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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program.	Rulemaking R.08-08-009

COMMENTS OF THE GREEN POWER INSTITUTE ON THE MARCH 2010 IOU RPS COMPLIANCE REPORTS

April 12, 2010

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Introduction

Pursuant to a favorable ruling on our *Motion for Leave to File Comments*, to which these *Comments* are attached, the Green Power Institute (GPI) hereby submits *Comments of the Green Power Institute on the March 2010 IOU RPS Compliance Reports*, in Proceeding R-08-08-009, **Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program**. We discuss progress-to-date in the state's RPS program, and prospects for the future, in the context of the data and projections provided in the *RPS Compliance Reports* filed by the IOUs on March 1, 2010.

Our purpose in these Comments is not to argue with the IOUs about what the correct numbers are for their past and future procurement of renewables, but rather to cast the data provided by the IOUs in their *RPS Compliance Reports* in a context that helps the Commission and interested parties to better understand where we are, where we need to go, and what it will take to get there in terms of achieving California's short-term and long-term renewables goals.

Progress-to-Date in the RPS Program by the Three Large IOUs

In 2009, California's three large IOUs collectively sold 176,600 GWh of electricity to their customers, down 2.1 percent from 180,300 GWh in 2008. Their aggregate annual procurement target (APT) for 2009 for renewable energy was 28,760 GWh, which corresponds to a 16.3 percent renewable content. The actual renewable procurement for the three utilities in 2009, as reported in their March 2010 *RPS Compliance Reports*, was 26,600 GWh, a collective deficit of 2,160 GWh for the year, or 7.5 percent of the aggregate APT. In 2008 the collective deficit was 3,564 GWh. Actual renewables procurement for 2009 was 15.1 percent of sales, 2.1 points higher than in 2008. By statute, the state is supposed to achieve a 20-percent renewable content in 2010. Virtually all parties acknowledge that this will not happen. Table 1 shows a compilation of the essential RPS procurement data presented by the IOUs in their March, 2010, *RPS Compliance Reports*.

Table 1: IOU RPS Compliance Filings

0% loss factor 0% new proj. failure rate	2003	2004	2005	2006	2007	2008	2009	2010
PG&E								
retail sales	71,099	73,616	72,727	76,692	79,451	81,935	81,524	83,562
IPT (applied to following year)	711	736	727	767	795	819	815	5,061
APT	7,096	7,807	8,543	9,271	10,037	10,832	11,651	16,712
total renewables	8,828	8,575	8,650	9,114	9,043	9,773	11,308	14,932
biomass	96	3,093	3,004	2,907	2,891	2,939	3,126	3,150
biogas		204	227	165	153	148	180	245
geothermal	722	1,733	1,681	1,791	2,702	3,341	3,412	3,716
small hydro		2,466	2,864	3,226	1,916	1,930	2,044	2,728
solar		0	0		0	1	22	151
wind		1,079	874	1,025	1,381	1,414	2,524	4,942
Surplus / Deficit	1,732	768	107	-157	-994	-1,059	-343	-1,780
Bank Balance	1,732	2,500	2,607	2,450	1,456	397	53	-1,727
Renewable Content		11.6%	11.9%	11.9%	11.4%	11.9%	13.9%	17.9%
Biomass/Biogas % RPS		38.4%	37.4%	33.7%	33.7%	31.6%	29.2%	22.7%
SCE								
retail sales	70,617	72,964	74,994	78,863	79,505	80,956	78,048	74,094
IPT (applied to following year)	706	730	750	789	795	810	780	0
APT	11,252	11,958	12,687	13,437	14,226	15,021	15,831	14,819
total renewables	12,612	13,372	13,037	12,706	12,466	12,573	13,536	14,611
biomass	1,105	374	351	354	366	363	406	492
biogas	inc. above	774	765	747	581	541	493	530
geothermal	7,077	8,002	7,935	7,590	7,714	7,840	7,785	7,780
small hydro	997	975	868	947	557	526	480	629
solar	752	739	622	613	667	731	844	786
wind	2,558	2,508	2,496	2,455	2,581	2,572	3,528	4,394
Surplus / Deficit	1,360	1,414	349	-732	-1,760	-2,448	-2,295	-208
Bank Balance	1,360	2,775	3,124	2,392	632	-1,816	-4,111	-4,319
Renewable Content	17.9%	18.3%	17.4%	16.1%	15.7%	15.5%	17.3%	19.7%
Biomass/Biogas % RPS		8.6%	8.6%	8.7%	7.6%	7.2%	6.6%	7.0%
SDG&E								
retail sales	15,044	15,812	16,001	16,847	17,056	17,410	16,994	17,419
IPT (applied to following year)	150	158	160	168	171	174	170	2,206
APT	297	447	605	765	933	1,104	1,278	3,484
total renewables	550	677	825	900	881	1,047	1,760	2,395
biomass	342	337	299	284	218	319	341	408
biogas	200	212	218	201	172	208	205	223
geothermal	0	0	0	0	0	0	0	177
small hydro	7	13	12	12	21	31	0	0
solar	0	0	0	0	0	0	1	2
wind	1	115	296	403	470	489	1,213	1,585
Surplus / Deficit	253	230	220	135	-52	-57	482	-1,089
Bank Balance	253	484	704	839	787	731	1,213	124
Renewable Content	3.7%	4.3%	5.2%	5.3%	5.2%	6.0%	10.4%	13.7%
Biomass/Biogas % RPS		81.1%	62.7%	53.9%	44.3%	50.3%	31.0%	26.3%
Aggregate Three Large IOUs								
Renewable Content		13.9%	13.7%	13.2%	12.7%	13.0%	15.1%	18.2%
Biomass/Biogas % RPS		22.1%	21.6%	20.5%	19.6%	19.3%	17.9%	15.8%

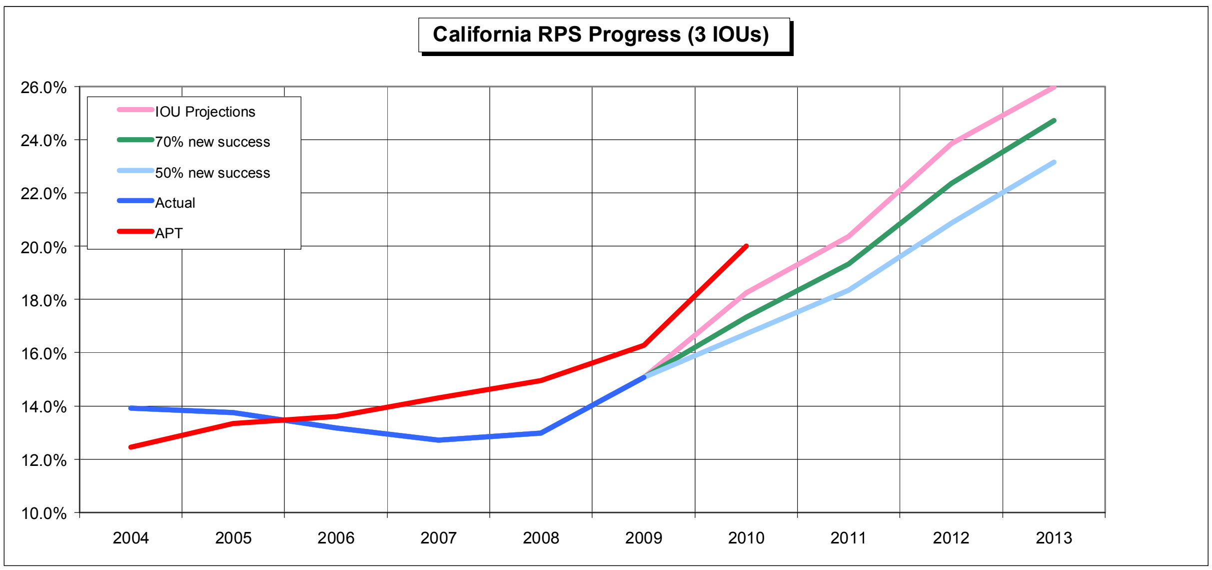
green: calculated value
blue: D.04-06-014 Appendix B, 2003 banked based on interim (pre RPS) incremental targets, later adjusted by PUC Decision
red: projected by utility
lavender: projected by GPI
auburn: incomplete or estimated data

During the first four years of the RPS program in California, from 2004 to 2007, the three large California IOUs collectively lost ground in their efforts to increase the renewable content of their electricity supplies, falling from 13.9 percent in aggregate in 2004, to 12.7 percent in 2007. This trend was reversed in 2008, when the renewable content for the three IOUs recovered to 13.0 percent, although the increase for 2008 over 2007 still fell well below the increase in the procurement target for the year, which by statute is a minimum of one percent per year. In 2009, for the first time since the inception of the RPS program, the utilities collectively gained ground on meeting their RPS procurement obligations. Unfortunately this positive trend will almost surely be reversed in 2010, because instead of a one-percent increase in APT in 2010, all APTs are set by statute at 20 percent of retail sales.

PG&E and SCE both report operating-year procurement deficits before the application of flexible compliance measures for 2009. This is the fourth consecutive year that the state's two largest utilities have been in deficit, although in PG&E's case its deficit is significantly reduced compared to 2008. SDG&E procured a surplus of RPS-eligible energy in 2009, which is laudable; however their percent renewables content remains well behind the two larger IOUs.

Figure 1 illustrates the progression of the aggregate APT and the actual renewables content of the energy mix for the large regulated utilities in California since the inception of the state's RPS program. In addition to reporting on their past procurement performance (through 2009) in their March 2010 *RPS Compliance Reports*, the IOUs also project their procurement performance forward for the next four years (2010 – 2013), which includes the period (2010 – 2012) from which renewable energy generation can be credited-back to 2009 to offset the 2009 deficits via the application of flexible-compliance measures. The aggregate of the three utility projections for this period is shown in pink in Figure 1. We also show two more conservative projections for the period, in which we discount the year-to-year increases in procurement projected by the utilities by 30 percent (green), and 50 percent (light blue), respectively (see discussion below). Note that these are simply discounts from the utilities' own projections of their procurement growth, not projections made by the GPI. A year ago the utilities' projections suggested that the benchmark level of 20-percent renewables would not be achieved anytime soon. On their face the projections in this year's reports show a significant improvement compared to the picture that was presented a year ago. However, as we show below, the improvement may be partially illusory.

Figure 1



PG&E

PG&E reports a renewables-procurement deficit for 2009 of 343 GWh, prior to the application of flexible-compliance measures. This is their fourth straight year of running an operating-year deficit, but it is a significant improvement over 2008's deficit, and reverses a troubling trend (deficits of 157 GWh in 2006, 994 GWh in 2007, 1,059 GWh in 2008, and 343 GWh in 2009). PG&E accumulated enough banked-ahead surplus renewable-energy procurement prior to 2006 to cover their deficits for all four of the years 2006 – 2009, leaving them with a residual bank balance of approximately 50 GWh heading into 2010. In the opinion of the GPI, PG&E's operating-year deficit for 2009 is fully covered by banked energy, and they should be able to be deemed compliant with their APT for 2009 on that basis alone.

PG&E's renewable-energy content was locked in the range of 11.5 – 12.0 percent for the first five years during which the RPS program was in effect (2004 – 2008). In 2009, the utility's renewable content finally broke out and leapt ahead to 13.9 percent. Even if 2009 had experience historical load growth, rather than experiencing a severe recession, PG&E's renewables content would have been 13.5 percent in 2009, more than 1½ points higher than in 2008. A year ago PG&E's predicted that their 2009 renewables procurement would be 11,672 GWh. In fact, they procured 11,308 GWh, only three percent lower than predicted. However, even with all of this good news, PG&E's procurement would have to increase by more than 5,000 GWh in 2010 in order for the utility to comply with statute (20-percent renewable in 2010), and the number would be even greater if not for the lingering effects of the recession.

PG&E predicts a major increase in renewables procurement for 2010, an increase of 32 percent compared with procurement in 2009. That would bring their renewable content in 2010 up to about 18 percent, and leave 2010 with a procurement deficit of approximately 1,780 GWh (all data are presented before the application of flexible-compliance options). If their procurement growth is only 70 percent as great as they predict, which we believe to be a more realistic assumption, their renewables content in 2010 would be 16.6 percent, and their procurement deficit would be 2,870 GWh.

SCE

SCE reports a renewables-procurement deficit for 2009 of 2,295 GWh, prior to the application of flexible-compliance measures. This is their fourth straight year of running an annual deficit, which has been growing throughout the period, although stabilizing in 2009 (732 GWh in 2006, 1,760 GWh in 2007, 2,448 GWh in 2008, 2,295 GWh in 2009). SCE accumulated enough banked-ahead surplus renewable-energy procurement prior to 2006 to cover their deficits for 2006 and 2007, but not enough for 2008. They show a residual deficit at the end of 2008, after the application of all remaining banked procurement, of 1,816 GWh. The residual deficit grew to 4,111 GWh at the end of 2009. SCE proposes to use earmarked energy to eliminate the residual deficits. The earmarked energy will have to be generated by the end of 2011 for the 2008 operating-year deficit, and 2012 for the 2009 operating-year deficit, and energy used in this way will not be able to be counted towards a program obligation in the year in which it is generated.

SCE entered the RPS program with the highest baseline level of renewable-energy content of the three large IOUs, 18.3 percent in 2004. Their procurement level fell for the first five years of the RPS program, reaching 15.5 percent in 2008. In 2009, SCE's renewable content increased to 17.3 percent, almost two points higher than in 2008, but still a full point below 2004, and 2½ points below the 20-percent benchmark statutorily set for 2010. Moreover, if the effect of the recession is corrected for, that is, if normal load growth had occurred in 2009, SCE's 2009 procurement result would have been only 16.3 percent, a full point lower than reported, and less than the minimum one-percent annual increment from the prior operating year. It is nice to see SCE finally turn the corner and report a year-to-year increase in their renewable procurement performance, but they still have a long way to go in order to reach the 20-percent renewable-energy benchmark.

SCE predicts an increase in renewables procurement for 2010 of eight percent higher compared to 2009. SCE also provides, in the public version of their March, 2010, *RPS Compliance Report*, a projection of their retail sales for 2010. SCE predicts a 5.1 percent drop in 2010 retail sales from 2009, which itself was 3.6 percent lower than retail sales in 2008. The other utilities consider this data point (retail sales in 2010) to be confidential, and do not report their projections, a practice that SCE also followed in past years. Based on SCE's projection for 2010, the large drop in retail sales causes the APT for the year to fall compared with 2009, which, combined with the utility's projected eight-percent procurement increase, results in a procurement deficit for 2010 of only 745 GWh.

In fact, the economy in 2010, as of the end of the first quarter, appears to be recovering from the depths of the 2009 recession, and there is no reason apparent to us to expect that

SCE's retail demand will dip even further in 2010 than it did in 2009. On the contrary, for projection purposes in these *Comments* the GPI is using a general assumption of resumed historical load growth in 2010 from the depressed 2009 level, and projected forward on that basis. If SCE's 2010 retail sales are projected that way, rather than using SCE's pessimistic projection, their 2010 RPS procurement deficit is 1,389 GWh, nearly double the level that is presented in their *RPS Compliance Report*. Moreover, if we apply the more realistic assumption that only 70 percent of the increased (new) renewables procurement that SCE projects is realized, then the deficit in 2010 will be 1,711 GWh.

SDG&E

SDG&E reports a renewables-procurement surplus for 2009 of 482 GWh, an impressive performance after two successive years of running small deficits. With a carried balance of 731 GWh of renewable energy in their bank account at the end of 2008, they enter 2010 with 1,213 GWh of banked-ahead procurement. This is a good thing, because SDG&E's APT increases by more than 1,200 GWh in 2010, in order to bring the utility up to 20 percent renewables.

Like the two bigger IOUs, SDG&E projects a significant increase in renewable procurement for 2010 over 2009, in their case 36 percent. However, because this utility began the RPS program with the smallest baseline renewable content of the three IOUs, the large jump in their APT for 2010 still results in a projected operating-year procurement deficit for that year of 1,089 GWh. Using their banked-ahead energy, SDG&E would be the only one of the three IOUs to actually achieve their RPS procurement obligation in 2010 without the use of flexible-compliance tools, assuming that they achieve their projection. If the growth in renewables procurement for 2010 is only 70 percent of what they project, SDG&E would incur a 1,279 procurement deficit, which for all intents and purposes would be satisfied by retiring all of their banked-ahead energy. In the opinion of the GPI, if SDG&E does achieve this milestone, they deserve recognition for their singular achievement of fulfilling the statutory obligation (20 percent renewables by 2010) on time, and without the need for the application of flexible compliance measures, particularly given the fact that they had a much lower baseline-renewables percentage than the two larger IOUs at RPS program inception.

In the opinion of the GPI, SDG&E's operating-year deficit for 2009 is fully covered by banked energy, and they should be able to be deemed compliant with their APT for 2009 on that basis alone.

Long-Term Outlook

Achieving Twenty Percent Renewables in California

In 2009, according to their March 2010 *RPS Compliance Reports*, the three large IOUs in California had a collective renewable content of 15.1 percent of sales, compared with their aggregate APT for the year of 16.3 percent. In 2010, the year that is statutorily designated for the achievement of the 20-percent renewables benchmark, the three utilities project a collective renewable content of 18.2 percent before the application of flexible-compliance measures. Discounting the utilities' projections by 30 percent of projected procurement growth, which based on historical new-project-development success would produce a more realistic projection, would produce a renewable content of 17.3 percent in 2010. That is higher than the comparable 15.0-percent projection of a year ago, but it is still a far cry from the 20-percent benchmark that is enshrined in statute.

While the numbers this year look to be a good deal better than the comparable numbers from a year ago, there are two important caveats that need to be considered. The first is that much of the improvement is the result of the deep recession that began in late 2008, which depressed the demand for electricity in California in 2009. The amount of renewable energy production in California in 2009, on the other hand, was not affected by the recession. Thus, the lower electricity sales than would have occurred in the absence of the recession means that the percent renewables content in the mix is elevated for the same amount of renewable procurement. The procurement numbers look better, but assuming that the recession is a transient phenomenon, this portion of the improvement in renewables content is more illusory than real.

In order to understand how much of the improvement in the renewable procurement numbers is attributable to the recession, we have "corrected" the retail sales numbers for the utilities for 2009 by applying the historic annual load-growth factor to their 2008 retail sales, instead of using actual retail sales. When this is done, the collective renewable content for the IOUs in 2009 is 14.4 percent, compared with the recession-affected (actual) level of 15.1 percent. The procurement level stood at 13.0 percent in 2008, so even recession-corrected, the utilities collectively increased their procurement in 2009 at a rate that is greater than the mandatory minimum one-percent increment for the first time since the inception of the RPS program. The success will be short lived, however, because 2009 is the final year for which the mandatory minimum one-percent increment is in effect. In 2010 the APT is 20-percent of retail sales, per statute.

A year ago, as we pointed out in our March 30, 2009, *Comments*, in this proceeding, the utilities' own projections of their future renewables procurement simply did not point to achievement of the 20-percent-renewables benchmark by 2013 (pre-application of flexible compliance). Based on the projections presented in their 2010 *RPS Compliance Reports*, and an assumption of historic load growth for years beyond which the utilities report retail-sales projections, the three IOUs collectively will hit the 20-percent benchmark in 2011, just one year late. This is a remarkable turnaround, if it is real. Even applying a 30-percent new-project failure rate to the projections, which we believe to be more realistic based on historic performance, the three utilities would hit 19.3 percent renewables in 2011, and exceed 20 percent in 2012.

As discussed above, SCE alone among the IOUs provides a projection of its 2010 retail sales, and it is considerably lower than their recession-depressed 2009 retail sales. If we substitute our projection of historic growth for retail sales in 2010 from the recession-depressed level of 2009 for SCE, as we have done for the other utilities, then the utilities collectively hit 19.7 percent in 2011 using their projections, and 18.7 percent with a new-project success factor of 70 percent applied to their projections. Either way, they still make 20 percent in 2012. Even applying our recession-correction factor to 2009 retail sales, and a 70 percent new-project success rate to he utilities' projections, the utilities would still reach 20 percent in 2012, pre-flexible compliance, based on the projections in their 2010 *RPS Compliance Reports*. If this does indeed occur, in what coincidentally happens to be the first compliance year for AB 32, it would represent a very significant accomplishment for California.

Table 2 compares the aggregate projections of RPS procurement made by the utilities in their 2009 and 2010 *RPS Compliance Reports*. Actual procurement for 2009 was only two percent below the utilities' March 2009 projections for the year, which is an impressive performance. However, the utilities are adding huge amounts of new power to their projections for 2010 and 2011, compared to their projections of a year ago. Some of this additional procurement may be the result of an additional round of RPS solicitations that was conducted in the intervening year, although it seems unlikely that very many projects that obtained new power contracts in 2009 will be on-line during the current year (2010), or next year. Some of the additional projected procurement might be the result of the utilities taking advantage of new kinds of contracting opportunities that have been recently approved by the Commission, such as short-term contracting, often with existing out-of-state renewable generating capacity. It is important to note that some of this energy may be available on a short-term basis only, until renewables mandates in other states go into effect. We wonder how much of this increased projected procurement for 2010 and 2011 is energy that will continue to serve the utilities and their customers well into the future.

Table 2 (all data in GWh)

Utility-Projected RPS Procurement

	2009	2010	2011	2012	2013
2009 Compliance Reports	27,161	29,425	31,783		
2010 Compliance Reports	26,604 (actual)	31,938	36,551	43,874	48,965

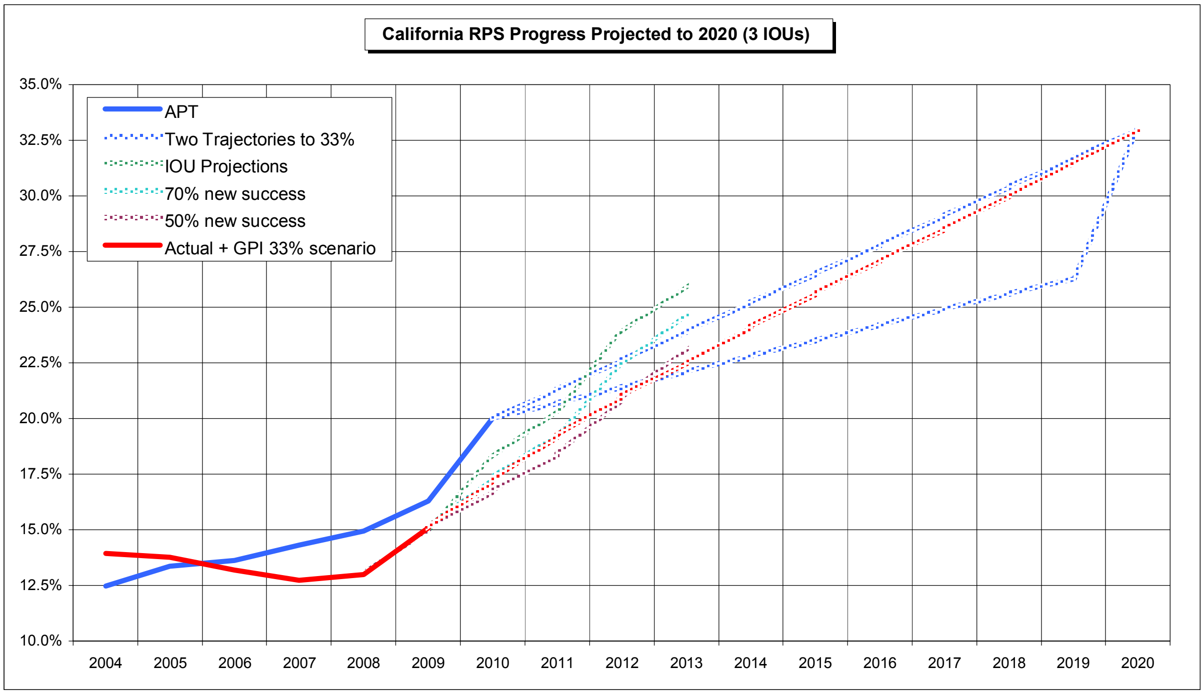
Thirty-Three Percent by 2020

The GPI has updated our 2007 construction of a reasonable trajectory to 33-percent renewables by 2020, which we initially presented three years ago in the then-pending LTPP proceeding, R.06-02-013. The GPI's trajectory to 33-percent renewables continues to call for the achievement of the twenty-percent benchmark by 2013. Failure to achieve 20 percent renewables by 2013 would have serious implications for statewide efforts to achieve 33 percent renewable content in 2020. Based on the utilities' 2010 projections, even with reasonable conservatisms applied, the IOUs appear to be on track to meet this important milestone.

With increased and refocused renewables-procurement efforts over the next 5 – 7 years, the GPI believes that California has a realistic opportunity to achieve the stretch target of 33-percent renewables by 2020 that is already an essential component of state energy policy (California Energy Action Plan II, ARB's AB 32 Implementation Plan, RES program currently under development at the ARB). We have constructed a market-plausible trajectory to that end, based on a logistic market-penetration model.

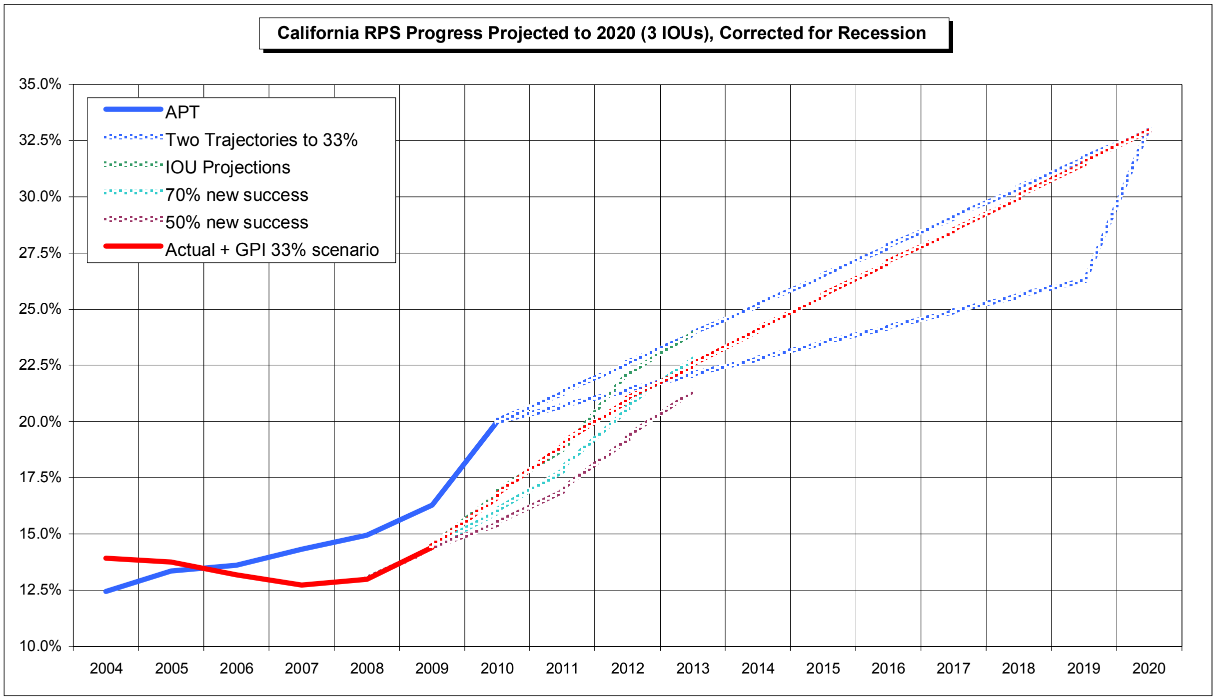
We present the trajectory in Figure 2, in red shade. We also show two possible trajectories for the APT to take during the period 2011 – 2019, one based on the current system of enforcing only the minimum one-percent annual increment until the benchmark year, the other based on a linear projection of what needs to be accomplished between 2010 and 2020. The IOU RPS-procurement projections, with a 70-percent success rate for new capacity applied, follows the same trajectory that our scenario does through 2011. We are skeptical about the predicted hitch in the aggregate utility-procurement projections in 2012, but if they can just stay on the trajectory they appear to be on now, 33 percent by 2020 no longer looks to be unobtainable, based on the utilities' own projections.

Figure 2



In Figure 3 we show the same data as in Figure 2, except we correct the data for the effects of the recession on 2009 retail sales, as discussed previously. Making these corrections shows that it is the utility projection curve, rather than the utility projections discounted for new-development success by 30 percent, that follows the GPI trajectory over the next couple of years. With a recovering economy, using the new-project-success-rate-corrected utility projections, we will be slightly behind the curve to 33-percent renewables, and the utilities will then need the kind of hitch they are projecting for 2012 in order to maintain a realistic chance of attaining the 33 percent-by-2020 goal. Even with these corrected data, the 33-percent goal still looks like it is realistically achievable.

Figure 3



Conclusion

We believe that the numbers speak for themselves. California's three large IOUs in aggregate appear to have reversed the steady decline in the renewable content of their energy supply that dogged them from 2004 – 2007. Indeed in 2009, for the first time since the inception of the RPS program, the utilities collectively gained ground on reaching their APTs. The IOUs will not achieve the statutory requirement of 20-percent renewables content by 2010, but there is now reason for hope that they will be able to achieve the 20-percent benchmark level, pre-flexible compliance, before 2013, which would be a substantial accomplishment considering what the outlook appeared to be just a year ago. Nevertheless, we are far from out-of-the woods when it comes to meeting California's aggressive goals for renewable energy, and in order to do so all of the state's LSEs will have to refocus and redouble their renewables-procurement efforts over the next several years.

The Commission and other state entities can assist in the process by simplifying the RPS program, and making it operate more effectively. It is important to remember that the most fundamental thing that is necessary is to allow California to meet its renewable energy goals is to greatly increase the renewable energy generating and support infrastructure in the state, including transmission. It is important to understand that renewable energy is not the lowest-cost alternative available to the grid, but for a modest premium it delivers a more valuable overall package to the consumer when externalities are taken into account, and state law and policy clearly favor it for this reason. For their part, the IOUs need to sign more contracts with high-quality development projects for new renewables that really can deliver for California.

Dated April 12, 2010, at Berkeley, California.

Respectfully Submitted,

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VERIFICATION

I, Gregory Morris, am Director of the Green Power Institute, and a Research Affiliate of the Pacific Institute for Studies in Development, Environment, and Security. I am authorized to make this Verification on its behalf. I declare under penalty of perjury that the statements in the foregoing copy of *Comments of the Green Power Institute on the March 2010 IOU RPS Compliance Reports*, filed in R.08-08-009, are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true.

Executed on April 12, 2010, at Berkeley, California.

Gregg Morris

Gregory Morris

<u>PROOF OF SERVICE</u>

I hereby certify that on April 30, 2010, in Berkeley, CA, I have served a copy COMMENTS OF THE GREEN POWER INSTITUTE ON THE MARCH 2010 IOU RPS COMPLIANCE REPORTS, upon all parties listed on the Service List for this proceeding, R-08-08-009. All parties have been served by email or first class mail, in accordance with Commission Rules.

Gregg Morris

Gregory Morris