

January 2005

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Recommended Citation

Ida Martinac, *Considering Environmental Justice in the Decision to Unbundle Renewable Energy Certificates*, 35 Golden Gate U. L. Rev. (2005).

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COMMENT

CONSIDERING ENVIRONMENTAL JUSTICE IN THE DECISION TO UNBUNDLE RENEWABLE ENERGY CERTIFICATES

INTRODUCTION

Renewable Energy Certificates (hereinafter “REC”), traded to satisfy the Renewables Portfolio Standard (hereinafter “RPS”) annual procurement targets, should remain bundled with the underlying energy, to the extent practicable, for the purpose of protecting ratepayers, local environment, and disadvantaged communities often subjected to environmental injustice.¹

¹ The primary definition of the term “bundled,” as it relates to the electric industry, can be found in the following context: “Bundled utility service (electric): A means of operation whereby energy, transmission, and distribution services, as well as ancillary and retail services, are provided by one entity.” See Energy Information Administration, *Official Energy Statistics from the US Government*, available at http://www.eia.doe.gov/glossary/glossary_b.htm (last visited Jan 20, 2004).

Another definition of the term “bundled,” closer to the usage in this Comment, is related to tradable commodities: “Emissions trading makes it possible to ‘bundle’ emission compliance with either raw materials or finished products, enabling firms to differentiate their products in terms of price, public perception or both. Emission compliance can move up or down the supply chain, as firms attempt to divest liability to, or remove liability from, suppliers or consumers of their products. In this manner, firms might sell ‘greenhouse neutral’ products to enhance their competitive position. Bundling has already been demonstrated in other commodity and emission trading markets. For example, in the US sulphur dioxide market, high sulphur coal producers routinely bundle their coal with sulphur dioxide emission allowances to secure safes. This enables those producers to remain price-competitive with low sulphur alternatives, and provide price certainty to their clients.” See Cantor Fitzgerald in association with PriceWaterHouse Coopers, *The Global Hub for Carbon Commerce* available at <http://www.co2e.com/strategies/AdditionalInfo.asp?PageID=257> (last visited Jan 20, 2005).

Theoretically, the “renewable” attribute of renewable energy can be separated from the underlying energy and then sold in the form of Renewable Energy Credits, separately from the underlying physical electricity.² Such trading is in existence nationally, though not necessarily associated with RPS procurement.³ A dispute exists concerning separating or unbundling the renewable attribute from its underlying energy. It is imperative to examine the multitude of implications that unbundling would have for California ratepayers and the California environment before setting a REC trading program into motion.⁴ The California Public Utilities Commission (hereinafter “CPUC”) is appropriately proceeding with caution in establishing a REC trading program, as there are many issues that must be resolved prior to launching the program, including the CPUC’s authority to establish such a trading program.⁵ REC trading, although not part of the RPS program as envisioned

The meaning of “bundling,” as referred to in this Comment, however is slightly different. Here “bundling” simply means that the Renewable Energy Credit, or the renewable attribute of the underlying energy, travels with the energy, i.e., it does not get separated or “unbundled” and then separately traded.

² According to Dr. Jan Hamrin of the Center for Resource Solutions, the difference between Renewable Energy Certificates and Credits is that Credits are actually traded, while Certificates are not. ABA Teleconference *Everything You Wanted to Know about RECs*, November 18, 2004, San Francisco

³ See *Green-e Renewable Electricity Certification Program*, available at <http://www.green-e.org/> (last visited Feb 4, 2005). This Comment discusses the importance of imposing certain qualitative and quantitative restrictions on RECs that may be traded within the RPS framework in the future. See *infra*, pp. 12-18 for more information on SB1078, SB1478, SB107, and the RPS program.

⁴ The creation of a REC trading program is but a segment of the following proceeding, in which all RPS issues are consolidated before the CPUC. See Order Instituting Rulemaking to Implement the California Renewables Portfolio Standard Program, Rulemaking 04-04-026, (California Public Utilities Commission Apr. 22, 2004), available at http://www.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/36206.htm. (last visited Feb 19, 2005). See also Table of documents filed in R0404026 to date, available at http://www.cpuc.ca.gov/proceedings/R0404026_doc.htm (last visited Feb 19, 2005). See also Opinion Clarifying Participation of Renewable Distributed Generation in the Renewable Portfolio Standards Program (Draft Decision of ALJ Allen, Mailed Mar 7, 2005), available at http://www.cpuc.ca.gov/PUBLISHED/COMMENT_DECISION/44308.htm (last visited Apr 21, 2005).

⁵ See Order Instituting Rulemaking to Implement the California Renewables Portfolio Standard Program, Rulemaking 04-04-026, , *Assigned Commissioner’s Ruling and Scoping Memo Establishing Schedule for Phase Two of the Renewable Portfolio Standard Proceeding*, at 5 (California Public Utilities Commission Dec. 16, 2004) available at <http://www.cpuc.ca.gov/PUBLISHED/RULINGS/42320.htm> (last visited Jan 20, 2005)

by Senate Bill 1078 in 2002, may become so if newly introduced Senate Bill 107 becomes law.⁶ RPS is a hybrid market-based regulatory mechanism aiming to create a minimum market for renewable energy resources by requiring energy retailers to purchase electricity generated by eligible renewable resources as a specified percentage of total kilowatt hours sold to retail end-use customers each calendar year.⁷

The proposition that the renewable attributes, or RECs, should remain bundled (travel with the energy) unfortunately stands at odds with the goals of renewable generation project developers, who seek to create two separate commodities that can then be sold for a combined higher price.⁸

Can the views of the renewable generation project developers be reconciled with environmental justice in such a way as to make the REC trading system work to everyone's advantage? Both groups want to improve the quality of the environment, but one group also needs to make a profit in order to make the effort viable. Does the need to make a profit stand at odds with the interests of the California environment, environmental justice, and empowering poor and minority groups? Not necessarily so, and this paper will shed light on some avenues for cooperation between the various interest groups.⁹

While a significant portion of the solution will undoubtedly be resolved from a market-based vantage point, some regulatory inputs shall remain necessary as a safety net for potential market failures. The reason for this is that while market solutions tend to be creative, it is very doubtful that markets alone, without the regulatory backup mechanism, will adequately protect multiple interests. It is particularly doubtful whether the market alone is best suited to handle issues of environmental justice.¹⁰ A potential option in bridging the existing gap in approaches to the problem may consist of setting quotas on

⁶ See *infra*, pp.12-18 for more information on SB1078, SB1478, SB107, and the RPS program

⁷ *Id.*

⁸ See *infra*, pp. 20-29

⁹ See, e.g., American Leaders Declaration of Energy Independence, available at <http://www.honorearth.org/initiatives/energy/independenceday/declaration.html>, (last visited May 1, 2005) (an example of how some Native Americans in the Great Plains states perceive wind energy, as the clean, renewable solution to multiple problems)

¹⁰ For a comprehensive survey of major economic incentives and market-based environmental programs implemented by governments, see Stephen M. Johnson, *Economics, Equity, and the Environment*, Environmental Law Institute (2004).

how many unbundled RECs may be used toward RPS compliance.¹¹

This comment discusses the current debate over whether or not to unbundle RECs and concludes that no regulatory or legislative decision can be made without careful consideration of the potential adverse environmental impacts of unbundling upon disadvantaged communities. Part I explains the concept of Distributed Generation, its history and its importance for the electrical utility industry, paying particular attention to renewable Distributed Generation. Next, it describes the role of the CPUC in the argument regarding REC bundling. This part also examines legislative efforts undertaken to deal with the evolving relationship between renewable energy generators, Distributed Generators and the Investor Owned Utilities (hereinafter "IOU"). Part I concludes with an exploration of the interplay between regulatory and market approaches to solving various problems in California's recent power industry history. Part II analyzes the pros and the cons of bundled RECs as they relate to REC trading, ratepayers and owners of residential photovoltaic systems. Part III first analyzes environmental justice issues in the context of unbundling RECs, and then proposes that the California Legislature pass the newly introduced Senate Bill 107.

I. BACKGROUND

A. DISTRIBUTED GENERATION

"Distributed generation involves the use of small scale electric generating technologies installed at, or in close proximity to, the end-user's location."¹² Although DG can be located

¹¹ See Senate Bill 107, introduced on January 20, 2005, proposed language of amendment to Section 399.15 of the California Public Utilities Code, adding Section (g) *"The commission shall establish rules that authorize the use of renewable energy credits to satisfy annual procurement targets. At a minimum, the rules shall do all of the following: ... (3) Limit the quantity of renewable energy credits that can be procured unbundled from electricity generation to meet the annual procurement targets of a retail seller...."* available at http://leginfo.ca.gov/pub/bill/sen/sb_0101-0150/sb_107_bill_20050120_introduced.pdf (last visited Feb 4, 2005).

¹² See Rulemaking 99-10-025, Order Instituting Rulemaking into Distributed Generation, at 1 (California Public Utilities Commission, Oct. 21, 1999), available at http://www.cpuc.ca.gov/static/industry/electric/distributed+generation/dg_decisions.htm (last visited Feb 21, 2005).

on the premises of small scale commercial enterprises, many renewable Distributed Generation systems are owned by individual home owners with wind and/or solar systems on their rooftops.¹³ Distributed Generation (hereinafter, "DG"), along with energy storage, and targeted end-use and demand-side management technologies, comprises what is commonly referred to as Distributed Energy Resources (hereinafter "DER").¹⁴ The CPUC expects "that the use of distributed generation and DER will grow substantially in the coming years."¹⁵

There are many advantages to Distributed Generation and DER, particularly renewable DG.¹⁶ DER can provide potential benefits to the electrical network if employed with sufficient care and foresight.¹⁷ Potential benefits include reduced transmission and distribution line losses, avoided commodity costs in terms of energy and capacity, enhanced reliability, improved stability and power quality, increased responsiveness to load growth, national security benefits by reducing dependence on the grid, conservation of natural gas (if the DG is renewable, not so if the customer simply burns gas in a micro-turbine), and avoided utility cost of financing (unless the customer has a higher financing cost).¹⁸ From the renewable energy vantage

¹³ RECs can be generated both by large commercial renewable energy generators (such as wind farms), and by DG (such as solar panels or couple of small wind turbines on a homeowner's roof). This comment addresses the unbundling of RECs overall, but focuses on DG due to its particular advantages. Currently no data seem to have been compiled on the exact quantity of one versus the other type, though it may be accurate to state that number-wise, there are more homeowner-operated renewable Distributed Generation systems than commercial ones, while in terms of total generating capacity, the commercial installations probably generate much more capacity. *Author's exchange with the Staff of the National Renewable Energy Laboratory, United States Department of Energy, Office of Energy Efficiency and Renewable Energy*, which maintains the *Renewable Electric Plant Information System (REPiS)*, available at <http://www.nrel.gov/analysis/> (last visited Feb 17, 2005)

¹⁴ See Order Instituting Rulemaking Regarding Policies, Procedures and Incentives for Distributed Generation and Distributed Energy Resources, Rulemaking 04-03-017, at 4. (California Public Utilities Commission, Mar 16, 2004) available at http://www.cpuc.ca.gov/word_pdf/FINAL_DECISION/34972.pdf (last visited Feb 4, 2005)

¹⁵ *Id.*

¹⁶ See http://www.eere.energy.gov/de/pdfs/distenergy_fs.pdf (last visited Jan 21, 2005), <http://www.distributed-generation.com/Library/Maine.pdf> (last visited Jan 20, 2005), <http://www.undp.org/seed/eap/activities/wea/drafts-frame.html> (last visited Jan 21, 2005), and CPUC R.04-03-017

¹⁷ See *supra*, note 14.

¹⁸ See Order Instituting Rulemaking Regarding Policies, Procedures and Incentives for Distributed Generation and Distributed Energy Resources, Assigned Commissioner and Administrative Law Judge's Ruling and Scoping Memo, R.04-03-017, at 4-6.

point in general, there is also the promise of increased employment.¹⁹

Moreover, there are specific environmental benefits resulting from renewable DG: nitrogen oxide and carbon dioxide are not produced; water and soil pollution are reduced; and there are fewer power-plant siting impacts compared to those of large central station power plants.²⁰ Finally, renewable DG carries the promise of promoting environmental equity.²¹ Often fossil-fuel burning power plants are disproportionately located in poor and minority communities.²² Fossil fuel power plants are responsible for emissions of sulfur dioxide and another criteria air pollutant, nitrogen oxide, which combine with volatile organic compounds to create ozone.²³ Thus, these communities could benefit if renewable DG reached a large enough number to allow for the closing of dirty power plants by supplying clean and efficient electricity in their stead. It will, in all likelihood, take a long time before renewable DG reaches critical mass,

(California Public Utilities Commission, Aug. 6, 2004) *available at* <http://www.cpuc.ca.gov/PUBLISHED/RULINGS/38555.htm>. This Order considers the methodology for evaluating DG cost effectiveness, as well as the factors that will be used in such a methodology. The Energy Division and California Energy Commission ("CEC") collaboratively conducted a workshop on May 5, 2004 looking at several CEC-funded research projects aimed at developing ways to quantify these values from the perspective of various interests. A number of DG cost-benefit factors for possible inclusion in a cost-benefit methodology has come out of this workshop.

¹⁹ Some put the number at 240,000 jobs that could be created by 2020, if federal policies favored renewable sources, while building new coal and gas-fired plants would produce only about 80,000 jobs in comparison. See Plan to Junk Oil, Add Jobs: New Coalition Pushes Renewables *available at* http://www.apolloalliance.org/apollo_in_the_news/sfchron.cfm, (last visited Oct 3, 2004). See generally www.Apolloalliance.org.

²⁰ See *supra*, note 18, at 4-6.

²¹ *Id.*

²² See Robert D. Bullard, *It's Not Just, Pollution* *available at* <http://www.ourplanet.com/imgversn/122/bullard.html> (last visited Jan 21, 2005). See Clifford Rechtschaffen, *Advancing Environmental Justice Norms*, 27 *Environ. L. & Pol'y J.* 95(2003) p.6.

²³ See EPA National Air Quality and Emission Trends Report 2003 Appendix A, Table A-9 *available at* <http://www.epa.gov/air/airtrends/aqtrnd03> (last visited Jan 21, 2005). The table shows National Sulfur Dioxide Emissions Estimates for a number of years. In year 2000, the last year for which data is shown, of the total for all sources, 18,201 thousand short tons, 11,389 were emitted by fuel combustion in electric utilities, whereof 10,723 were emitted by coal burning plants, 511 by oil, 9 by gas, and 59 by internal combustion. In comparison, all of industrial processes, including chemical and allied product manufacturing, metals processing, petroleum and related industries, solvent utilization, textiles, leather, wood, pulp and paper, agriculture etc. amounted to a total of 1,498 thousand short tons. Transportation was only slightly higher, at 1,805 thousand short tons.

even though efforts are under way.²⁴ There is hope, however. Market-oriented entrepreneurs are, and will continue, to capitalize on the need to switch to renewable energy resources and to decentralize the generation of electricity, making it cheaper and more reliable, while creating a healthier environment.²⁵ Meanwhile, the government must take precautions to include environmental justice concerns in the multitude of energy development plans, such as the REC trading program, because the market tends to ignore the needs of those who cannot vote with their dollars.

B. THE ROLE OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION

The California Public Utilities Commission (hereinafter "CPUC") derives its authority from the Constitution of the State of California and from the California Legislature.²⁶ It was created to regulate privately owned utilities, as well as the railroad, rail transit and passenger transportation companies.²⁷ Its main regulatory responsibilities are rate setting and assuring safe services.²⁸

Public Utilities Commissions nationwide derive their mandates from the Public Utility Holding Company Act of 1935 (hereinafter "PUHCA").²⁹ This Act was passed to "eliminate unfair practices and other abuses by electricity and gas holding

²⁴ See *supra*, note 14.

²⁵ The California 2000-2001 crisis has cast many doubts on the contention that deregulation would lead to a reduction in electricity prices. See Karina Garbesi, *Public Interest Impacts of Electricity Deregulation: Lessons from California and the U.S.*, unpublished article submitted to Environment and Planning Commission: Government and Policy 9/15/2002. (kgarbesi@csu Hayward.edu) On DG in particular, see Order Instituting Rulemaking Into Distributed Generation, raises the issue of "locational market power" in cases where the distributed generation is sited in areas with inadequate grid capacity during peak load periods and therefore the price could be raised above competitive market levels for energy or ancillary services. This issue is one of five issues that the CPUC defined as arising in connection with the sale of excess capacity by distributed generators. See *supra*, note 13, at 17.

²⁶ CAL. CONST. art. XII, §§ 3 and 5.

²⁷ See <http://www.cpuc.ca.gov/cfaqs/> (last visited Feb 4, 2005)

²⁸ *Id.*

²⁹ See CRS Issue Brief for Congress, Amy Abel and Larry Parker, Resources, Science, and Industry Division, *Electricity: The Road Toward Restructuring* available at Congressional Research Service – The Library of Congress, CRS Web, <http://www.iwar.org.uk/news-archive/crs/23425.pdf> (last visited Oct 3, 2004).

companies by requiring federal control and regulation of interstate public utility holding companies.”³⁰

Currently, the CPUC is involved in a large undertaking, along with the California Energy Commission (hereinafter “CEC”), in connection with the development of the RPS program and the treatment of RECs under the RPS.³¹ Part of that undertaking is the Administrative Law Judge (hereinafter “ALJ”) Peter Allen’s “Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program, on which he recently issued a draft decision.”³² The ruling primarily concerns the question of renewable DG REC ownership associated with the energy output from renewable DG facilities subsidized by Investor Owned Utilities ratepayers.³³ the CPUC wants to know whether the ownership of RECs should be public or private and the rationale for it.³⁴ Most of all, the Commission wants to know how RECs associated with those facilities fit into the RPS program.³⁵

³⁰ “The Public Utility Holding Company Act (PUHCA) and the Federal Power Act (FPA) of 1935 ... established a regime of regulating electric utilities that gave specific and separate powers to the states and the federal government. A regulatory bargain was made between the government and the utilities. In exchange for an exclusive franchise service territory, utilities must provide electricity to all users at reasonable, regulated rates. State regulatory commissions address intrastate utility activities, including wholesale and retail rate-making...Under the FPA, federal economic regulation addresses wholesale transactions and rates for electric power flowing in interstate commerce.” *Id.*

³¹ See *supra* note 4.

³² See generally <http://www.cpuc.ca.gov/published/rulings/39482.htm> (last visited Jan 23, 2005). See also Opinion Clarifying Participation of Renewable Distributed Generation in the Renewable Portfolio Standards Program (Draft Decision of ALJ Allen, Mailed Mar 7, 2005), available at http://www.cpuc.ca.gov/PUBLISHED/COMMENT_DECISION/44308.htm (last visited Apr 21, 2005).

³³ *Id.* The Commission has not yet issued a decision on this ruling, but may do so as this comment goes into print.

³⁴ *Id.*

³⁵ *Id.* The following questions have been posed to the parties to the proceeding by Administrative Law Judge (hereinafter “ALJ”) Allen as a framework for their comments:

- 1) If a DG facility receives subsidies via CPUC and/or CEC programs, should the RECs associated with output from those facilities be considered the property of the public (i.e., California ratepayers)? Why or why not?
- 2) If the RECs are public property, can such RECs be used in the RPS program? If so, how?
- 3) If the RECs are not public property, who do they belong to: the DG facility owner, the local utility, or someone else? Why?

The CPUC received numerous comments from various stakeholders as part of this administrative rulemaking process, upon which ALJ Allen based his Draft Decision.³⁶ One of the key issues addressed by most parties to this proceeding is the issue of whether RECs ought to be bundled or unbundled from the underlying energy.³⁷

C. LEGISLATIVE EFFORTS UNDERTAKEN TO HANDLE THE EVOLVING RELATIONSHIP BETWEEN RENEWABLE ENERGY GENERATORS, DISTRIBUTED GENERATORS AND THE INVESTOR OWNED UTILITIES

In order to understand how environmental justice may be at stake in the proposed REC trading program, it is important to review the following legislative efforts. The historical relationship of the renewable Distributed Generators and Investor Owned Utilities in relation to RECs can be analyzed via: the Public Utility Regulatory Policies Act of 1978, the California Public Utilities Code, Section 2827 net energy metering and co-energy metering, and Senate Bill 1078, which establishes the California Renewables Portfolio Standard Program.³⁸ The current debate, on the other hand, can be followed in the context of Senate Bill 1478, which was vetoed by Governor Schwarzenegger on September 24, 2004,³⁹ and Senate Bill 107, which was just introduced by Senators Simitian and Perata on January

4) If the RECs are not public property, what public benefits are CPUC and/or CEC subsidies supporting?

5) Should California consider a system of differential incentives for renewable DG facilities, depending on whether the DG owner claims ownership of the associated RECs?

6) What other issues relating to the participation of DG in the PRS program need to be addressed immediately?

³⁶ See Comments of the parties to the proceeding, *list of documents available at* <http://www.cpuc.ca.gov/proceedings/R0404026.htm> (last visited Feb 19, 2005).

³⁷ *Id.*

³⁸ CA PUB UTIL §399.11.

³⁹ See Governor's Veto Message available at http://leginfo.ca.gov/pub/03-04/bill/sen/sb_1451-1500/sb_1478_ut_20040924.html (last visited Feb 19, 2005).

20, 2005, in an attempt to revive legislation that died with Governor Schwarzenegger's veto of Senate Bill 1478.⁴⁰

1. *Public Utility Regulatory Policies Act of 1978*

In the years following the 1973 crisis caused by the Organization of Petroleum Exporting Countries embargo, the U.S. government acknowledged the importance of managing oil consumption and, for the first time in U.S. history, energy efficiency became a burning issue.⁴¹ In 1978, in an attempt to reduce U.S. dependence on fossil fuels, particularly imported ones, Congress passed the Public Utilities Regulatory Policies Act (hereinafter "PURPA").⁴² PURPA was designed to encourage the growth of alternative energy usage and was aimed in part at achieving efficient electricity generation and equitable rates for consumers.⁴³ The Act requires that utilities buy power from qualifying facilities (hereinafter "QFs")⁴⁴ at prices equal to the utility's avoided cost of purchasing from other sources.⁴⁵

⁴⁰ See SB107 Legislative Counsel's Digest available at http://leginfo.ca.gov/pub/bill/sen/sb_0101-0150/sb_107_bill_20050120_introduced.pdf (last visited Feb 4, 2005).

⁴¹ See supra, note 29.

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Qualifying Facilities can be either cogenerators or small power producers, as defined in section 3(17) and (18) of the Federal Power Act [16 U.S.C.S. §§ 796(17) and (18)]:

"qualifying cogeneration facility" means a cogeneration facility which--

(i) the Commission determines, by rule, meets such requirements (including requirements respecting minimum size, fuel use, and fuel efficiency) as the Commission may, by rule, prescribe; and

(ii) is owned by a person not primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration facilities or small power production facilities); and

"qualifying small power production facility" means a small power production facility--

(i) which the Commission determines, by rule, meets such requirements (including requirements respecting fuel use, fuel efficiency, and reliability) as the Commission may, by rule, prescribe; and

(ii) which is owned by a person not primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration facilities or small power production facilities).

⁴⁵ See supra, note 29. Qualifying Facilities are exempt under the 1935 Public Utility Holding Company Act (hereinafter "PUHCA") and the 1935 Federal Power Act (hereinafter "FPA"). "In addition to PURPA, the Fuel Use Act of 1978 (FUA, P.L. 95-620) helped qualifying facilities (QFs) become established.. Under FUA, utilities were

QFs are not subject to state regulatory oversight and can achieve eligibility under PURPA through the use of renewable fuels or by meeting minimum cogeneration standards adopted by the Federal Energy Regulatory Commission.⁴⁶ Nonetheless, by encouraging smaller power generators, Congress in essence stimulated distributed generation, the benefits of which can foremost be understood in terms of energy efficiency. One of the potential benefits of DG is reduced transmission and distribution line losses, because Distributed Generation systems are installed at, or in close proximity to, the end-user's location.⁴⁷ Thus a significant percentage of energy generation, which would otherwise be lost in the form of heat, is instead utilized.⁴⁸ The main achievement of PURPA, however, was the opening of the energy market to non-utilities, which ultimately led to the energy market deregulation in the 1990s.⁴⁹

not permitted to use natural gas to fuel new generating technology. QFs, which are by definition not utilities, were able to take advantage of abundant natural gas as well as new generating technology, such as combined-cycle plants that use hot gases from combustion turbines to generate additional power. These technologies lowered the financial threshold for entrance into the electricity generation business as well as shortened the lead time for constructing new plants. FUA was repealed in 1987, but by this time QFs and small power producers had gained a portion of the total electricity supply." *Id.* at 3.

⁴⁶ *Id.*

⁴⁷ *Supra*, note 14. See also Thomas Casten and Sean Casten, *Transforming Electricity in the US, Cogeneration and On-site Power Production*, Volume 2 Issue 6, November-December 2001, James & James (2001).

⁴⁸ See Energy Information Administration / Annual Energy Review 2003 available at <http://tonto.eia.doe.gov/FTP/ROOT/multifuel/038403.pdf> (last visited Jan 30, 2005). For year 2002, out of 3,858 billion kilowatt-hours, 241 were lost in transmission and distribution, or unaccounted for, which amounts to 6.24 %.

⁴⁹ Kevin Golden, Comment, *Senate Bill 1078: The Renewable Portfolio Standard – California Asserts its Renewable Energy Leadership*, 30 Ecology L.Q. 693, 696 (2003)

2. *California Public Utilities Code, Section 2827*⁵⁰

Section 2827, the “net energy metering and co-energy metering” provision, was added to the California Public Utilities Code in 1995 in an effort to “encourage substantial private investment in renewable energy resources, stimulate in-state economic growth, reduce demand for electricity during peak consumption periods, help stabilize California’s energy supply infrastructure, enhance the continued diversification of California’s energy resource mix, and reduce interconnection and administrative costs for electricity suppliers.”⁵¹

Section 2827(g) attempts to level the playing field for renewable Distributed Generators, by prohibiting the retail utility from charging the Net-Metered Renewable Distributed Generator (hereinafter “customer-generator”) any fees other than those associated with the “customer-generator’s net kilowatt-hour consumption over a 12-month period, without regard

⁵⁰ Relevant definitions are provided in Section 2827(b):

(2) “Eligible customer-generator” means a residential, small commercial customer as defined in subdivision (h) of Section 331, commercial, industrial, or agricultural customer of an electric service provider, who uses a solar or a wind turbine electrical generating facility, or a hybrid system of both, with a capacity of not more than one megawatt that is located on the customer’s owned, leased, or rented premises, is interconnected and operates in parallel with the electric grid, and is intended primarily to offset part or all of the customer’s own electrical requirements.

(3) “Net energy metering” means measuring the difference between the electricity supplied through the electric grid and the electricity generated by an eligible customer-generator and fed back to the electric grid over a 12-month period as described in subdivision (h). Net energy metering shall be accomplished using a single meter capable of registering the flow of electricity in two directions. An additional meter or meters to monitor the flow of electricity in each direction may be installed with the consent of the customer-generator, at the expense of the electric service provider, and the additional metering shall be used only to provide the information necessary to accurately bill or credit the customer-generator pursuant to subdivision (h), or to collect solar or wind electric generating system performance information for research purposes. If the existing electrical meter of an eligible customer-generator is not capable of measuring the flow of electricity in two directions, the customer-generator shall be responsible for all expenses involved in purchasing and installing a meter that is able to measure electricity flow in two directions. If an additional meter or meters are installed, the net energy metering calculation shall yield a result identical to that of a single meter. An eligible customer-generator who already owns an existing solar or wind turbine electrical generating facility, or a hybrid system of both, is eligible to receive net energy metering service in accordance with this section.

⁵¹ CA PUB UTIL § 2827(a)

to the customer-generator's choice of electric service provider.¹¹⁶² Thus the customer-generator is freed from having to pay for other rate components, such as transmission, distribution, public purpose programs, generation, nuclear decommissioning, interconnection charges, standby charges, and minimum monthly charges.⁶³ Non-renewable Distributed Generators still have to pay for all these components, while receiving credit only against the generation rate component.⁶⁴

3. Senate Bill 1078

Senate Bill 1078 (California, 2002) (hereinafter "SB 1078") established the California RPS program.⁶⁵ The RPS is a regulatory program that establishes requirements for the procurement of renewable energy and thereby seeks to create a market in which sellers can participate.⁶⁶ The policy guiding this program is the creation of many security, economic, and environmental benefits for California.⁶⁷ The program requires Investor Owned Utilities,⁶⁸ Electric Service Providers⁶⁹ and Community Choice Aggregators⁶⁰ (hereinafter collectively "retail sellers") to "purchase a specified minimum percentage of electricity gener-

⁶² *Id.* at § 2827(g).

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ SB 1078 § 1, (Ca. 2002) (amending Cal. Pub. Util. Code adding § 387)

⁶⁶ Golden, *supra* note 49, at 699-700.

⁶⁷ *Id.* See also Am. Wind Energy Ass'n, *The Renewable Portfolio Standard: How It Works and Why It's Needed*, available at <http://www.awea.org/pubs/factsheets/RPSHowWhy02.pdf> (last visited Feb 19, 2005).

⁶⁸ "A privately-owned electric utility whose stock is publicly traded. It is rate regulated and authorized to achieve an allowed rate of return." See *Glossary* available at http://www.eia.doe.gov/glossary/glossary_i.htm (last visited Jan 21, 2005).

⁶⁹ "Non-utility entities providing services as defined under CPUC Rule 1." See *Glossary* available at http://www.pge.com/docs/pdfs/biz/transmission_services/contracts_tariffs/di_handbook/Glossary.pdf (last visited Jan 21, 2005).

⁶⁰ See Assembly Bill 117, Migden (Ca. 2002). Electrical restructuring: aggregation. "(1) Existing law, relating to transactions between electricity suppliers and end-use customers, authorizes various entities to aggregate electrical loads, and defines an "aggregator" as one of those entities that provides power supply services, including combining the loads of multiple end-use customers and facilitating the sale and purchase of electrical energy, transmission, and other services on behalf of the end-use customers. This bill would authorize customers to aggregate their electrical loads as members of their local community with community choice aggregators, as defined..." http://leginfo.ca.gov/pub/01-02/bill/asm/ab_0101-0150/ab_117_bill_20020924_chaptered.pdf (last visited Feb 19, 2005)

ated by eligible renewable resources, as defined, in any given year as a specified percentage of total kilowatt hours sold to retail end-use customers each calendar year.”⁶¹ Electricity retailers can achieve RPS compliance by owning a renewable electricity generating facility or by purchasing electricity from another facility that generates from renewable sources.⁶² RPS is a hybrid program in the sense that it aims to achieve public policy goals while staying true to a market-based approach.⁶³ The policy goals it attempts to achieve are, *inter alia*, the correction of market failures, and the sustainability and marketability of new technologies.⁶⁴ Even though some legislative provisions may be contentious, the RPS “contains the fundamental commitment necessary for a successful mandate to increase renewable energy procurement through long-term purchase obligations.”⁶⁵ Under current law, “utilities must increase their total procurement of eligible renewable energy resources by at least one percent per year so that twenty percent of their retail sales are procured from eligible renewable energy resources by December 31, 2017.”⁶⁶

4. Senate Bills 1478 and 107

Senate Bill 1478 (hereinafter “SB 1478”) was vetoed by Governor Schwarzenegger on September 24, 2004, after passing both the Senate and the Assembly.⁶⁷ This bill sought to increase the amount of electricity generated from renewable resources per year to “at least twenty percent of the total electricity sold to retail customers in California per year by the year 2010” from the current “at least seventeen percent of the total electricity generated for consumption in California per year by

⁶¹ SB 1078 § 1, (Ca. 2002) adding Article 16 (commencing with Section 399.11) to Chapter 2.3 of Part 1 of Division 1 of, the Cal. Pub. Util. Code), *See Legislative Counsel's Digest* (1). Also, see California Energy Commission, Draft Staff White Paper “Accelerated Renewable Energy Development” prepared in support of the 2004 Integrated Energy Policy Report Update Proceeding (03-IEPR-01), July 30, 2004, 100-04-003D.

⁶² Golden, *supra* note 49, at 700.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.* at 712.

⁶⁶ CA PUB UTIL § 399.15 (b)(1), (Ca 2004); *See also* http://www.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/36206.htm#P32_487

⁶⁷ *See supra*, note 39.

2006.⁶⁸ It also sought to implement guidance necessary for preventing double-counting in measuring RECs.⁶⁹

SB1478 addressed the issue of REC ownership in contractual relationships, so that “[a] contract for the purchase of electricity generated by an eligible renewable energy resource shall include the renewable energy credits associated with all electricity generation specified under the contract.”⁷⁰ Furthermore, the bill was drafted to limit the “quantity of renewable energy credits that can be procured unbundled from electricity generation to meet the annual procurement targets of a retail seller.”⁷¹

SB 1478 hoped to improve the State’s transmission system by fast-tracking the approval process in order to facilitate the development or delivery of renewable generation.⁷² It, however, allowed for additional flexibility in RPS compliance by attempting to establish rules authorizing “the use of renewable energy credits to satisfy annual procurement targets.”⁷³

Senate Bill 107 (hereinafter “SB107”) seeks to revive SB 1478. It provides a much-needed definition for a “renewable energy credit” and specifies the REC certification process, which is to be carried out by the Energy Commission.⁷⁴ REC is defined as “a certificate of proof, issued through the accounting system established by the Energy Commission pursuant to Section 399.13, that one unit of electricity was generated by an eligible renewable energy resource and delivered to a retail seller, the Independent System Operator, or a local publicly owned utility subject to the requirements of subdivision (e) of Section 399.13.”⁷⁵

⁶⁸ SB 1478 Section 1. *amending* CA PUB RES § 25740, (Ca 2004) available at http://leginfo.ca.gov/pub/03-04/bill/sen/sb_1451-1500/sb_1478_bill_20040827_enrolled.pdf (last visited Feb. 4, 2005)

⁶⁹ *Id.* *E.g.* double counting is a source of major contention between the utilities and the renewable DG owners. While the utilities argue that their ratepayers would have to pay twice for RECs if they were awarded to DG owners, DG owners contend that by removing much of their demand from the grid, they are, on the other hand, decreasing the overall number of KWh of retail sales, used as the basis for determining the RPS procurement target for retail sellers. *See infra*, note 112.

⁷⁰ SB 1478 *amending* CA PUB UTIL § 399.14 (a)(2)(E), (Ca 2004) available at http://leginfo.ca.gov/pub/03-04/bill/sen/sb_1451-1500/sb_1478_bill_20040827_enrolled.pdf (last visited May 4, 2005).

⁷¹ *Id.* at §399.14(a)(2)(D)(v).

⁷² *Id.* at §399.11(e)

⁷³ SB 1478 *amending* CA PUB UTIL § 399.14 (a)(2)(D), (Ca. 2004)

⁷⁴ SB 107 *adding* CA PUB UTIL § 387(e), (Ca. 2005)

⁷⁵ *Id.*

SB107 does not “fail to recognize California’s commitment and reliance on an electricity market that includes the entire western region of the country.”⁷⁶ In contrast, it provides that the Energy Commission “shall consult with other states in the Western Electricity Coordinating Council transmission system to develop consistent mechanisms and protocols for verifying renewable energy credits and to prevent double counting of the electricity generated from any eligible renewable energy resource” in establishing a REC tracking and verification system.⁷⁷

SB 107 does impose some restrictions on out-of-state electric generating facilities, however.⁷⁸ For example, it limits eligibility to facilities located within the Western Electricity Coordinating Council transmission system that commence initial operations after January 1, 2005, under a guaranteed contract with a retail seller and which can demonstrate delivery of the contracted amount.⁷⁹ SB 107 allows for flexibility in RPS compliance rules for out-of-state REC imports where the underlying energy is sold into the California market and “no feasible or cost-effective transmission facilities exist to deliver the electricity to the electrical corporation’s service territory.”⁸⁰

SB 107 refines the definition of “supplemental energy payments” to cover only *reasonable* costs of *eligible* renewable energy resources, and it reiterates that “[t]he commission may not award supplemental energy payments for the sale or purchase of renewable energy credits.”⁸¹ It locks in the supplemental energy payment price at the “applicable market price referent at the time of initial contracting.”⁸² Supplemental energy payments are structured as payments made by the California Energy Commission to generators to cover the costs of long-term contracts with retail sellers that exceed the applicable

⁷⁶ See *supra*, note 39.

⁷⁷ SB 107 *adding* CA PUB UTIL § 399.13 (c)

⁷⁸ SB 107 *amending* CA PUB UTIL § 399.16

⁷⁹ *Id.* This provision is to prevent reallocation of payment for RECs from Western States, that do not have RPS programs, to California ratepayers. Instead of such a reallocation of payment, the program seeks to create real incremental difference in the number of renewable energy providers.

⁸⁰ SB 107 *amending* CA PUB UTIL § 399.14 (a)(2)(C) *by adding* (ii), (Ca 2004)

⁸¹ SB107 *amending* CA PUB RES § 25743 (b)(1), (Ca. 2005)

⁸² SB107 *amending* CA PUB RES § 25743 (b)(1) *by adding* (C), (Ca. 2005)

market price referent established by the CPUC.⁸³ Moreover, SB 107 further clarifies the requirement of demonstrability of “delivery of the electricity under contract to the retail seller serving end-use customers subject to the renewable energy public goods charge.”⁸⁴ In terms of compliance with RPS, SB107 clarifies the commission’s powers to enforce penalties, i.e., that the CPUC is expected to enforce comparable penalties against Electric Service Providers and Community Choice Aggregators.⁸⁵

5. *Summary of Legislative Efforts*

PURPA “cracked open the market to non-utility power producers.”⁸⁶ It established an obligation for regulated utilities to purchase the output of unregulated Qualifying Facilities at the “avoided cost” that would otherwise be paid for energy in the market, which was ultimately also its critical limitation, particularly in the face of subsequent deregulation.⁸⁷ Public Utilities Code Section 2827, through its net-metering program, encourages renewable distributed generation by cutting all charges associated with interconnection to the utilities, except for the net consumption of electricity from the grid.⁸⁸ And finally, SB 1078 created the RPS program, which establishes a requirement for all Investor Owned Utilities, Electric Service Providers and Community Choice Aggregators to increase their procurement of renewable sources by at least one percent of retail sales per year until reaching 20 percent no later than 2017.⁸⁹ Although it can be achieved by various means, for some retailers, the potential of buying renewable energy credits may

⁸³ See PUC Sets Stage for Renewable Energy Needs, June 9, 2004, *available at* http://www.cpuc.ca.gov/PUBLISHED/NEWS_RELEASE/37327.htm (last visited Apr 21, 2005)

⁸⁴ SB107 *amending* CA PUB RES § 25743 (b)(1) *by adding* (D), (Ca. 2005) This provision is to protect the California environment and to stabilize markets.

⁸⁵ SB107 *amending* 399.14(d), (Ca. 2005)

⁸⁶ Golden, *supra* note 49, at 696.

⁸⁷ *Id.*

⁸⁸ See CA PUB UTIL § 2827(g)

⁸⁹ See, CA PUB UTIL §§ 399.11-399.16. SB 1078, chaptered on September 12, 2002; requires the Commission to establish a program whereby the utilities must purchase a specified minimum percentage of electricity generated by renewable energy resources. The utilities must increase their total procurement of eligible renewable energy resources by at least one percent per year so that twenty percent of their retail sales are procured from eligible renewable energy resources by December 31, 2017.

be more appealing than actually generating that energy, due to limitations imposed by the lack of locally available renewable energy resources and non-feasible transmission from remote areas. SB107 recognizes this problem and allows utilities in such a position to obtain unbundled RECs through long-term purchase agreements.⁹⁰

Requiring caps on how many RECs can be imported from out-of-state and how many RECs can be unbundled should not be understood as a roadblock to renewable energy generation. It merely serves as a guarantee for the California environment. To a certain extent, it also seeks to protect minority and low-income communities. A system allowing unchecked unbundling of the renewable attribute from the underlying energy in the name of market efficiency could potentially come at the expense of the Californian environment and her most vulnerable communities. Such trading, however, has not yet been introduced into the California regulated market and existing California law does not provide for it.⁹¹

D. BALANCING REGULATIONS WITH MARKET INCENTIVES

Part of the discussion on how to achieve the RPS goals involves the debate of whether command-and-control regulation or market incentives are a better approach. One of the effects of market manipulations during the initial stages of deregulation in California is that briefly the balance had shifted in favor of regulations.⁹² Even though market mechanisms have steadily gained momentum from the 1990s onward, after the energy crisis they were not trusted to do the job alone. Nonetheless, market incentives continue to dominate the discourse.⁹³ While

⁹⁰ SB107, *amending* CA PUB UTIL § 399.14 (a)(2)(C)(ii) Flexible rules for compliance (Ca, 2005).

⁹¹ There is a parallel trading scheme taking place in the unregulated market, nationwide. There are firms that certify and track green energy products, such as the Center for Resource Solutions. <http://www.green-e.org/> last visited Feb 4, 2005). See *supra*, note 3.

⁹² See Garbesi, *supra* note 25.

⁹³ "It is very likely that in the current Congress it will be very difficult to pass any environmental bill skewed in favor of regulatory methods rather than market incentives". Roger S. Ballentine, Esq., President of Green Strategies, Inc., ABA Teleconference November 18, 2004. See Jim Rossi: *The Common Law Duty to Serve and Protection of Consumers in an Age of Competitive Retail Public Utility Restructuring*, 51 Vand. L. Rev. 1233 (1998). Professor Rossi is a known authority on energy law, who espouses primarily market solutions. See his homepage at Florida State College of Law

offering many incentives and creative solutions for the industry, alone they fail to provide assurances against abuse to the public.⁹⁴ On the other hand, regulations, particularly those of the technology-forcing kind, tend to stifle the entrepreneurial spirit with their heavy-handed approach.⁹⁵ The complexity of problems facing the energy industry calls for a creative, multifaceted approach. Regulations, in some instances, are necessary to spur technological innovation, and in others to prevent, or at least control, abuses. However, regulations alone might not suffice either. Thus, balanced market solutions may be what are needed.

Balanced market solutions are important in encouraging the entrepreneurial spirit upon which much of the investment and innovation depend, while at the same time providing a sense of guarantee to the public that if the market fails, the government will step in and prevent socially unacceptable consequences from taking place. The RPS is a case in point. The issue of unbundling RECs from the underlying energy is no different from most environmental issues over the past two decades – it revolves around the balancing of regulatory measures versus market incentives. Finding a workable compromise is the challenge that the CPUC must meet in order to facilitate further development of renewable generation, particularly Distributed Generation, while protecting consumers from fraud and the state from descending into another energy crisis.

II. DISCUSSION

The central issue in the REC “ownership” debate currently before the CPUC is whether the renewable attribute of the en-

<http://mailer.fsu.edu/~jrossi/> ; But See Alan Ramo *California's Energy Crisis – the Perils of Crisis Management and a Challenge to Environmental Justice*, 7 Alb. L. Envtl. Outlook 1 (2002) Professor Ramo is a known authority in the area of environmental law dealing with environmental justice. He is the Environmental Law and Justice Clinic Director at Golden Gate University School of Law in San Francisco. See also Stephen M. Johnson, *Economics, Equity, and the Environment*, (Environmental Law Institute, 2004) for a comprehensive overview of major economic incentive and market-based environmental protection programs.

⁹⁴ See *supra*, note 10.

⁹⁵ Some environmental regulation, though by no means all of it, is “technology-forcing,” meaning that it does not take into account the cost of implementation thereby forcing technology to come forth with quick, albeit expensive, solutions in order to meet the strict standards.

ergy can be separated, or “unbundled,” from the underlying physical energy.⁹⁶ The Discussion focuses on unbundling in regard to renewable DG, while the Proposal primarily addresses the broader issue of unbundling in the context of renewable generation in general, and concludes that while Investor Owned Utilities and renewable energy entrepreneurs need to be given sufficient incentives, the benefits of a REC trading program need to be felt by all Californians equally. SB 107, which incorporates such balancing efforts, should therefore be passed.

A. BUNDLING – THE CENTRAL ISSUE

Theoretically, the “renewable attribute” of energy can be separated from the underlying energy. Renewable Distributed Generators could sell this attribute in the form of RECs separately from the underlying energy, however, it is important first to examine the multitude of implications such unbundling would have for California ratepayers and the environment.

This section will first lay out the arguments of the renewable DG industry, the utilities, and environmental groups in regard to REC ownership as they pertain to the issue of bundling RECs.⁹⁷ Then it will juxtapose two powerful opposing arguments – the argument of TURN, a non-profit ratepayer advocate organization, and of Mr. Beach, the owner of a small residential photovoltaic system and industry consultant.

1. *The REC Ownership Debate*

The DG industry argues outright that RECs are “distinct and separate property” because it wants to maximize the return on its investment by selling the RECs.⁹⁸ The utilities, on

⁹⁶ See *supra*, note 32.

⁹⁷ The arguments were presented as comments and reply comments to CPUC regarding Administrative Law Judge’s Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program.

⁹⁸ See Response of the California Solar Energy Industries Association to the Administrative Law Judge’s Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program, Response of the Vote Solar Initiative to the Administrative Law Judge’s Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program, at 3., Central California Power, Comments to Responses, Adminis-

the other hand, argue that if the DG system owners are able to separate the renewable attribute from the underlying energy, they receive a windfall.⁹⁹ The utilities contend that most of the renewable DG facility owners receive ratepayer-sponsored subsidies to install the generating system.¹⁰⁰ This subsidy can be as high as fifty percent of the cost.¹⁰¹ Furthermore, the utilities note that renewable DG owners interconnect with the utilities at no extra charge, to which other, non-renewable Distributed Generators are subject.¹⁰² Then, as a result of net-metering, renewable Distributed Generators are able to significantly reduce their energy bill.¹⁰³ Next, instead of having the renewable attribute automatically attach to the renewable energy that the utility “buys” through the net-metering program, the utility actually has to buy these RECs on the market separately.¹⁰⁴ Thus, the renewable DG facility owners are receiving three separate sources of revenue from their system, which, while an incentive for them, may serve as a disincentive for the utilities. This in turn may cripple the entire program, a program aimed at stimulating the growth of the renewable energy industry.¹⁰⁵

The utilities, on the other hand, are silent on the issue of unbundling per se.¹⁰⁶ It is their position, however, that RECs associated with energy produced by renewable Distributed Generators, which were subsidized by their ratepayers, ought to be counted toward the utilities’ RPS compliance.¹⁰⁷ Thus, the utilities are arguing that RECs should travel with the energy,

trative Law Judge’s Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program, at 3., and Reply Comments of R. Thomas Beach on the Ownership of Renewable Energy Credits from Renewable Distributed Generation Facilities, at 3-4.

⁹⁹ See opening comments of PG&E, p.9;

¹⁰⁰ *Id.* at 6.

¹⁰¹ *Id.*

¹⁰² CA PUB UTIL § 2827(g)

¹⁰³ PGE Opening Comments at 8.

¹⁰⁴ *Id.*

¹⁰⁵ See Comments of TURN and GPI

¹⁰⁶ See Comments of Pacific Gas and Electric Company Regarding Administrative Law Judge’s Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program, Reply Comments of Pacific Gas and Electric Company Regarding Administrative Law Judge’s Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program., and Comments of San Diego Gas & Electric Company on the Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program.

¹⁰⁷ *Id.*

i.e., that they should remain bundled. On the other hand, RPS-compliant utilities may, in the future, want to be able to turn around and sell those RECs, unbundled from the underlying energy, to RPS non-compliant, or less compliant retail sellers. This may be the reason they remain silent on the unbundling issue per se.¹⁰⁸

The Union of Concerned Scientists, an independent non-profit alliance of citizens and scientists, does not express its opinion on the bundling issue, but merely advises the CPUC to “provide immediate guidance on whether RECs can be unbundled, and [to] establish rules for REC trading in the next phase of this proceeding.”¹⁰⁹ The Green Power Institute (hereinafter “GPI”), while encouraging the CPUC and California Energy Commission to “continue pursuing the development of an effective and robust REC trading system,” does not explicitly address the issue of unbundling, though it can be inferred that it favors unbundling, judging from the way it describes, and relates to the REC trading program.¹¹⁰ The main concern of GPI, however, is fairness in the sense that “a future REC trading system might very well not count the renewable energy that is generated and used on the customer side of the meter towards any provider’s total retail sales, thus over-counting the contribution of Distributed Generation RECs in comparison with grid-distributed RECs.”¹¹¹ GPI therefore argues that “if the customer side of the meter DG renewable energy is counted towards a utility’s RPS obligation, then the corresponding amount of energy should be added to the utility’s sales pool in order to avoid over crediting the REC contribution to the utility’s energy supply mix.”¹¹²

¹⁰⁸ *Id.*

¹⁰⁹ Reply Comments of the Union of Concerned Scientists Regarding Administrative Law Judge’s Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program.

¹¹⁰ Reply Comments of the Green Power Institute Regarding Administrative Law Judge’s Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewable Portfolio Standard Program. GPI is a program of the Pacific Institute for Studies in Development, Environment and Security, p. 4

¹¹¹ *Id.* at 3.

¹¹² *Id.* The RPS goal of the utilities is 20% of all retail electricity sales to derive from renewable sources. Thus GPI is arguing that the DG facilities by supplying extra energy to the grid, and even if using all of it themselves, are thereby reducing the utility retail sales volume of electricity, thus effectively already generating savings to the utility. The DG facility owner should receive some type of recognition for this, such as having all these megawatts of electricity going back and forth between the DG facilities

2. *TURN vs. Mr. Beach*

The polarized arguments in the REC ownership proceeding are espoused by The Utility Reform Network (hereinafter “TURN”), a non-profit ratepayer representative organization, and Mr. Beach, an industry consultant and expert witness who provides testimony on behalf of Qualifying Facilities interests and large industrial electric customers who is also the owner of a small residential photovoltaic system.¹¹³ They stand at two opposing ends. TURN focuses on net-metering as the main analytical framework for determining what happens with the RECs, maintaining they ought to travel with the net-metered energy.¹¹⁴ Mr. Beach, on the other hand, adamantly rejects TURN’s net-metering proposal, and instead focuses on the fact that

renewable DG removes loads from the [utilities’] grids, and thus reduces the amount of renewable power or RECs that the [utility] must buy to meet their 20% RPS goals....that the benefits of the renewable peaking generation from [small residential] solar panels [are]...likely to be far more valuable per megawatt-hour than a REC....[and that since he will] bear 100% of the risks of producing RECs, [he has] an equitable claim on 100% of their ongoing value.¹¹⁵

In short, Mr. Beach believes RECs to be a distinct property, separate from the underlying energy, which he is entitled to sell to whomever he wants for the following reasons: (1) net-metering is not as generous to him as TURN makes it out to be, (2) he bears all the risk associated with maintaining his photovoltaic system, and (3) if the utility were to receive his RECs, he could remove his system from the grid, buy a battery with

and the utility properly accounted for in order to avoid double counting on either side. This is an important point that most parties raise in one way or another.

¹¹³ See Opening Comments of The Utility Reform Network of the Ownership and Disposition of Renewable Energy Credits Produced by Distributed Generation Facilities, September 16, 2004; and Reply Comments of R. Thomas Beach on the Ownership of Renewable Energy Credits from Renewable Distributed Generation Facilities, September 30, 2004

¹¹⁴ Opening Comments of The Utility Reform Network of the Ownership and Disposition of Renewable Energy Credits Produced by Distributed Generation Facilities, September 16, 2004.

¹¹⁵ Reply Comments of R. Thomas Beach on the Ownership of Renewable Energy Credits from Renewable Distributed Generation Facilities, at 3-4., September 30, 2004

the proceeds of the REC sale, and thus not contribute to peak shaving, which is, as Mr. Beach claims, one of the most important benefits of the renewable DG systems.¹¹⁶

B. LEGAL IMPLICATIONS OF UNBUNDLING FOR RENEWABLE DISTRIBUTED GENERATORS

Perhaps net-metering does not proportionally offer the same amount of benefit to the DG facility owner as it does to the utility; however, beside weighing each side's economic benefits there are also significant legal implications underlying the net-metering relationship. A determination must be made regarding whether the renewable Distributed Generators would still qualify for special tariffs under the net-metering program if they sold energy to the utility, but withheld the renewable attributes of the energy and sold those in the form of RECs to a third party. The renewable energy, stripped of its "renewable" attribute is in essence no longer renewable. The net-metering program, however, was designed specifically to promote renewable Distributed Generators, i.e., Distributed Generators that generate electricity from non-polluting renewable sources, primarily solar and wind.¹¹⁷ Thus, if the DG facilities were to unbundle the renewable attributes and sell only the underlying energy to the utility, stripped of its renewable attribute, they would no longer be honoring the net-metering terms, because the utility would no longer be getting "renewable energy" for its favorable tariffs and waivers of interconnection fees. Instead it would just be getting "energy," which was not the legislative intent behind Section 2827.¹¹⁸

In October 2003, the Federal Energy Regulatory Commission (hereinafter "FERC") ruled on a similar state of affairs.¹¹⁹

¹¹⁶ "Peak shaving" is a set of creative methods of meeting the ever increasing energy demand during peak hours. photovoltaic Distributed Generators, for example, generate extra capacity in the middle of the day when demand is peaking. If they are interconnected with the grid, utilities can supply other customers who need extra energy with the photovoltaic generated electricity during peak hours without having to make costly investments in capacity building infrastructure.

¹¹⁷ CA PUB UTIL § 2827

¹¹⁸ CA PUB UTIL § 2827 (a) "The Legislature finds and declares that a program to provide net energy metering for eligible customer-generators is one way to encourage substantial private investment in renewable energy resources..."

¹¹⁹ *Order Granting Petition for Declaratory Order*, issued October 1, 2003, Docket No. EL03-133-000, American Ref-Fuel Company, Covanta Energy Group, Montanay

FERC had decided in favor of renewable QFs.¹²⁰ It ruled that RECs associated with the generation of renewable energy from those facilities were not automatically transferred to the utilities with which the QFs had entered into long term contracts under PURPA, unless specified to the contrary in the contract.¹²¹ FERC held that RECs are a creation of state law and that ownership rights to RECs under Qualifying Facilities contracts are therefore to be addressed by states pursuant to their own statutes.¹²² Similarly to the issue before the CPUC, the FERC case involved utilities and non-utility generators under a statutorily guided contract.¹²³ However, “the avoided cost that a utility pays a QF does not depend on the type of QF, i.e., whether it is a fossil-fuel-cogeneration facility or a renewable-energy small power production facility.”¹²⁴ What can be logically inferred is that the utility is paying merely for energy, not for a specific quality associated with that energy, which is exactly what FERC decided.¹²⁵ In contrast, the net-metering tariff arrangements between the utilities and the renewable Distributed Generators are specifically based on the renewable attribute of the energy generated by the Distributed Generation systems.¹²⁶ Thus, it can be inferred that since the tariff terms are specifically based on the energy having been generated from renewable sources, the renewable DG facility owners, by agreeing to the tariff, agree to automatically transfer RECs to the utilities.

At first glance at the controversy surrounding the CPUC Rulemaking on Distributed-Generation Renewable-Energy-

Power Corporation, and Wheelabrator Technologies Inc. *See also supra*, pp. 9-11, for an explanation on what QFs are and how they came into existence.

¹²⁰ *Id.*

¹²¹ “We will grant Petitioners’ request for declaratory order, to the extent that the petition asks that the Commission declare that the Commission’s avoided cost regulations did not contemplate the existence of RECs and that the avoided cost rates for capacity and energy sold under contracts entered into pursuant to PURPA do not convey the RECs, in the absence of an express contractual provision.” *Id.* at 4.

¹²² *Id.* at 6.

¹²³ In the case of QFs, their contract with the utilities is guided by PURPA of 1978, and the net-metering contracts with renewable DG facilities are guided by SB 1078 provisions for the Renewable Portfolio Standard.

¹²⁴ “Order Granting Petition for Declaratory Order,” issued October 1, 2003, Docket No. EL03-133-000, American Ref-Fuel Company, Covanta Energy Group, Montanay Power Corporation, and Wheelabrator Technologies Inc. p. 6

¹²⁵ *Id.*

¹²⁶ *Id.*

Certificate ownership, one is struck by the unfairness and lack of logic and precedent in allowing ownership of a certain aspect of property to be conveyed to those who subsidized part of the property.¹²⁷ However, if the problem is presented in terms of net-metering, rather than in terms of subsidies per se, a new picture emerges. TURN's comments are based on the terms and conditions associated with the net-metering tariff.¹²⁸ It can hardly be said that TURN is known to sympathize with the utilities, so the fact that it is taking the same position as the utilities (PG&E particularly) is worth examining.

TURN and GPI approach this issue out of concern for the ratepayers and the environment.¹²⁹ The utilities have a lot to gain but even more to lose. Significantly, if the utilities lose, everyone will lose this particular battle. Namely, as PG&E poignantly expressed in its answer to a question in Judge Allen's questionnaire, the utilities need incentives to participate in these public goods programs.¹³⁰ While required to provide net-metering by law, the utilities can nonetheless make the process so burdensome that in effect they would discourage renewable DG.¹³¹ On the other hand, the renewable DG facility owners could go the other extreme and disconnect from the grid altogether, thereby not contributing to the overall efficiency of

¹²⁷ See Order Instituting Rulemaking to Implement the California Renewables Portfolio Standard Program – Administrative Law Judge's Ruling Requesting Comments on Participation of Distributed Generation Resources in the Renewables Portfolio Standard Program, Rulemaking 04-04-026 (California Public Utilities Commission, Sept. 1, 2004) *available at* <http://www.cpuc.ca.gov/PUBLISHED/RULINGS/39482.htm> (last visited, Feb 21, 2005)

¹²⁸ See TURN's Opening Comments.

¹²⁹ Green Power Initiative is a program of the Pacific Institute for Studies in Development, Environment and Security; see GPI's Reply Comments.

¹³⁰ See PG&E's opening comments, reply to Question 6, p. 12: "If utilities are not permitted to recover the cost of buying RECs from renewable DG projects, they will not buy them."

¹³¹ GPI stressed the need to give the utilities incentives for participating in the program: "The GPI's position is that the RECs associated with customer-side-of-the-meter energy that has been supported by state renewable energy programs can be counted toward the RPS requirement of the utility to which the generator is interconnected, as long as the associated energy is also added to the utility's total retail sales. This would not provide an additional revenue source for the DG generator, as desired by many DG advocates, but it would provide an incentive to the interconnecting utility to facilitate the transaction, and that might very well be worth more than the ultimate value of the RECs." GPI's Reply Comments, p. 4.

the grid via peak shaving.¹³² The solution must lie somewhere in the middle. If the renewable energy incentives are to work, the CPUC must find a balance that is fair and just for all the stakeholders.

C. NEW DEVELOPMENTS

On March 7, 2005 ALJ Allen issued a Draft Decision on the matter, “Opinion Clarifying Participation of Renewable Distributed Generation in the Renewable Portfolio Standards Program.”¹³³ Far from clarifying anything, the decision holds that “the owner of the renewable DG facilities owns the RECs associated with the generation of electricity from those facilities, [that] those RECs may be used to satisfy the utilities’ RPS targets, and the RECs stay bundled with the associated electricity.”¹³⁴

The only party relatively happy with the Draft Decision is Mr. Beach, who states: “With this one change, I recommend that the full Commission adopt ALJ Allen’s well crafted P[roposed] D[ecision.]”¹³⁵ Meanwhile TURN and PG&E vociferously criticize the Draft Decision as “taking a schizophrenic approach to this proposal” and as being “profoundly flawed.”¹³⁶ In TURN’s words:

[T]he PD fails to provide clarity on the only contested issue that truly matters – how the RECs from a renewable DG unit will be counted under the RPS program. While the PD finds that RPS-eligible RECs must remain bundled with physical electricity and that such RECs can be used to satisfy RPS targets, it fails to offer any guidance on the conditions under

¹³² As Mr. Beach pointed out in his Reply Comments on p.9, however, then they would not be eligible for any net-metering benefits, and would most likely jeopardize other state subsidies.

¹³³ See *supra* notes 4, 32,36

¹³⁴ *Id.* at 2.

¹³⁵ See Opening Comments of R. Thomas Beach on the Proposed Decision of ALJ Allen on the Ownership of Renewable Energy Credits from Renewable Distributed Generation Facilities, Mar 28, 2005, p.3.

¹³⁶ See Opening Comments of The Utility Reform Network of the Proposed Decision of ALJ Allen on the Ownership and Disposition of Renewable Energy Credits Produced by Distributed Generation Facilities, Mar 28, 2005, p. 4; Comments of Pacific Gas and Electric Company (PG&E) on the Draft Decision of ALJ Allen Clarifying Participation of Renewable Distributed Generation in the Renewable Portfolio Standard Program, Mar 28, 2005, p.13.

which RECs are actually transferred to the relevant Investor-Owned Utility.¹³⁷

PG&E protests ALJ Allen's conclusion that "if a facility does not participate in the RPS program, then its output cannot be counted for RPS purposes," stating that such a conclusion "is expressly contrary to the existing RPS statute, which allows the utilities to count toward the RPS goal any energy purchased from a renewable source, whether or not the energy was purchased 'under a standard RPS contract.'"¹³⁸ Further, PG&E claims that the CPUC, by not quantifying "the exact amount of benefits the subsidies are paying for... it will give all the attributes of renewable DG to the DG owner" thereby making the ratepayer pay twice for the renewable attribute.¹³⁹ PG&E agrees that the energy produced by the DG unit can be added to the utility's total retail sales in calculating RPS compliance, to avoid double counting, however, only if it is delivered to the grid under the net metering tariff.¹⁴⁰

It remains to be seen what the final decision will hold. The CPUC must take a more balanced approach than the one espoused in the Draft Decision, if the RPS program is to be a success.

III. PROPOSAL

Unbundling of RECs may harm California's disadvantaged communities. The potential for harm requires that affected community representatives have meaningful participation in the CPUC's regulatory process and necessitates consideration of environmental justice as part of the decision-making process. SB 107 seeks to strengthen California's commitment to environmental justice while shifting the energy paradigm, commensurate with the needs of our times and should therefore be supported by the California legislature and, this time around, by the Governor.¹⁴¹ The RPS program contains provisions for direct utilities to give preference to any renewable energy project bid that provides benefits to low-income and minority

¹³⁷ TURN Opening Comments, p. 1.

¹³⁸ See *supra*, PG&E's Comments, p. 2.

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ See *supra*, note 39.

communities, confirming the will of the people of California through their democratically elected legislature to make the RPS program environmentally just.¹⁴² Additionally, the current law ought to include renewable energy project selection criteria based on the relative impact of environmental benefits on low income and minority communities.

A. ENVIRONMENTAL JUSTICE ISSUES IN THE CONTEXT OF UNBUNDLING RECS

1. *What is Environmental Justice?*

Environmental justice is a relatively new political and social movement that addresses the inequitable distribution of environmental harms by making sure affected communities have a meaningful voice in the process of environmental decision-making.¹⁴³ It has evolved as a legal doctrine since its inception with President Clinton's Executive Order 12898 of February 11, 1994.¹⁴⁴ Executive Order 12898 mandates "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States...."¹⁴⁵ Even though the language of the order is rather vague and is binding only on Federal agencies, its promulgation was a big success for environmental justice activists. In response to these federal initiatives, California soon followed with its own environmental justice statute by adopting a California environmental justice policy on October 6, 1999.¹⁴⁶

With the growing popularity of market-based approaches to resolving environmental problems, environmental justice issues are also becoming more acute. As economic theory revolves around the concept of efficiency, by its very nature it is

¹⁴² See CA PUB RES § 25743 (b)(6).

¹⁴³ Rechtschaffen, *supra* note 23, at 96-98

¹⁴⁴ See Alan Ramo, Albany Law Environmental Outlook Jrnl. Vol 7, 2002, Issues 1 and 2, p. 12 (2002)

¹⁴⁵ Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, February 11, 1994, Section 1-101. Agency Responsibilities

¹⁴⁶ Ramo, *supra* note 144, at 13.

not suitable for taking issues of justice into account. Under classic economic theory, a pollution credits program, for example, operates on the premise of efficiency when it shifts pollution to low income communities or communities of color.¹⁴⁷ Furthermore, such “efficiency” is deemed highly desirable because resources are allocated where the willingness and ability to pay for them are higher.¹⁴⁸ Grass roots environmental justice activism, on the other hand, coupled with law has had numerous successes in empowering disaffected communities and furthering their interests.¹⁴⁹

2. *An Example of Market Failure in Pollution Credits Trading*

Even those people leaning toward market-based regulatory mechanisms have acknowledged the inadequacy of pollution credits trading for dealing with most environmental problems.¹⁵⁰ Two of the most prominent reasons cited are the potential for creating local toxic hot spots, as well as administrative difficulties that present themselves in monitoring the success of such programs.¹⁵¹

Pollution credits trading is one of a number of Economic Incentive Systems (hereinafter “EIS”).¹⁵² In contrast to traditional regulatory command-and-control methods, which establish how much pollution each actor can generate, EIS establish a price for each unit of pollution but leave the level of pollution up to the actors to determine.¹⁵³ The main rationale for EIS is their comparative cost efficiency and flexibility.¹⁵⁴ If used for a narrow environmental purpose for which the particular eco-

¹⁴⁷ See Stephen M. Johnson, 56 Wash. & Lee L. Rev. 111, 118-119 (1999)

¹⁴⁸ *Id.*

¹⁴⁹ Debate exists among environmental justice activists whether lawyers are doing more harm by potentially making affected communities more dependent on the system instead of changing it. There is, nonetheless, a movement among environmental justice lawyers to use creativity to emphasize empowerment of these communities over classic litigation. See Luke Cole, *Empowerment as the Key to Environmental Protection: The Need for Environmental Poverty Law*, 19 Ecology Law Quarterly 619 (1992).

¹⁵⁰ Richard B. Stewart, *A New Generation of Environmental Regulation?*, 29 Cap.U.L.Rev.21, 22 (2001)

¹⁵¹ *Id.*

¹⁵² Stewart, *supra* note 150, at 94

¹⁵³ *Id.*

¹⁵⁴ *Id.*

nomic instrument is well suited, EIS can be very meaningful; however, sometimes in the process there is not enough room for public participation and broader ethical and collective values may end up ignored.¹⁵⁵

On the other hand, one can “build a variety of hybrid systems of regulation, combining elements of both the command and EIS approaches...[f]or example, command regulation could require a minimum level of control by each source, while taxes or fees could be imposed or a tradable quota system established for remaining dischargers.”¹⁵⁶ The RPS program, as envisioned by SB 107 amendments, also seeks to establish such a hybrid system.¹⁵⁷ For example, SB 107 seeks to amend Section 399.15 of the Public Utilities Code, *inter alia*, by adding subsection (g), which would require the CPUC to “establish rules that authorize the use of renewable energy credits to satisfy annual procurement targets,” as under current law it is debatable whether the commission may do so.¹⁵⁸ These rules are to contain certain restrictions, however. One of the proposed restrictions is the limitation of the quantity of the RECs that can be procured unbundled from electricity generation to meet the retailer’s annual procurement targets.¹⁵⁹

Pollution trading programs, if not carefully devised, can be more damaging than helpful. The Los Angeles Regional Clean Air Incentives Market (hereinafter “RECLAIM”), for example, has received mixed reviews even from EIS proponents, while it is under severe attack from environmental groups.¹⁶⁰

RECLAIM, designed to curb Los Angeles’s persisting ozone problems, created the first mandatory market in nitrogen oxide and sulfur oxide emissions, precursors to ozone.¹⁶¹ Facilities that emit four tons a year of either pollutant must participate

¹⁵⁵ *Id.* at 96.

¹⁵⁶ *Id.* at 99.

¹⁵⁷ See generally SB 107 (Ca. 2005).

¹⁵⁸ SB107, amending CA PUB UTIL § 399.15 by adding (g)(3) (Ca. 2005).

¹⁵⁹ *Id.*

¹⁶⁰ “RECLAIM has achieved a mixed record of success.” Stewart, *supra* note 145, at 107. On July 23, 1997, Communities for a Better Environment (CBE) filed an administrative complaint with the EPA against the Southern California Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) under title VI of the Civil Rights Act of 1964. Chinn, *infra* note 155, at 97-98.

¹⁶¹ Lily N. Chinn, Comment, *Can the Market Be Fair and Efficient? An Environmental Justice Critique of Emissions Trading*, 26 Ecology L.Q. 80, 89-90 (1999)

in the market.¹⁶² They are then allocated emission permits based on a combination of historical activity levels and applicable required emission controls.¹⁶³ Since Los Angeles is not meeting national ambient air quality standards, the allowable pollution amount for participants decreases annually.¹⁶⁴

The goal of using the decreasing cap is to significantly reduce emission levels of the two pollutants.¹⁶⁵ Instead of imposing the same set of goals and methods for each facility, this market-based approach allows each facility to tailor its own most cost effective method for reducing emission standards.¹⁶⁶ Thus, annual savings relative to the command and control approach were projected at an average of \$57.2 million.¹⁶⁷ Despite numerous technical problems, and in spite of environmental injustice claims, some Economic Incentives Systems proponents state that "RECLAIM has achieved significant pollution reductions at compliance costs below that they would have been under an equivalent command regulatory system."¹⁶⁸ Others criticize RECLAIM and other such programs for violation of ambient standards and creation of toxic "hot spots."¹⁶⁹

Communities for a Better Environment (hereinafter "CBE"), on the other hand, has heavily criticized the program, primarily for allowing the sale of mobile source credits on the RECLAIM market.¹⁷⁰ Such credits could be obtained by scrapping old, highly polluting cars (mobile sources) under Rule 1610.¹⁷¹ Thus, heavily polluting stationary sources could buy excessively cheap credits, up to a regulated level, generated by the scrapping of old cars, instead of installing expensive scrubbing systems.¹⁷² According to studies conducted by CBE, the

¹⁶² *Id.* at 90.

¹⁶³ *Id.*

¹⁶⁴ *Id.* at 91.

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ Stewart, *supra* note 148, at 107.

¹⁶⁹ Jonathan Remy Nash and Richard L. Revesz, *Markets and Geography: Designing Marketable Permit Schemes to Control Local and Regional Pollutants*, 28 *Ecology L.Q.* 569, 609-624 (2001)

¹⁷⁰ *Id.* at 613.

¹⁷¹ *Id.* at 612.

¹⁷² Richard Toshiyuki Drury, *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, 9 *Duke Env. L & Pol'y F* 231, 247-248 (1999)

program has been plagued by corruption and inadequacies.¹⁷³ For example, the cars that were being scrapped were not going to remain on the roads much longer.¹⁷⁴ Therefore, their scrapping was not going to contribute to actual reduction of emissions.¹⁷⁵ Allegedly, the car scrapping program was also fraught with “double-counting” corruption schemes, whereby the engines of “scrapped” cars would be saved and installed in other cars, which would also defeat the purpose.¹⁷⁶ Nonetheless, the main problem CBE had with RECLAIM’s inclusion of mobile source credits in the program was that the effects of mobile sources are distributed fairly evenly across a regulated area, while in contrast, industrial polluters can, and in this case were, “disproportionately located in minority areas... of the four companies that have purchased most of the emission credits, ‘three are located close together’ in two communities that are heavily populated by Latinos.”¹⁷⁷ The following paragraph by Richard Toshiyuki Drury of CBE best summarizes CBE’s concerns regarding RECLAIM:

The reality of pollution trading on the ground has not been as rosy as the academics and economists predicted. The experience in Los Angeles shows that, in economic terms, the emissions trading market has been plagued by market failures like any other market. These market failures have created pollution hot-spots and have allowed trading fraud and anti-democratic outcomes. These results occurred in a region with vast human and financial capital, including perhaps the largest and most sophisticated air pollution regulatory institution in the world. These difficulties came from the oldest trading programs ever developed for urban air pollution, but they are not unique to pollution trading in Los Angeles. Rather, similar concerns and variations on the problems encountered in Los Angeles are likely to be experienced in any market incentives program that relies on trading in emission reduction credits.¹⁷⁸

¹⁷³ *Id.* at 258-268.

¹⁷⁴ *Id.* at 261-262.

¹⁷⁵ *Id.*

¹⁷⁶ *Id.* at 261.

¹⁷⁷ Nash and Revesz, *supra* note 169, at 613.

¹⁷⁸ *See supra* note 172 at 269-270

B. ENVIRONMENTAL JUSTICE AND THE UNBUNDLING OF RECS

Environmental justice may be an argument in favor of keeping RECs bundled, or at the very least, for limiting the amount of unbundled RECs that can count toward RPS compliance, particularly the renewable Distributed Generation generated RECs.¹⁷⁹ At the core of what Environmental Justice activists are trying to achieve is the displacement of dirty generation disproportionately located in poor and minority communities. The RPS program could help with this goal in several regards: by limiting out-of-state RECs, by requiring physical delivery of electricity generated from renewable sources for in-state REC trading, by limiting RPS-eligible RECs to those that remain bundled with the physical energy, and by encouraging renewable energy projects in economically depressed rural areas.

California has a strong interest in limiting the number of out-of-state RECs that can be counted toward RPS compliance.¹⁸⁰ The current RPS program already contains provisions favoring in-state renewable resources and the newly introduced SB 107 further reinforces them.¹⁸¹ Moreover, SB107 contains provisions limiting RPS eligibility to new out-of-state renewable energy facilities, and requires proof of physical delivery of renewable energy into California.¹⁸² RECs, in order to be RPS-eligible, need to meet certain environmental criteria; otherwise the program would be meaningless, as the idea behind RECs is to stimulate generation of energy from renewable sources. Restrictions must also be placed on where generated RECs may be purchased if the goals of the RPS program are to be met. For example, if California utilities and other electricity retailers could comply with the RPS target by purchasing unlimited amounts of cheap wind energy, or RECs associated with such energy, from an out-of-state renewable energy generator, they could forego supporting in-state renewable sources, which may be somewhat more expensive.¹⁸³

¹⁷⁹ See *supra* note 10.

¹⁸⁰ See SB107, amending §§ 399.12, 399.16, and adding § 399.17 (Ca. 2005), available at http://leginfo.ca.gov/pub/bill/sen/sb_0101-0150/sb_107_bill_20050120_introduced.pdf

¹⁸¹ *Id.*

¹⁸² See *supra*, notes 78, 79

¹⁸³ *E.g.* solar, biomass, biogas etc.

Unrestricted import of renewable energy from out of state would not only harm the viability of in-state renewable energy programs, but local air quality would not gain the benefits of having more in-state energy produced through local renewable energy generators.¹⁸⁴ The reason for this is that retailers who procure their energy from dirty power plants could buy cheap unbundled RECs from out of state and meet the current RPS procurement goal, but could simultaneously continue to generate as much local pollution as before. Thus, the environmental benefits associated with generating electricity from renewables, as opposed to fossil fuels, would go to out-of-state communities hosting the renewable energy generation facilities. If California were to find itself in such a scenario, it is highly likely that low income communities and communities of color would be disproportionately subjected to resultant environmental degradation, as these are the communities in which the old polluting power plants are located.¹⁸⁵

Certain geographic areas, however, do not have much to offer in terms of renewable energy resources, or even if they do, transmission of those resources remains a serious problem.¹⁸⁶ In such limited instances, the unbundling of RECs and imports from out of state may be the “least-cost best-fit solution.”¹⁸⁷ SB107 recognizes such situations by providing a degree of flexibility.¹⁸⁸

Environmental justice is, of course, part of the larger environmental picture of California. Overall environmental degradation could result from unbridled importation of renewable energy, or RECs from out of state for the purpose of RPS compliance. Any such environmental degradation is sure to affect low income and minority communities to a larger degree than the overall population.¹⁸⁹ SB 107 limits the RPS compliance eligibility for out-of-state RECs, for RECs generated by new facilities, and for requiring physical delivery of renewable en-

¹⁸⁴ See *supra*, pp.4-7.

¹⁸⁵ See *supra*, note 22.

¹⁸⁶ This problem is recognized by SB 107. . SB 107 adding CA PUB UTIL §399.14(a)(2)(C)(ii), (Ca. 2005). See also, CEC White Paper, Chapter 4, for geographic distribution of renewable resources throughout California.

¹⁸⁷ See CA PUB UTIL §399.14(a)(2)(B).

¹⁸⁸ See *supra*, note 187.

¹⁸⁹ See *supra*, note 22.

ergy. SB107 does so in the interest of the California environment, and should for that reason be supported.¹⁹⁰

The RPS program must require that physical renewable energy be delivered to the grid. If RECs were unbundled, especially unbundled without any limitations as to the quantity of such RECs that can count toward in-state RPS compliance, without regard to the quality of renewable energy resources or the location where they were created through generation of a specified unit of renewable energy, California's environment could be seriously jeopardized. According to economic theory of efficiency, in an unfettered free market, minority and low-income communities would most likely be the first to fall victim to such environmental degradation.¹⁹¹

On the DG front, if RECs were to remain bundled with the underlying energy, then much of the problem would be eliminated and consumer confidence in the REC trading system could be maintained. The CPUC needs to continue requiring physical delivery of renewable energy for purposes of satisfying RPS obligations. At least the utilities ought to be able to count all the net-metered renewable energy toward their RPS compliance. It would remain to be seen what happens with the surplus energy, not net-metered. It would also be fair for the utilities to compensate renewable DG owners for the energy released onto the grid in excess of the net-metered energy.¹⁹² In any case, if the utility does not purchase the excess energy from the renewable DG owner, then RECs associated with that energy ought to remain with the DG owner.¹⁹³ The question is whether it is worth investing in complex metering instruments to figure out so many details of the transaction.¹⁹⁴

By the CPUC requiring that only bundled RECs be eligible toward RPS compliance, the net-metering arrangements between renewable Distributed Generators and the utilities would maintain their legitimacy.¹⁹⁵ If net-metered renewable

¹⁹⁰ See *supra*, n. 180.

¹⁹¹ See *supra*, note 147.

¹⁹² Currently any excess energy is practically a gift to the utility.

¹⁹³ See *supra* pp. 24-27 (The argument on net-metering tariffs).

¹⁹⁴ One of the many undertakings in connection with DG, currently before the CPUC, is also an effort to remove barriers to effective and unified metering. *E.g.* Scott Tomashefsky (CEC), *A Report Submitted on Behalf of Some Rule 21 Working Group Members*, Potential Topics for Consideration in CPUC DG OIR, June 5, 2003.

¹⁹⁵ See *supra*, pp. 24-27.

DG owners were to unbundle RECs and sell them separately to third parties (not the utility they are interconnected with), they may lose their net-metering eligibility, and thereby much of the financial incentive for investing in the generating infrastructure in the first place.¹⁹⁶ In an absolute world of complete bundling, however, the renewable DG entrepreneurs might have less financial incentive to engage in the program.¹⁹⁷ As for the financial health of renewable DG owners, the separation of the renewable attribute from the underlying energy could potentially give DG owners and developers of large-scale renewable facilities more flexibility. However, if they want to sell those RECs for purposes of RPS compliance, steps need to be taken to prevent double-counting, environmental injustice, and degradation of the Californian environment. SB 107 contains most of the necessary REC eligibility restrictions, as does ALJ Allen's current draft decision, at least in regard to limiting RPS eligibility to bundled RECs.¹⁹⁸

Meanwhile, plentiful creative solutions may already exist to combat the problem of environmental injustice. By facilitating large renewable electricity projects in poor, rural areas, a lot could be done to empower local communities. Moreover, renewable energy projects selection criteria ought to include the relative impact of environmental benefits on low-income and minority communities.

If unbundled without limitations, generation from renewable resources could be promoted strictly as a function of market efficiency rather than as part of a desperately needed comprehensive paradigm shift in energy policy. In the short run, renewable energy may not seem the most cost-efficient solution to many energy problems. In the long run, however, a new way of thinking about energy will have to take place, not only to resolve issues of growing energy demand worldwide coupled with decreasing fossil fuel reserves, but also the accompanying political and social upheavals abroad as well as at home.¹⁹⁹ Government regulations are better suited for implementation of long-term policies than markets themselves, as the goal of market efficiency is not the best guiding principle in the com-

¹⁹⁶ *Id.*

¹⁹⁷ *See supra*, pp.23-24.

¹⁹⁸ *See supra*, note 180.

¹⁹⁹ The ongoing war in Iraq is merely a harbinger of this trend.

plexity of the world we live in today. A hybrid of the two approaches, such as the RPS program with the proposed quota, would bring together the best of both approaches.

IV. CONCLUSION

It is the intent of the legislature, as seen through the existing RPS program and the pending SB 107, to further stimulate renewable energy to the benefit of the entire population of California.²⁰⁰ The future renewable energy credits trading program may contribute to that goal if carefully implemented, without encroaching on the prerogatives of the California RPS. In particular, unbundled RECs should not be allowed toward RPS compliance except in those rare instances when geography prevents a retailer from obtaining renewable energy. SB 107 takes those instances into consideration.²⁰¹ Solutions regarding the design and eligibility requirements of the future California regulated REC trading program ought to be beneficial to all California citizens, including low income and minority communities, and of course, the utility ratepayers. At the same time, sufficient incentives must be offered to the investor owned utilities as well as the renewable energy entrepreneurs, two groups of players with often opposing views that are essential for the success of this program.

As the trend toward reliance on pollution credit trading and other market-based approaches to battling pollution quickly grows, concerns regarding environmental justice are also on the rise. Unfortunately, most of those who approach this problem from a market-based vantage point tend to overlook environmental justice issues.²⁰² That is a serious omission but it does not have to be that way, and, it is hoped, will not be repeated here. We must exercise caution when designing the REC trading program, paying attention to environmental justice issues, and not sweeping them under the rug in the name of "market efficiency." It is imperative that California, being at

²⁰⁰ See CA PUB UTIL §399.11, and SB 107 amending CA PUB UTIL §399.11

²⁰¹ See *supra*, note 187

²⁰² "Professors Ackerman and Stewart, early advocates of trading programs, recognized the 'hot spot' problem more than a decade ago, but defended trading by arguing that the existing command-and-control approach does not prevent 'hot spots' either." Stephen M. Johnson, *Economics, Equity, and the Environment*, Environmental Law Institute, (Washington D.C., 2004).

the forefront of the sustainable energy policy struggle, and shaping the way for the rest of the country, finds the right answer in this important matter.

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