techniques by which distribution firms buy electricity. But tax policies and availability of capital are critical to investment in Texas wind or any renewables in any state. The Coalition for Green Capital has developed with supporting participants from the financial sector a business model shown in Exhibit Four. This model shows that with existing tax policies, including especially the Section 1603 cash grant in lieu of investment tax credits, and long-term, low cost financing provided by a loan guarantee from the Clean Energy Bank, a renewable project can lower the price of electricity it sells by as much as 40% in comparison to the price necessary to attract investment with standard commercial financing, and still create an attractive opportunity for private sector investment in the new generation facility.

We also believe that Section 142 of the Code should be amended to permit the use of tax exempt bonds by state Clean Energy Banks to finance renewable energy resource facilities, conservation and efficiency facilities, and other specified greenhouse gas emission technologies, as well as related facilities such as transmission lines necessary for development of renewable energy facilities. This

provision should be structured so that it could be used in conjunction with existing federal tax incentives for renewable energy projects, such as the Production Tax Credit, the Investment Tax Credit, and the accelerated cost recovery permitted under the Modified Accelerated Cost Recovery System, and should be exempt from volume caps in the same way that tax exempt private activity bonds for nonprofit organizations are exempt from volume caps.

#### Summary: Adopt long-term tax and financing policies

Our Coalition therefore believes that in order to attract investment that would create up to 200 gigawatts of clean electricity generation in the 2010s, while at the same time either holding flat or lowering electricity prices to consumers as most forecasters predict will be the market trend in the near future, it is necessary for Congress to enhance and make constant for at least a decade existing tax policy for renewable electricity generation and to capitalize the Clean Energy Bank in an amount ranging from \$10 billion to \$20 billion. The Clean Energy Bank should be allowed to permit borrowers to finance credit subsidy costs over the life of the loan, and to extend explicitly full faith and credit guarantees up to a defined amount, perhaps 10 to 20 times capital, with rigorous underwriting standards to protect the taxpayer. Under these circumstances, firms will make the necessary investments in retrofits and clean generation, and the great conversion to a clean economy will continue.

It would make a great deal of sense to have Clean Energy Bank administer both retrofit and generation financing, particularly because utilities and other firms should be able to choose between these complementary efforts, as particular circumstances suggest.

Job creation will follow investment. Our studies suggest that each \$10 billion invested in retrofits and generation will produce at least 100,000 jobs. Therefore, retrofitting 80 million buildings at \$5,000 for each on average should lead to \$400 billion in investment, or about 4 million jobs. Investing \$300 billion in creating 200 Gigawatts of clean generation should lead, by the same mathematics, to about 3 million jobs. By contrast, comparatively few of these jobs will be created in the early 2010s by the markets as they now exist or by regulations that are as

of now contemplated by Congress or by states. Exactly how many jobs could be created in any particular year by dint of the tax and financing policies we recommend no one can precisely predict. But, plainly, large scale, long term tax and financing policies can produce a hugely beneficial transformation in the American economy, and innovations in the 2020s and beyond will only make the route to sustainable growth even more attractive for our country.

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## Exhibit One

### The US is not even in the top 10 world wide in clean energy investment intensity

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**FIGURE 7. TOP 10 IN INVESTMENT INTENSITY**

Spain	0.74%
United Kingdom	0.51%
China	0.39%
Brazil	0.37%
Rest of EU-27	0.26%
Canada	0.25%
Turkey	0.19%
Germany	0.15%
Italy	0.14%
Mexico	0.14%

-The US is 11<sup>th</sup> overall, with 0.13% investment intensity

Source: Pew Research, "Who's Winning the Clean Energy Race? Growth, Competition, and Opportunity in the World's Largest Economies"

Clean Energy Investment Intensity: % of clean energy investment compared to Gross Domestic Product

## Exhibit Two

If CEB loans money to utilities and energy service companies at below commercial market rates in amounts greater than actual costs, it can create adequate profit opportunities for large scale efficiency investment

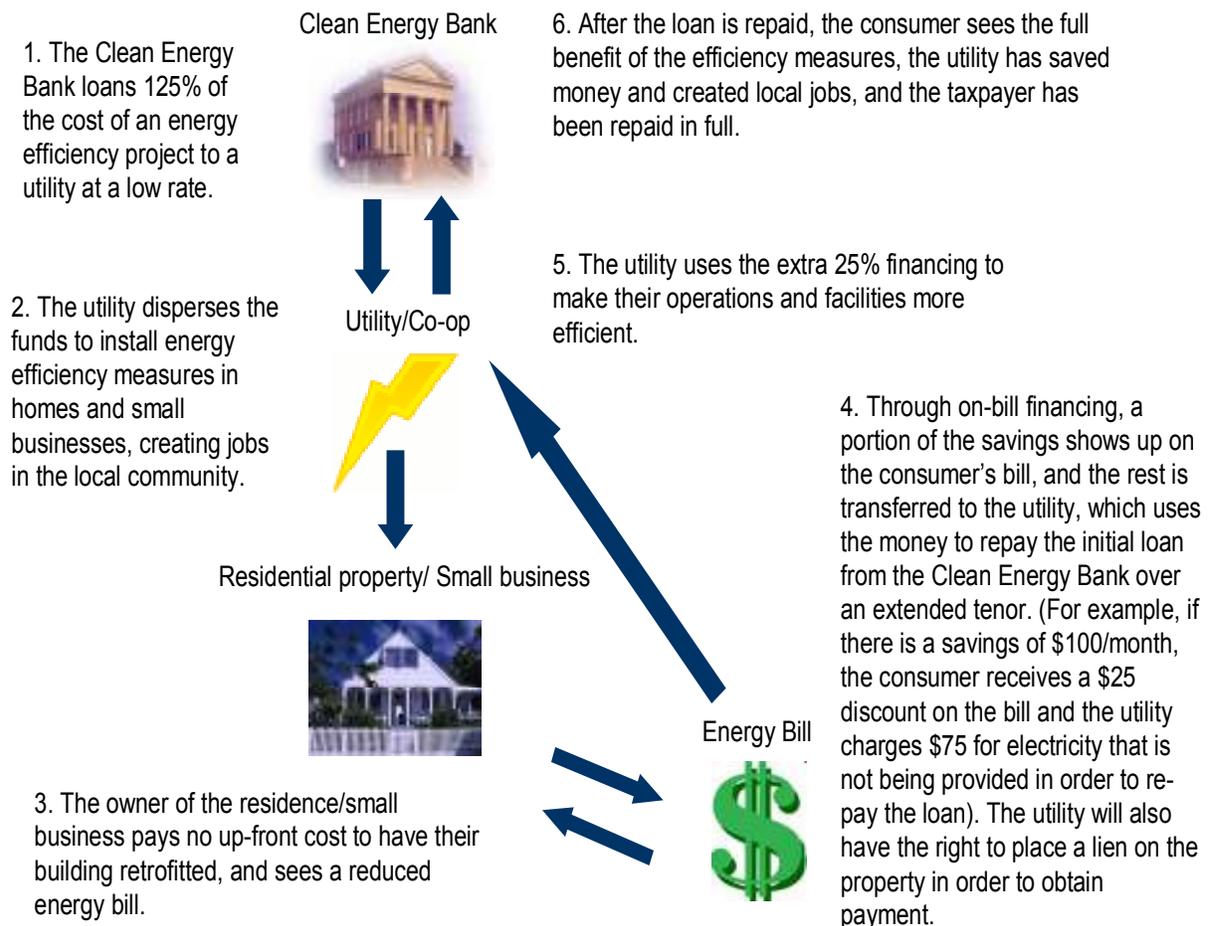


Exhibit Three

# Consumers have enjoyed substantial benefits as a result of wind in Texas

## Current Residential Retail Prices in ERCOT

Lowest Offers Available  
(Price based on use of 1000 kWh, February 1, 2010, from [www.powerinthehouse.com](http://www.powerinthehouse.com))

Service Area	Fixed-Price Offers (term of at least 3 months)	Variable Price Offers	Renewable Generation Offers (100% renewable)	Dec. 2001 prices (Not adjusted for inflation)	Dec. 2001 prices (inflation adjusted)
ABP - TCC	10.8¢/kWh	9.1¢/kWh	9.6¢/kWh	9.6¢/kWh	11.7¢/kWh
ABP - INC	9.5¢/kWh	8.8¢/kWh	9.5¢/kWh	9.6¢/kWh	12.2¢/kWh
CenterPoint	9.9¢/kWh	8.8¢/kWh	9.5¢/kWh	10.4¢/kWh	12.7¢/kWh
Oncor	9.4¢/kWh	8.4¢/kWh	8.9¢/kWh	9.7¢/kWh	11.8¢/kWh
THMP	9.2¢/kWh	8.4¢/kWh	8.9¢/kWh	10.6¢/kWh	12.5¢/kWh
Austin: 9.0¢/kWh; San Antonio: 8.0¢/kWh (based on 1000 kWh)					

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## Exhibit Four

Good news: If we lower the cost of capital for clean energy generation and maintain existing tax policy, clean electricity can compete profitably even in low priced states

Assumptions:	CEB: High CapEx			2009 Bank Financing		
	Amount	Interest Rate	% of Total	Amount	Interest Rate	% of Total
Capital Expenditures	\$2,750/KW			\$2,750/KW		
Tenor	20 Years			10 Years		
Wind Case / Coverage	P90 Wind @ 1.0x Coverage			P99 Wind @ 1.0x Coverage		
Revenue Assumptions	1. \$0.072 / KWh PPA @ P90, 3.5% escalator			1. \$0.112 / KWh PPA @ P90, 3.5% escalator		
	2. \$0.072 / KWh Merchant @ P50 - P90, 1.0% escalator			2. \$0.112 / KWh Merchant @ P50 - P90, 1.0% escalator		
Balance @ Maturity	- Balance repaid in full			- Balance repaid in full		
Interest Rate	4.5%; 30yr Treasury + 25bps			8.5%; 30yr Treasury + 425bps		
Amortization Schedule	No paydown year 1-9; then increasing over time			Full Cash Sweep		
IRR to Equity Holder	15.5%			15.2%		
Debt to Equity Ratio	4:1			3:2		
	<b>\$2,750/KW Estimated CapEx</b>			<b>\$2,750/KW Estimated CapEx</b>		
<b>Debt Security</b>	<b>Amount</b>	<b>Interest Rate</b>	<b>% of Total Costs</b>	<b>Amount</b>	<b>Interest Rate</b>	<b>% of Total Costs</b>
Project Costs	\$165.0			\$165.0		
Monetizable Tax Attributes <sup>(1)(2)(3)</sup>	44.6		27.0%	44.6		27.0%
<b>Bank Debt / Green Bank:</b>						
Bank Debt				72.0	8.5%	43.6%
Green Bank	96.4	4.5%	58.4%			
<b>Total Debt</b>	<b>\$96.4</b>	<b>4.5%</b>	<b>58.4%</b>	<b>\$72.0</b>	<b>8.5%</b>	<b>43.6%</b>
<b>Monetizable Tax Attributes</b>	<b>\$44.6</b>		<b>27.0%</b>	<b>\$44.6</b>		<b>27.0%</b>
<b>Total Equity</b>	<b>\$24.1</b>		<b>14.6%</b>	<b>\$48.5</b>		<b>29.4%</b>

Prepared by a private equity firm based on data from a major independent wind company

### Notes:

- Assumes that all EBITDA from the project is financeable
- CAPEX costs do not include transmission
- The CAPEX here is at the high end of the range for wind projects
- The two cases describe the identical project, but commercial banks will finance a more conservative wind case
- The two cases assume the sale of identical quantities of electricity
- 1. Monetizable tax attributes (such as the 1603 cash grant or a refundable ITC) does not include MACRS
- 2. Model assumes monetizable tax attributes can be monetized in year 1 of loan, without cost
- 3. MACRS is assumed to be utilized in the form of NOLS that are carried forward
- 4. The IRR to equity holder is higher than the ~15% due to the non-financeable revenue streams