

Solar Madness – LADWP to increase rates 28% this year to cover the cost of going green.

H. Andrew Thornburg - President Thornburg & Co., Inc. - March 30, 2010

While national attention has been focused on how we pay for our new healthcare program, little attention has been given to the DWP's residential rate increase announced on Thursday, March 18. Our cost of residential electricity is going up from approximately 11 cents per kilowatt hour to 14.2 cents in less than a year, a 28.4% increase starting April 1, just 2 days from now. Energy costs for businesses will increase by 21% next year. This surprise announcement, that affects four million residents, is no April Fools' joke for private and public employers across the City, including the LA Unified School District that is struggling to reduce costs and save jobs.

Why the big jump when gas prices have declined since their 2008 peaks? In 2008 the DWP and the City Council underestimated the cost of going green by over 300%. They thought it would cost 1.5 cents per kilowatt hour but it turned out the additional cost is 4.6 cents per kWh - an increase of 44% in electrical rates since 2006 when they started the going-green-quarterly-rate increases. It is the rating agencies threat to lower DWP's bond ratings, the largest municipal utility in the US, that is forcing the City's hand.

We have seen this before in 2010. The new City Controller tells the City Council members and the Mayor that they have no alternative but to layoff 4,000 city workers to balance the budget. So advised by their in-house expert, the council members voted unanimously to layoff no one. The City of Los Angeles and the State of California are on the verge of bankruptcy and our officials are like deer in the headlights. Only the rating agencies seem to be able to wake up our politicians when bankruptcy is just months away. At the national level this month, Moody's made their first statement ever about the possibility that the US Government's credit rating may soon be in jeopardy. Congress ignores the warning and proceeds to pass a \$1 trillion dollar health care bill without including the \$290 billion "doctors' fix". The reason for the Washington two-step? The first bill can be scored as deficit neutral. The truth is the actual deficit will be at least \$150 billion. If Congress was subject to SEC securities regulations, its members would go to jail.

In private industry, under pricing your product by 28% would cost DWP top management, Mayor Villaraigosa and City Council members their jobs. But this is the public sector. At the least, you would think a debacle of this magnitude would cause them to rethink their long term strategy. Wrong – as evidenced by these quotes taken from the DWP's 49-page Informational Board Letter dated January 10, 2010 titled Report on LADWP Solar Generation Community Outreach:

“Under LADWP RPS, which is more aggressive than the state and proposed federal renewable standards, LADWP seeks to provide 20 percent of the energy supplied to its customer from renewable resources by 2010, 40 percent by 2020, and completely eliminate the use of coal by 2020”. “LADWP currently relies on fossil fuels for 70 percent of the energy supplied to the City's four million residents.” “Presently, coal is 44 percent of our power supplies.” “In addition, Mayor Villaraigosa's Green LA Plan seeks to cut GHG emissions to 35 percent below 1990 levels by 2030.”

These are politically-correct, campaign talking points masquerading as sound policy. It is too bad for us that the prospects are slim to none that they can be achieved technically and cost effectively in ten or twenty years, if ever. Nine percent of LADWP's energy comes from nuclear power, however, a 1977 California state law currently prohibits the construction of new nuclear power plants, the next best green alternative to onshore wind projects. For planning purposes a US Department of Energy report recommends that, in order to have stable national grids, utilities should limit highly variable total wind and solar energy to 12% to 15% of their system's capacity. Above 15% the cost of providing redundant standby power becomes increasingly cost prohibitive and there are costs and delays associated with building the necessary transmission lines.

The 2010 goal of providing 20 percent of LADWP's power from renewable energy experienced a cost overrun of 300%. Currently solar provides 1% of the DWP's energy. What is the 2020 cost to the ratepayers to achieving 40% renewable energy, of which 10% is planned to come from solar energy? In 49 pages the DWP never answers this basic question. According to the report, this question was asked by a number of people in their public workshops. The ratepayers deserve a one sentence answer: Under our plan in 2020 the cost of residential electricity will be approximately \$0.xx per kWh in 2010 constant dollars. The closest they come to providing any numbers is the following convoluted, off topic, mind numbing answer that would lead the layman to believe the cost is inconsequential.

“Best estimates conclude that replacing generic renewable energy resources, such as wind and geothermal, with solar specific resources through programs provided by LADWP will have a minimal impact to ratepayers.” Before going on, remember that the question is: What is the cost of replacing fossil fuels with solar energy? - not - What is the cost of replacing wind energy with solar energy?

The paragraph continues: “A general estimate is that the average residential ratepayer might see an increase of \$1 monthly to their electric bill to support the Solar resources developed through the Solar Plan, replacing generic renewable resources. This figure is calculated assuming that the Solar Plan programs would be replacing some other form of renewable energy resource, probably wind, and that the incremental cost for solar is about 2 cents per kilowatt hour (kWh) more than wind, when considering the time of production, capacity value and transmission costs. Since it is anticipated that the Solar Plan will provide about ten percent of LADWP’s electricity by 2020, this will add about 0.2 cents per kWh to the average customer bill. For a typical residential customer this will be about \$1 per month.” Is this answer crystal clear to you?

Not only do they not answer the question, they raise a more troubling question. How is it possible that the LADWP will replace existing wind and geothermal resources with solar energy? Well designed onshore wind facilities today produce electricity that is cheaper than clean coal and nuclear energy at rates less than half that required for solar energy. This suggests that DWP already has grossly inefficient wind and geothermal projects in their 2010 energy mix. No wonder they are already 300% over budget before they even begin to tackle achieving a 900% increase in solar energy over the next ten years. The LADWP report does not mention that on March 3, 2009, Los Angeles voters defeated Measure B, a ballot initiative that would require the LADWP to implement 400 megawatts of solar energy on roof tops around Los Angeles. It had the support of the solar energy lobby and the IEUW, the LADWP union which wanted all the work done in-house.

Measure B was opposed by the then LA City Controller, Laura Chick who said the following in a pre-vote interview with Metro Investment Report: “If someone asked me what the DWP is going to be doing in 3 to 5 years, I couldn’t answer. They do not have a plan. They have very serious systems and technology challenges. They have serious workforce problems, from training to succession planning to having an adequate workforce. They have business procedure problems. Their procurement process is a mess. They can’t move quickly on any of the hedging activities, on natural gas procurement, or on some of the essential things that we need in place in order to diversify our energy portfolio to bring in significant percentages of renewables. LADWP is not ready internally to exclusively manage and deliver on the promises of Measure B.” It sounds like they have the same problems that plague the LA Unified School District and all large government run programs.

Anyone can estimate solar costs using the LA County internet Solar Mapping Program Using satellite images, it estimates roof area by street address and contains the DWP cost data. Consider a home in downtown Los Angeles which receives more direct sunlight hours than a home by the ocean. To save \$438 dollars per year at current electrical rates requires an expenditure of \$22,600 according to the DWP, a 52 year payback for all the people who actually pay for the system. They include all DWP ratepayers and all US taxpayers. The only person to receive a direct benefit is the homeowner. To achieve a payback of a much more reasonable 10 years requires a 516% increase in residential electrical rates of \$0.67 per kWh. This is consistent with the experience of Germany where the necessary solar subsidies are \$0.54 per kWh.

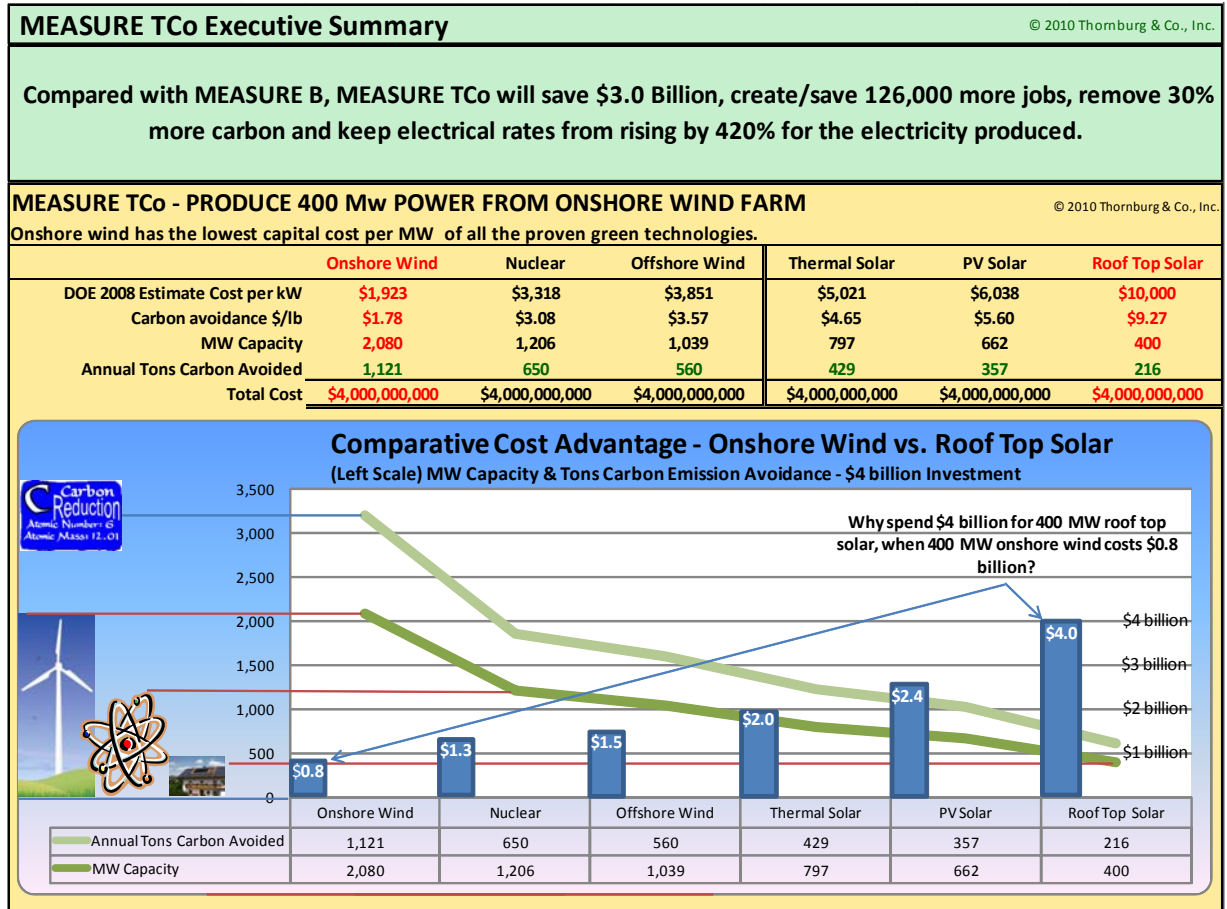
Downtown Los Angeles Homeowner Solar Installation*

Participants	Capital Cost		Annual Savings	Payback** Years	Annual Savings	Payback** Years
	\$	%	\$		\$	
Homeowner	\$ 8,588	38%	\$ 438	20	\$ 2,260	3.8
Other DWP Ratepayers	\$ 10,778	48%				
Federal Taxpayers	\$ 3,234	14%				
TOTAL COST	\$ 22,600		\$ 438	52	\$ 2,260	10
Cost per kWh			\$ 0.13		\$ 0.67	

*2009 electrical usage 17,616 kWh, cost \$2,205 –LA County Solar Map specifies 2.26kWh system producing 3,366 kWh/yr = 19% annual kWh
 ** RTS-PEM®, a free internet program (www.thornburgandco.com) uses the Solar Map data to produce a 30-year financial projection by year.

Thanks to the common sense of the majority of LA voters, Measure B was defeated. They have saved the ratepayers and the US taxpayers a lot of money. The Measure B program was estimated by outside consultants to cost \$3.5 billion or more for 400 Mw of power scattered in 150,000 to 200,000 individually customized systems, on roofs all over Los Angeles. This is a contractor’s make work dream and a ratepayer’s nightmare. On the following page we compare the economics of providing 400 Mw capacity onshore wind with Measure B. The improvements of all economic measures are extraordinary.

COST COMPARISON: LADWP's failed \$4 billion solar ballot MEASURE B with an onshore wind alternative, "MEASURE TCo".



Spanish economists warned President Obama in March 2009 that Spain lost 9 jobs for every 4 green jobs created. In which case, implementing MEASURE B could have cost LA 50,000 jobs, while MEASURE TCo shows a gain of 76,000 jobs.

JOB CREATION/SAVED CALCULATIONS - 400 MW NEW GREEN POWER © 2010 Thornburg & Co., Inc.

MEASURE B	President Obama Villiaragosa/Gore Plan for America	COMPARATIVE ECONOMIC AND ENVIRONMENTAL ADVANTAGE			What Should Be Done	T&Co Sanity Plan for America
		MEASURE B	MEASURE TCo	Difference		
Roof Top Solar	\$ 4,000,000,000				Onshore Wind	\$1,000,000,000
Cost to create one Stimulus Job	\$100,000					\$100,000
New Power Capacity		400 MW	400 MW	none		
Relative Cost of Electricity		520%	100%	420% less		
Carbon Avoided		100%	130%	30% more		
JOBS CREATED	40,000				JOBS CREATED	10,000
JOBS SAVED	0				Money Saved	(\$3,000,000,000)
TOTAL JOBS CREATED/SAVED	40,000				Plus 4% Interest for 30 years	(\$3,600,000,000)
Spanish Solar 4 new jobs = 9 jobs lost*	(90,000)				JOBS SAVED	66,000
JOBS LOST	(90,000)				TOTAL JOBS CREATED/SAVED	76,000
NET JOBS IN THE ECONOMY	(50,000)				JOBS LOST	0
					NET JOBS IN THE ECONOMY	76,000
					New Job Advantage MEASURE TCo	126,000

*see Spanish "Study of the effects on employment of public aid to renewable energy sources." March 2009
 A summary of this report is available on www.thornburgandco.com : CLEO Report 4-20-09 - "Lessons from the Spanish Renewables Energy Bubble"
 The DOE statistics cited above can be found on the same website: CLEO Report 4-02-09 - "A Constructive Critique of President Obama's Energy Plan"

Are the economics any better for larger commercial solar projects? Not according to data compiled by the office of the Texas state controller as reported by The Dallas Morning News.

Solar panels on public projects stoke payback debate

By CHRISTY HOPPE / The Dallas Morning News 11:19 PM CDT on Friday, March 19, 2010

AUSTIN – When UT Southwestern Medical Center finishes its \$2.4 million solar energy project early next year – largely funded with federal economic stimulus dollars – the panels will help provide shaded parking.

It's a much more immediate benefit than the cut in the school's utility bill, because at an annual savings of \$27,500, it will take 88 years to realize a reduction in electricity costs. And solar panels last about 30 years.

On the following page there is a list of the nine other federally funded Texas projects. None of them have an economic return on taxpayer money.

It is clear that residential solar projects according to the LADWP's estimates are extraordinarily uneconomic and that it is grossly irresponsible to state that "*solar specific resources through programs provided by LADWP will have a minimal impact to ratepayers.*" The LADWP's suggested economic evaluation methodology to be used by the homeowner hides the true cost of the system (see page 8, Supporting Financial Exhibit 1). The people least able to afford rate increases are going to suffer greatly if the LADWP continues with this folly and businesses will continue to leave the City because of increasingly higher costs. Massive solar based job creation is a hoax. A government report already shows that 80% of the manufacturing jobs associated with stimulus plan funded solar panel construction are going to overseas companies.

At the City, State and Federal level we are going to spend ourselves into insolvency if we continue to pour billions of dollars into uneconomic solar energy projects, instead of proven green technologies; such as onshore wind and nuclear power that have acceptable rates of return. The two new nuclear power plants just approved by the Obama Administration will employ 3,000 people during construction and will provide 800 permanent jobs for their 60 plus year life. That is a change in policy that you can believe in. With 104 nuclear power plants, the US is still the world leader in nuclear power production even though we have not authorized a new plant since 1974. France now has 58 reactors. Our pioneering nuclear navy has sixty-years of nuclear power experience. Post-Three Mile Island, the US has 3,000 years of safe commercial reactor operating experience. In stark contrast to France, the US today produces 54%, and the LADWP 44%, of its electricity from CO₂ emitting coal because environmentalists blocked the continued development of nuclear power more than thirty years ago. California has only four nuclear reactors, all constructed before the 1977 ban. Absent these bans, it is an inconvenient truth that today; we would not have to solve the major greenhouse gas emissions problems associated with the generation of electricity from fossil fuels. Our blind, but unfounded, faith in solar energy is a path to economic suicide. Nuclear and onshore wind power are already commercially viable technologies that can reduce greenhouse gas emissions.

The US would be wise to follow the lead of France where 70% of their new cars are diesel and capable of using new bio fuels, they highly tax motor fuels – not electricity, 87% of their electricity is generated by nuclear power, nuclear plant designs are standardized, the permitting process is streamlined and they safely reprocess and store their nuclear wastes. Instead President Obama, during his campaign and in his first year in office, followed the now widely discredited Spanish model of shunning nuclear power and putting a major emphasis on solar energy. Spain in 2010 is now producing twenty percent of their energy from renewable sources - the identical path the LADWP is following. In March 2009 Spanish economists calculated that Spain has lost 9 jobs for every 4 green jobs they have created. Spain, which today is in a deep recession and teetering on the brink of the meltdown of its national credit rating, has subsequently shut down many of its renewable energy projects and drastically reduced its subsidies to solar energy projects. While the President continues to talk about all he is doing to promote jobs through solar energy, the White House has quietly stricken last year's renewable energy employment goals from its website and approved two nuclear power plants. LADWP should do the same and formulate a new environmentally and financially sound energy strategy. They should tell the people the truth rather than spinning them.

In Los Angeles the citizens should hold Mayor Villaraigosa and City Council members accountable for this solar madness and their irresponsible oversight of LADWP. The residents should let them know what they think about having to pay for an unprecedented surprise 28% rate hike in their utility bills. They should demand to know what rate hikes they should expect to see from now until 2020. The residents have to actively look after their own welfare because their current elected officials are beholden to special interests. As California goes, so goes the Nation. Before it is too late, it is time for us to pay attention to the facts rather than blindly believing the fantasies crafted by political spin masters and fast talking politicians.

H. Andrew Thornburg, Los Angeles

SUPPORTING ARTICLES AND FINANCIAL EXHIBIT 1

CHRISTY HOPPE / The Dallas Morning News 11:19 PM CDT on Friday, March 19, 2010

Here are the amounts that North Texas entities have been awarded for solar panel projects so far from the federal economic stimulus package and the projected annual utility savings:

	Award	Savings
Carroll Independent School District	\$2 million	\$70,700
UT Southwestern Medical Center	\$2 million	\$27,500
City of Bedford (public library)	\$2 million	\$38,000
University of Texas at Arlington	\$1.8 million	N/A
Grapevine- Colleyville Independent School District	\$1.7 million	\$31,135
City of Irving (public library)	\$1.2 million	\$14,142
City of Duncanville	\$1.1 million	N/A
City of Grand Prairie	\$873,000	N/A
University of North Texas at Dallas	\$261,000	\$44,809
Fort Worth Independent School District	\$143,000	N/A

SOURCE: State comptroller's office

Read what the LA Times wrote in April 2008 – rates to rise 23% from 2006 to 2010

True DWP hikes a shock

Lost in the current rate debate is the added cost of surcharges already approved.

April 09, 2008 | David Zahniser, Times Staff Writer [verbatim abstract of article]

When the Los Angeles City Council gave preliminary approval to electrical and water rate hikes last week, the debate focused almost exclusively on a series of modest, single-digit increases planned between now and summer 2009. In reality, electricity bills will go up at least 23% over a four-year period [i.e. 2006 to 2010], thanks to the Department of Water and Power's decision to ask ratepayers to absorb the higher cost of natural gas and the switch to other environmentally friendly forms of energy.

Mayor Antonio Villaraigosa's appointees on the DWP board have been quietly adding a 1% surcharge on electrical bills every three months since September 2006, decisions that do not need council approval. By summer 2010, 15 of those surcharges will have been imposed to pay for the rising cost of natural gas and for renewable fuel sources including wind, DWP officials said.

The average monthly household electricity bill was \$52.79 in fall 2006, according to DWP spokesman Joe Ramallo. By summer 2010, the various rate hikes and surcharges will bring the bill to \$65.04, he said.

Wrong! March 18, 2010 –LADWP is forced by rating agencies to recover true costs to maintain bond rating. Residential rates will increase 8.8% to 28.4% from 2010 to 2011. Business rates will increase 21% in a single year. Based on these newspaper reports it appears that the average household will pay \$75.04 a month, a 42% increase from 2006.

LA's DWP makes first of 4 electricity rate hikes

Friday, March 19, 2010 Associated Press

The board of the Department of Water and Power voted Thursday to raise the cost of electricity by 0.8 of a cent per kilowatt hour. The hike takes effect April 1 unless the City Council intervenes.

It's the first of four increases planned through the next year that could hike residential rates up to 28 percent, adding about \$2.50 a month to the average customer's bill [*i.e. every three months; total \$10.00 per month annually*].

Businesses would see hikes of about 21 percent.

The nation's largest city utility says it needs to shore up finances to prevent Wall Street from lowering its bond rating. The hikes include a carbon reduction surcharge to help pay for renewable energy such as solar and wind power.

Fitch Affirms Los Angeles Department of Water and Power, CA's Power System Revenue Bonds at 'AA-'

SAN FRANCISCO--(BUSINESS WIRE) March 18, 2010 05:01 PM --Fitch Ratings assigns an 'AA-' rating to the following Los Angeles Department of Water and Power, CA's power revenue bonds: (*see article for list*)

--The utility is considering a key change to its rate structure that will allow for full collection of unrecovered costs to date by the end of fiscal 2011. The previous 0.1 cent/kWh cap on quarterly movements in the cost adjustment factor has not recovered the utility's full costs. The Board is expected to consider an increase in the cap to 0.8 cents/kWh.

--While Fitch acknowledges LADWP is facing long-term cost pressure related to its large capital plan and associated environmental mandates, the utility does appear to be well positioned to meet its initial 20% renewable goal in 2010 and has begun to notably decrease its carbon output. **Timely rate recovery and support of needed rate increases by the community and regulatory body (City Council) will be key drivers for the rating.**

THORNBURG & CO., INC. DEMONSTRATES THAT THE LADWP CLAIM THAT SOLAR PHOTOVOLTAIC ENERGY COSTS LESS THAN THEIR UTILITY POWER IS FALSE AND MISLEADING

Welcome to the LA County Solar Map

Mitigating global climate change is a major challenge across the world. Solar photovoltaic (PV) energy is a safe and cost-effective method to reduce greenhouse gas emissions


Solar power never increases in price!

Get Solar up to 60% off!

Solar generally costs up to \$10,000 per kW (\$10 per watt), but two rebates will reduce the cost for you.

Solar power costs less than utility power!

After rebates, the cost for solar electricity is now \$.10 - \$.15 per kWh*. Compare this with the rates your utility charges you below.



Above LA County claims that solar power never increases in price and that with rebates solar installations cost 60% less. These are the only true statements they make about their roof top solar energy program. For LA residents solar power is grossly cost-ineffective. On a 10-year full-cost basis, it is four times more expensive than utility power.

Thornburg & Co., Inc. Announcement – March 30, 2010

An free internet model RTS-PEM[®]r1 is available to calculate the true cost of LADWP Roof Top Solar Power

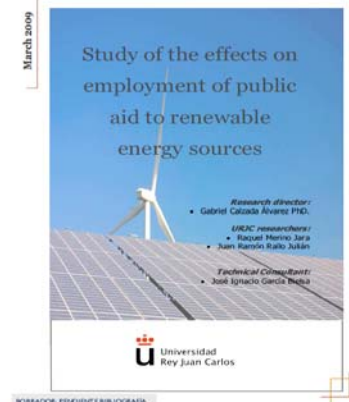
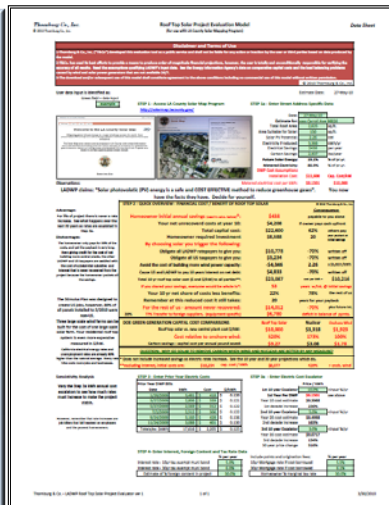
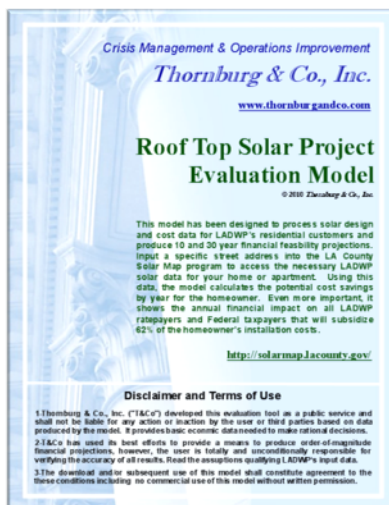
Beginning March 31, 2010, any of LADWP's 4 million customers with access to the internet can produce their own roof top solar power cost/benefit analysis. RTS-PEM[®]r1 the Roof Top Solar Project Evaluation Model, available as a public service on www.thornburgandco.com, processes the LADWP's technical and cost data, available at <http://solamap.lacounty.gov/>, for any street address in their service area.

The solar map is really cool. Using satellite image processing, the LADWP calculates the size of the solar array you can put on your roof, its angle to the sun, annual sun energy falling on your property, the solar panel capacity required and your energy savings at today's rates. The financial analysis model is cool too. Only two items of data are required by the T&Co model to produce a year-by-year, 30-year projection of your future cost savings:

1. A copy of your last DWP bill and
2. An estimate of the percentage of your future income that you will pay in state and federal income taxes.

Input these data items. Then just sit back and you will get a nine-page analysis showing the financial benefits of your decision to go solar for you personally. Even better, it also shows how much this decision is going to cost the rest of the LAWDP ratepayers and all Federal taxpayers around the country over the next thirty years. The developer, H. Andrew Thornburg, programmed his first computer model in 1962 and has been going strong ever since. He says: "You will be amazed that you do not have to be a geek to produce a professional quality financial analysis. It will enable the homeowner to make an informed real life decision about job creation, the environment and saving money." The user can change electrical costs rates in the RTS-PEM[®]r1 model to find rate at which the system would be attractive to a homeowner. Thornburg cautions however, that this utility rate may be so high that it would adversely impact the economy.

Release 2 will add a job/loss calculator. This is important because Spanish economists have found that 9 jobs were lost for every 4 green jobs created. This jobs calculator will set the stage for unveiling the "T&Co Solar Energy Challenge". Thornburg is considering offering a prize to the first person who can demonstrate that the future savings on a LADWP solar roof top installation will be sufficient to payback everyone in under 20 years and have a net positive effect on creating new jobs. Based on his review to the data currently from the LADWP, Thornburg thinks he can safely spend the prize money now to stimulate the economy. For those interested in knowing more about Spain's travail, a summary will be found in CLEO Report 4-20-09 - Lessons from the Spanish Renewables Bubble. www.thornburgandco.com



Supporting Financial Exhibit 1 (prepared by Thornburg & Co., Inc.)

Where is the Consumer Protection Agency when you need them?

Why Homeowners Should Just Say No in 2010 to LADWP Roof Top Solar Energy

See why, even if rates go up 236% over ten years and electricity costs you \$35,142, you personally will save \$14,755 if you buy a municipal bond instead. And the rest of us will save \$21,018.

It would be cheaper for the rest of us to give you a better system for free in 2020!

Solar Energy Truth in Financing Statement - what the LADWP should disclose to the homeowner										What LAWDP actually advises:			
Assumptions*	Municipal Bond Rate	5% per year	10% per year	Electric Costs increase	Year 1	Year 10	per kWh	per kWh					
Homeowner Do Nothing Case				LADWP Solar Energy Homeowner									
	100%	conventional energy		80.9%	conventional energy							Investing in solar energy is just like putting money in the bank	
				19.1%	solar energy							LADWP TELLS THE HOMEOWNER TO CALCULATE THEIR RETURN AS FOLLOWS	
10 year cost	\$ 22,260	\$ (14,755) savings		10 year cost	\$ 37,015	homeowner							
		\$ (35,773) savings from all party costs			\$ 58,033	all parties							
	Ten Year Municipal Bond Interest	Escalated Electric Bill	Homeowner Net Payment	Price / kWh	Homeowner Savings	Homeowner Investment and Electrical Bill	Borrowing and Interest DWP Ratepayers Bond plus Interest	US Taxpayers Bond plus Interest	Total Costs	Homeowner Investment Earnings	vs.	Homeowner Electrical Cost Savings	
	5.0%	10.0%					5.0%	5.0%		5.0%			
Invested Funds	\$ 8,588					\$ 8,588	\$ 10,778	\$ 3,234	\$ 22,600	\$ 8,588		\$ 8,588	
										to earn		to save	
Year 1	\$ 429	\$ 2,205	\$ 1,776	\$ 0.125	\$ 421	\$ 1,784	\$ 539	\$ 162		\$ 429		\$ 421	
Year 2	\$ 429	\$ 2,426	\$ 1,996	\$ 0.138	\$ 463	\$ 1,962	\$ 539	\$ 162		\$ 429		\$ 463	
Year 3	\$ 429	\$ 2,668	\$ 2,239	\$ 0.151	\$ 510	\$ 2,158	\$ 539	\$ 162		\$ 429		\$ 510	
Year 4	\$ 429	\$ 2,935	\$ 2,505	\$ 0.167	\$ 561	\$ 2,374	\$ 539	\$ 162		\$ 429		\$ 561	
Year 5	\$ 429	\$ 3,228	\$ 2,799	\$ 0.183	\$ 617	\$ 2,611	\$ 539	\$ 162		\$ 429		\$ 617	
Year 6	\$ 429	\$ 3,551	\$ 3,122	\$ 0.202	\$ 679	\$ 2,873	\$ 539	\$ 162		\$ 429		\$ 679	
Year 7	\$ 429	\$ 3,906	\$ 3,477	\$ 0.222	\$ 746	\$ 3,160	\$ 539	\$ 162		\$ 429		\$ 746	
Year 8	\$ 429	\$ 4,297	\$ 3,868	\$ 0.244	\$ 821	\$ 3,476	\$ 539	\$ 162		\$ 429		\$ 821	
Year 9	\$ 429	\$ 4,727	\$ 4,297	\$ 0.268	\$ 903	\$ 3,823	\$ 539	\$ 162		\$ 429		\$ 903	
Year 10	\$ 429	\$ 5,199	\$ 4,770	\$ 0.295	\$ 993	\$ 4,206	\$ 539	\$ 162		\$ 429		\$ 993	
	\$ 4,294	\$ 35,142	\$ 30,848		\$ 6,715	\$ 28,427	\$ 5,389	\$ 1,617	\$ 35,433	\$ 4,294		\$ 6,715	
Return of Principal			\$ (8,588)							Payback		Payback	
Net Out-of-Pocket			\$ 22,260			\$ 37,015	\$ 16,168	\$ 4,850	\$ 58,033	50.0%		78.2%	
Case Comparison			100%			166%			260.7%	Figures lie when liars figure			

* also see LADWP data for a downtown Los Angeles residence, page 2

This exhibit shows the huge error that results in a homeowner's calculation of the return on investment of a solar energy system based on the methodology recommended by LADWP versus the correct way the return should be calculated. As shown on the right, using the payback method the LADWP would have the homeowner believe that the return on investment over ten years would be 56% better than the return from a municipal bond. The homeowner is told: "an investment in solar energy is just like money in the bank". As shown on the left, an investment of \$8,588 would actually cost the homeowner \$14,775 more over ten years than if he or she did nothing but buy a municipal bond! It would also cost the rest of us an additional \$21,018 over ten years. Apparently the person that recommended this payback method learned their mathematics at a public school in the LAUSD system. What other organizations have blindly modeled their solar programs after the LADWP program?

If the LADWP was a private company marketing this product, the City Council would be asking the Consumer Protection Agency to step in and shut them down. Not only is it a bad deal for the homeowner to take money out the bank to pay for the homeowner's share of system, the LADWP recommends adding the cost to the homeowner's mortgage if he or she cannot pay for it up front! The additional ten year cost to homeowner for borrowing the money at 5%: \$3,000 after tax for a total difference of \$17,775 vs. the do-nothing case. This is a negative return of 206% on the original investment. What is the agency the City Council oversees thinking? Who reviews and approves these marketing programs?

The original system cost \$22,600. Given that everyone other than the homeowner pays \$21,018 over ten years, it would be a better deal if the rest of us gave the homeowner a new and better system for free in 2020. At least it would defer adding to our national debt. LA finally can claim it tops Washington's cash-for-clunkers program in the damage it can do to the economy.

ABOUT THE AUTHOR

Mr. Thornburg is President of Thornburg & Co., Inc. (www.thornburgandco.com). He has over thirty-five years operating and consulting experience having served as an executive, consultant and investment banker for more than 200 companies ranging in size from startups to Fortune 50 companies. He has extensive operating experience as Vice Chairman of Security Pacific Capital Markets Group and as CEO and CFO for both healthy and troubled companies. He has been responsible as CEO for the turnarounds of more than thirty companies in the U.S., Latin America and Asia and has served as a director of twenty-eight companies including Duff & Phelps, when it was a prominent credit rating agency specializing in utility company ratings. Prior to becoming a corporate turnaround specialist, he was considered an industry expert in project financing. Assignments included rate case calculations and project financing for major public electric utilities. As Manager International Finance for the engineering-construction management company Parsons Corporation and at Security Pacific he advised clients on some of the largest domestic and international mining, utility and energy projects during the energy crisis of the 1970's. In recognition of his work the industry, he was honored to be invited by the American Institute of Mining Engineers to co-author the Financial Feasibility section of the *Surface Mining Handbook*. As an investor in eighteen early stage Southern California companies he has been a guest speaker on entrepreneurship and angel investing at USC's Marshall School of Business and has been a judge for USC's annual all campus business plan competitions. He holds a BS Mechanical Engineering with honors from the University of Wisconsin, an MS Industrial Engineering from UCLA, and an MBA in International Business and Quantitative Analysis from New York University. He is a graduate of Harvard Business School's Advanced Management Program and was a Carnegie Scholar at the Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico.

Full Disclosure Network is currently distributing a ninety-minute public cable TV interview with Thornburg: *"The truth about the Stimulus Plan, Can America Recover?"* So far it has been distributed to public cable stations in California, Texas, Minnesota, Wisconsin, Massachusetts and Washington D.C.

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