

Fuel Cell Tax Incentives: How Monetization Lowers the Government Outlay

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The Big Picture: Financing with Private Capital

Income/Excise Tax Credits **Depreciation**

Deductions – Regular and Accelerated
Income Exclusions

CREBS

Income/Premium **State Tax Credits**

Sales/Property Tax Exemptions

Grants/Subsidies

Rebates

Buy-Downs

Loan Guarantees

REC Sales

Tax-Exempt Debt Financing



§ 45 Production Tax Credit (PTC)



- Established by the Energy Policy Act of 1992
- Intended to stimulate the development of alternative technologies for power production, hence, you must produce power to receive the tax credit (**production-based**).
- Intended to provide long-term cost-reduction potential.

§ 48 Investment Tax Credit (ITC)



- Offsets the increased costs of certain renewable energy projects like fuel cells and CHP.
- Intended to stimulate the purchase of renewable technologies, hence, the private sector “invests” in ownership of fuel cells and receives an income tax credit (**investment-incentive**).
- Intended to promote energy independence.



Production Tax Credit v. Investment Tax Credit

■ Production Tax Credits

- An **annual tax credit** for electricity produced and sold by a qualified facility for a 5- or **10-year period**.
- Currently 2.1 cent or 1.0 cent per kWh
- Self-Gen/use does **NOT** qualify.

■ Investment Tax Credits

- Up-front, one time tax credit.
- Self-Gen/use **DOES** qualify.
- 30% of qualified investment in solar project's entire costs, but
- "Lesser of" 30% or \$3,000 per Kw of fuel cell nameplate capacity, or
- 10% for CHP.



ITC § 48(c)(3) – Combined Heat and Power System Property

- The credit is equal to 10% of “combined heat and power system property.”
- Main Issue – Can CHP be taken together with credit for fuel cells in the same project?
- Existing Treasury Regulations Indicate You CANNOT.
See, Treas. Reg. § 1.48-9(a)(1).



How Do Tax Credits Minimize Government Program Outlays?

- Tax credits can be “**monetized**,” or given the value of money. So can deductions like depreciation.
- In financing a project, monetized tax credits are often used to reduce the amount of a project’s total debt.
- **Reducing the debt** reduces the tax credit investor’s return on the amount of equity (cash) in the deal. That **reduction is made up by the economic return the investor makes in the form of a tax savings**, thus the investor does not expect “cash-on-cash” return.



This is NOT a New Idea or Practice:

- Section § 42 – Low Income Housing
 - Federal tax credits can provide over 2/3 of the capital costs of building residential rental apartments for this nation's low income citizens, including police, fire and nursing staff in high-cost-of-living areas.
 - EXAMPLE: Development Cost = **\$19.8M Project (Connecticut)**
 - » With no bond proceeds = \$13.3M Federal Tax equity (credit only at 99¢)
 - » 67% of deal is federal tax equity
 - » Assume State Tax Credit (25¢) = \$3.36M additional equity
- **84.14% of Development Cost or \$16.66M Total (Federal and State) Tax Equity**



§ 48 ITC – “Old” Fuel Cell Credit

- For fuel cells, the energy credit was equal to:

30% for qualified fuel cell property, not to exceed an amount equal to \$500 for each 0.5 kilowatt of capacity of such property.

Maximum credit under old credit - **\$1,000 per kilowatt**



§ 48 ITC – New Credit

- For fuel cells, the energy credit is equal to:

30% for qualified fuel cell property, not to exceed an amount equal to \$1,500 for each 0.5 kilowatt of capacity of such property.

Maximum credit under new credit - **\$3,000 per kilowatt**



Monetized Credits v. Government Grants

Assume :

- \$3.6M Federal Credit
- Basis Reduction of \$1.8M (not on all deal structures)
- $\$1.8M \times .35 = \$630,000$ lost depreciation tax savings

Note: *This amount is - 0 – with certain transactions*

Assume:

- \$3.6M grant
- $\$3.6M \times .35 = \$1,260,000$ federal tax
- $\$3.6M \times .0825 = \$297,000$ (MD corporate rate – 1/1/08)
- Total tax drag on grant = \$1,557,000



PTC v. ITC for Germantown Project - Draft

- Fuel Cell ITC (Germantown) = **\$3.6M actual**
- If there was a PTC at 1 cent = **\$840,000 total over 10 yrs**
- If there was a PTC at 2.1 cents = **\$1.764M total over 10 yrs**



Example – Battelle Study “Identification and Characterization of Near Term Direct Hydrogen Proton Exchange Membrane Fuel Cell Markets”

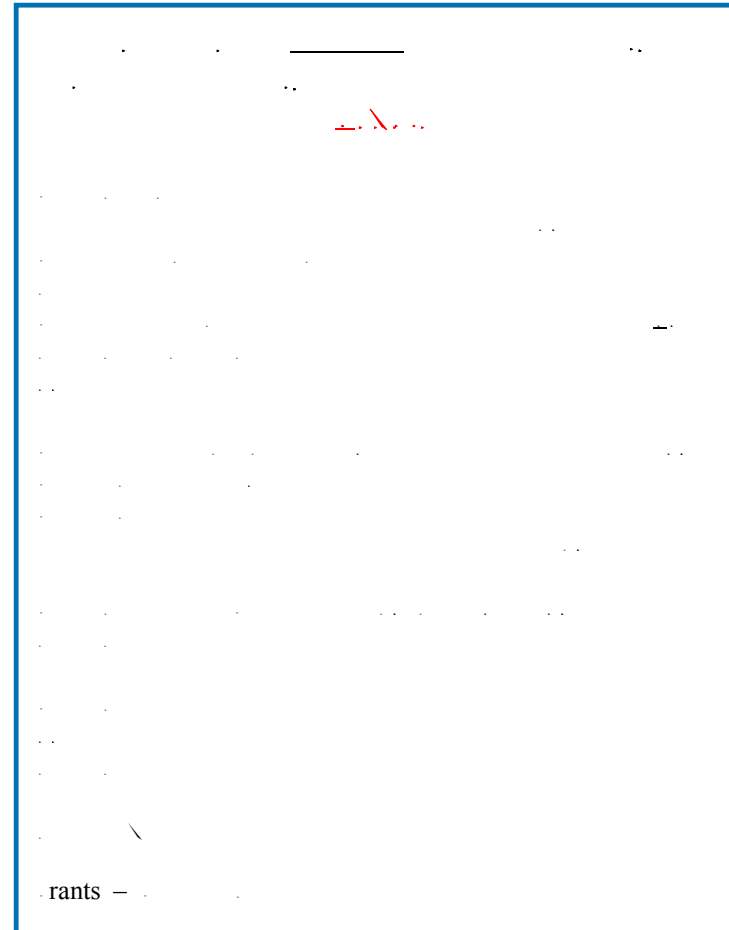
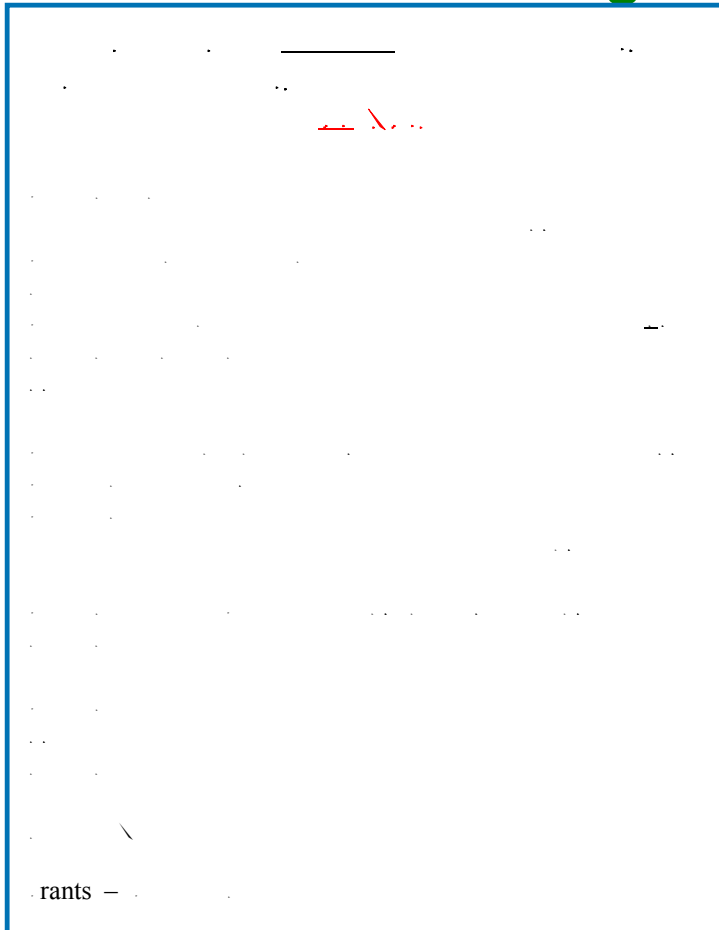
The following example is subject to the following assumptions.

- IRS Notice 2008-68 applies
- Allowable to treat the fuel cell separately from the forklift
- Forklift fuel cell tax credit calculated only on fuel cell cost portion of total cost.
- Depreciating the total costs in full
- Monetizing total depreciation costs
- No basis reduction due to the structure utilized.
- No operating losses or cash flow is being monetized (only for ease of calculation, credit price and loss price is inflated to approximate this).
- No recapture. In reality, this will be an issue.
- Bona fide transportation services contract exists.
- Any installation costs for back-up power are all capitalizable and therefore eligible tax credit basis.



Old v. New Fuel Cell Credit

19% Savings* – On Total Cost





Government and Tax-Exempt “Use” Rules

- Property “used” by the United States, any state (including the District of Columbia) or political subdivision ... any international organization ... or any agency or instrumentality ... does not qualify as property eligible for the federal investment tax credit. See Treas. Reg. § 1.48-1(k).
- Same rule for certain tax-exempt organizations
- This is a federal ITC rule, no express restriction for federal PTCs, but it’s implied by tax law.



Renewable Energy Property “Used” by a Gov’t. or Tax Exempt

- Property “used” by such an entity generally means:
 - Property *owned by* any such governmental unit or tax exempt entity, or
 - Property *leased to* any such governmental unit or tax exempt entity.
- Many energy projects involving governmental or tax exempt entities will not qualify for federal tax credit benefits under these rules.



What Constitutes a Lease for Federal Energy Tax Credit Purposes

- A contract that purports to be a service contract under state law is treated as a lease *for income tax purposes* if the arrangement is more properly characterized as a lease, taking into account all relevant factors.
- But..... there's good news.



Service Contracts

- Agreements that otherwise might be deemed a lease under general tax provisions are *not* treated as leases and might be honored as service contracts for federal income tax purposes with respect to the following taxpayer activities:
 - The operation of a *qualified solid waste disposal facility*;
 - The sale of electrical or thermal energy to a service recipient that is produced by a *cogeneration or alternative energy facility* and;
 - The operation of a *water treatment works facility*.



Service Contract vs. ESCOs

- The “Service Contract” needed for tax monetized government fuel cell projects **DOES NOT NEED TO BE ONE THAT IS BASED ON ENERGY SAVINGS !!!!**
- Rather, it **ONLY NEEDS TO *NOT* BE A LEASE.**



What's Going On In California?

- California is a hot spot because a biogas fuel cell is “renewable” as a matter of fact, as opposed to a matter of law.
- There is currently +/- **20 MW of installed fuel cell capacity in CA.**



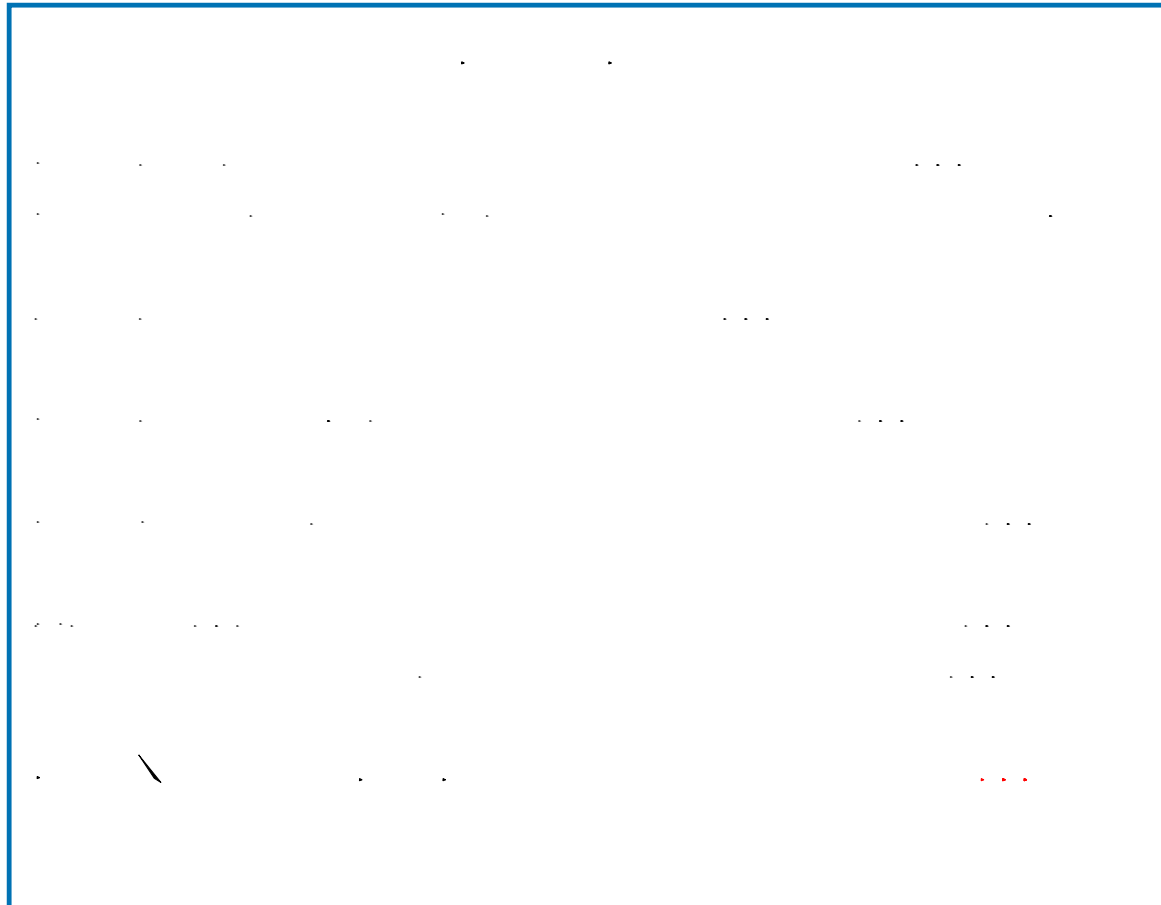
CA - Self-Generation Incentive Program (SGIP)

- State **rebate program** which offers incentives to customers who produce electricity from fuel cells. **Taxable**
- Incentive amount for fuel cells is \$2.50 - \$4.50/W, depending on fuel.
- There are specific requirements to be eligible.
- First-come, first-serve basis
- \$83 million cap for 2009
- No budget currently set for 2010 or 2011
- Money for this program comes from rate-payers
- Expires 1/1/2012

This information was obtained and confirmed by Sachu Constantine, California Public Utilities Commission on



Example – CA SGIP





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Back-Up Slides



What is a Federal Income Tax Deduction?

- A tax deduction is a reduction of a taxpayer's total income that decreases the taxable income used in calculating the actual tax to be paid.
- What is a deduction worth?
 - \$1 Deduction = \$1 x tax rate
 - assume 35% tax rate
 - \$1 x 0.35 = **0.35¢ of after tax value**





What is a Federal Income Tax Credit?

- Tax credits reduce dollar for dollar the amount of tax actually owed and payable to IRS.
- What is a tax credit worth?

\$1 tax credit = **\$1 of after tax value**





So... It's a Difference That Matters

- A **TAX CREDIT** is generally **MORE VALUABLE** than a tax deduction or tax allowance of the same magnitude because a tax credit **reduces the tax directly**, while a deduction merely reduces taxable income by a fraction (the marginal tax rate).





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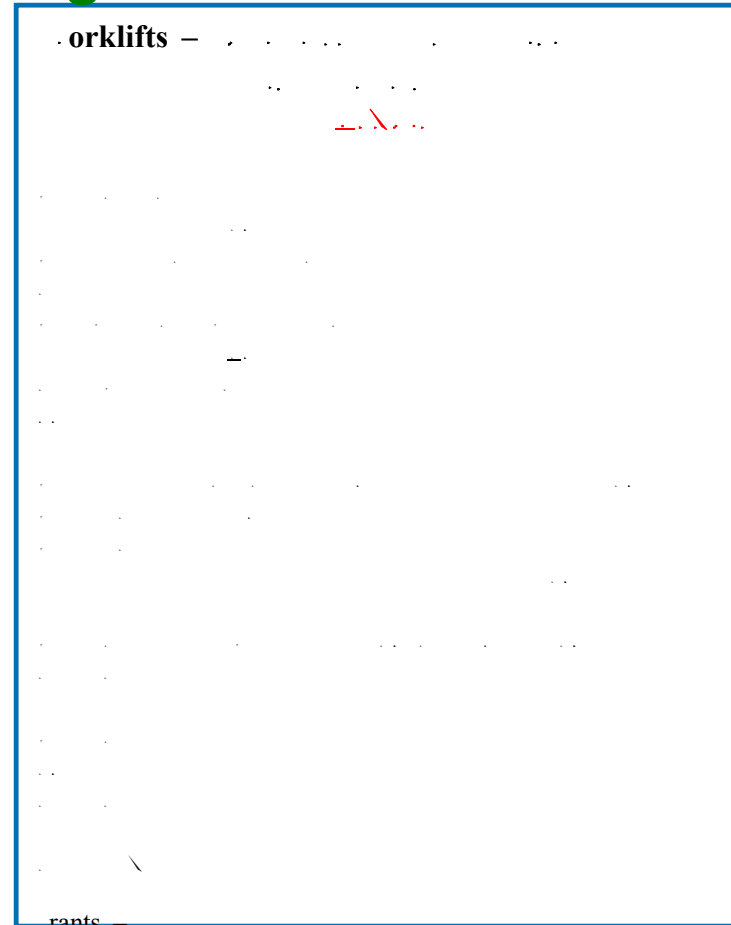
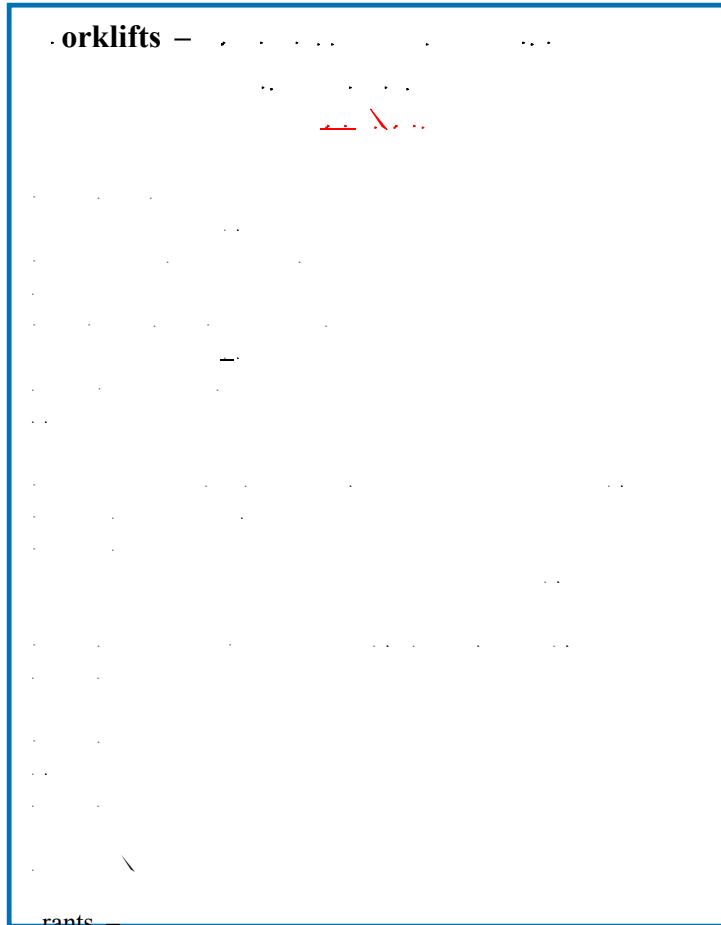
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Old v. New Fuel Cell Credit

0% Savings*

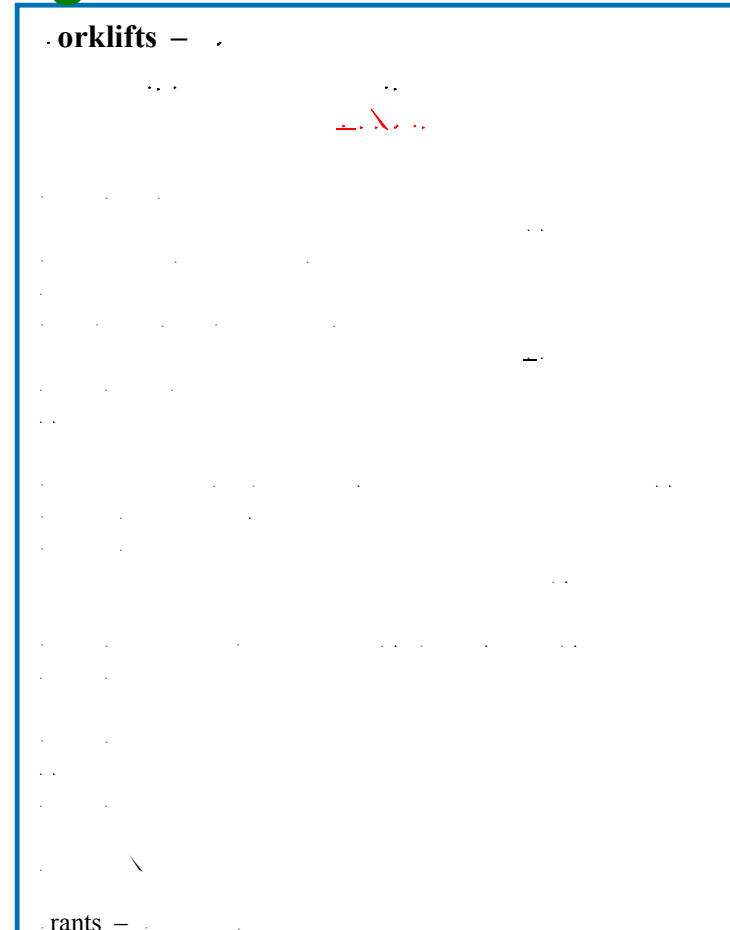
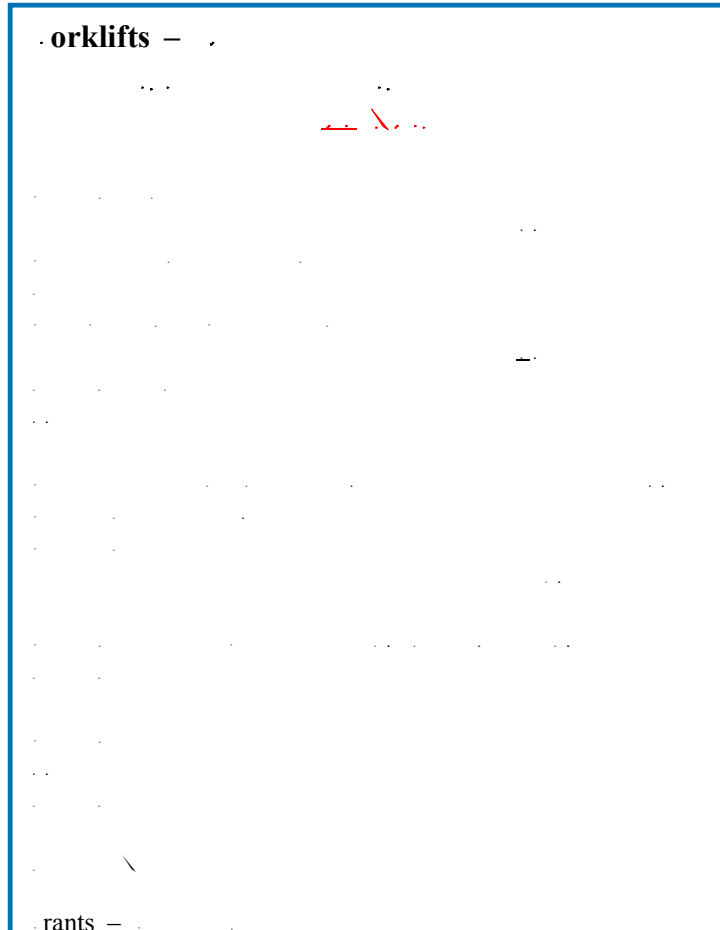


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Old v. New Fuel Cell Credit

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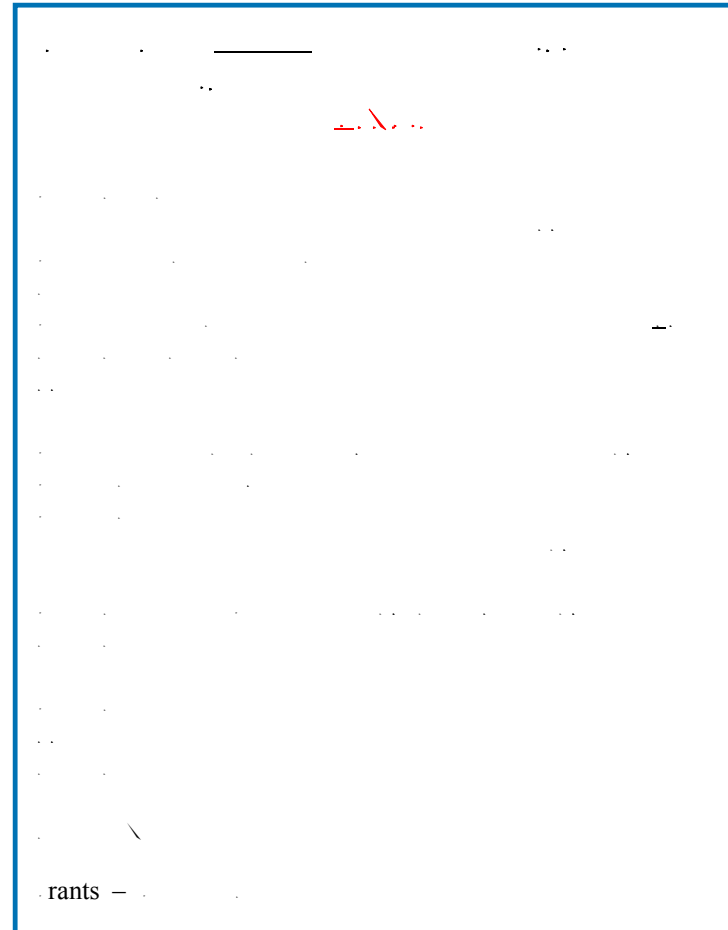
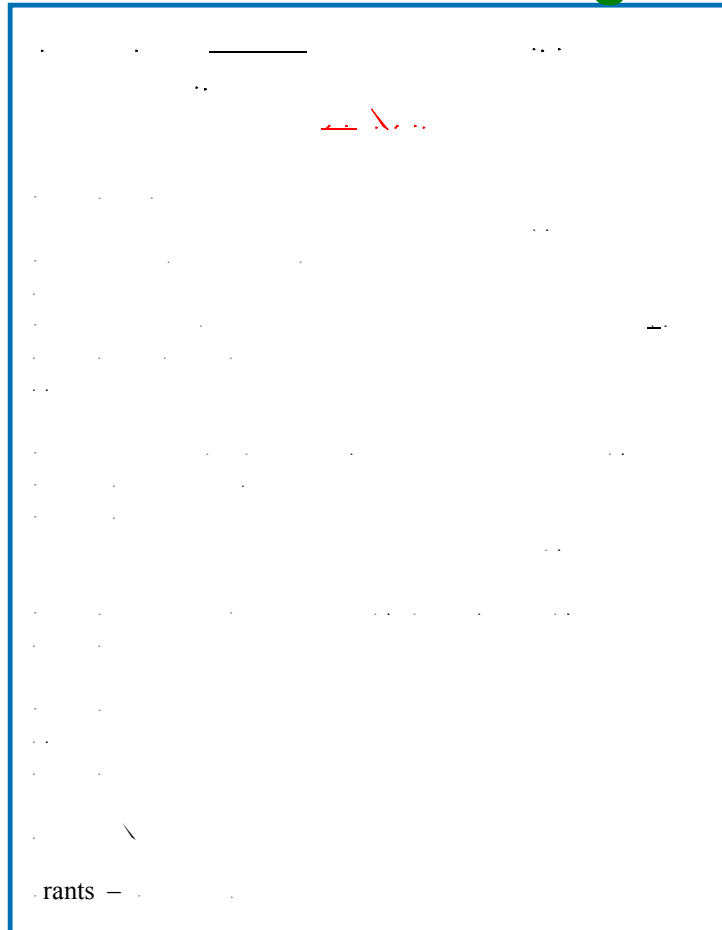


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Old v. New Fuel Cell Credit

12% Savings* – On Total Cost





CA – Advanced Energy Storage Eligibility Under SGIP

- Currently, there is no stand-alone tax incentive for advanced energy storage. There is proposed legislation however, which may create an incentive.
- The CA PUC (CPUC) unanimously voted on November 21, 2008 to institute an economic incentive for Advanced Energy Storage (#R08-03-008) within their existing Self Generation Incentive Program (SGIP).
- CPUC provides that advanced energy storage systems that meet certain technical parameters and are coupled with eligible SGIP technologies (currently wind and fuel cell technologies) will receive an incentive of \$2 per watt of installed capacity

This information was obtained and confirmed by Sachu Constantine, California Public Utilities Commission



CA - Emerging Renewables Program

- The California Energy Commission offers cash incentives to promote the installation of grid-connected fuel cell renewable energy electric-generating systems through this program (state rebate program).
- Participant must be a customer of one of the utilities contributing funds to support the program.
- Fuel cells (<30 kW) using renewable fuels: \$3.00/W for systems less than 30 kW.



CA - Feed-In Tariff

- The California feed-in tariff allows eligible customer-generators to enter into 10-, 15- or 20-year standard contracts with their utilities to sell the electricity produced by small renewable energy systems -- up to 1.5 megawatt (MW) -- at time-differentiated market-based prices.
- Applies to fuel cells using renewable fuels
- Tariff is based on CPUC market price referent (MPR) and is adjusted by time-of-use factors (\$0.09 - \$0.10 is the average)



Biogas State Incentives

- Every state is different.
- Connecticut's definition of a "renewable energy source" includes fuel cells (Sec. 16-1).
- California – Biogas is a "renewable fuel" for purposes of the SGIP incentive, which allows for the increased rebate amount of \$4.50/W (assuming all other requirements are satisfied).