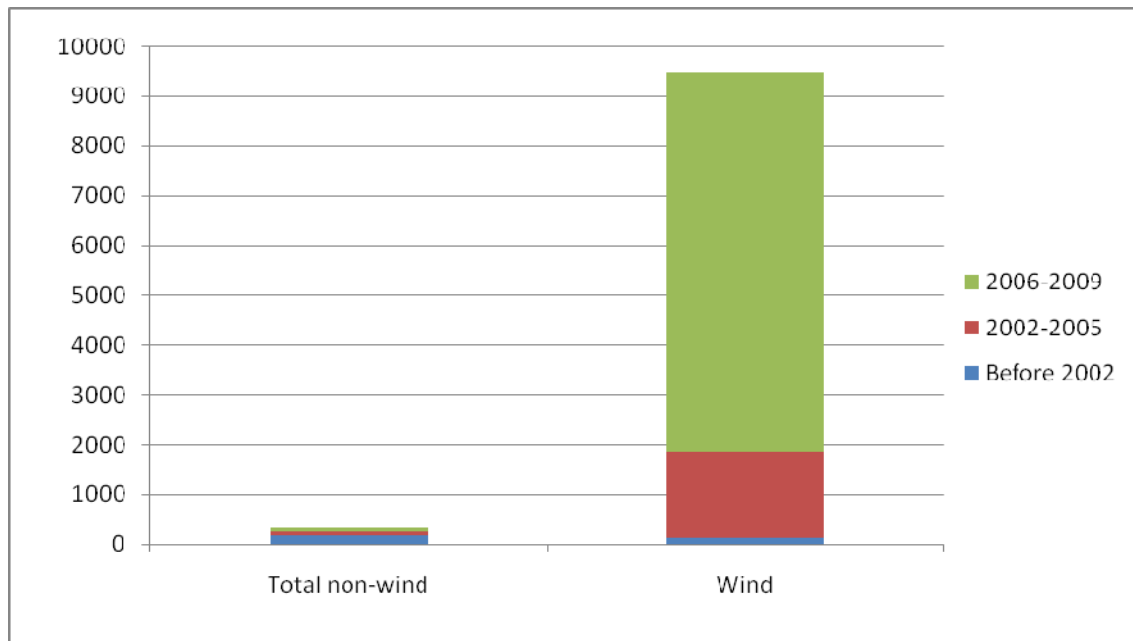


“Non-Wind” Renewable Portfolio Standard could be Adopted This Year

In late December, 2009, the Public Utility Commission of Texas (PUC) circulated a working document for stakeholder input, or an informal “straw-man” rule, which puts forward an approach to establish a 500 MW “non-wind” renewable portfolio standard (RPS) for Texas. Under the original RPS, established in 1999 and expanded in 2005, and the rules set up to implement it, wind has dominated, accounting for 98.5% of renewable generation since 2002, and has prevented a true “portfolio” of renewable sources from emerging. While the success of wind energy in Texas is to be celebrated, it is important to adopt a “non-wind” RPS to encourage the generation of energy from solar, biomass, geothermal, and hydrokinetic sources.

Current Renewable “Portfolio” in Texas¹

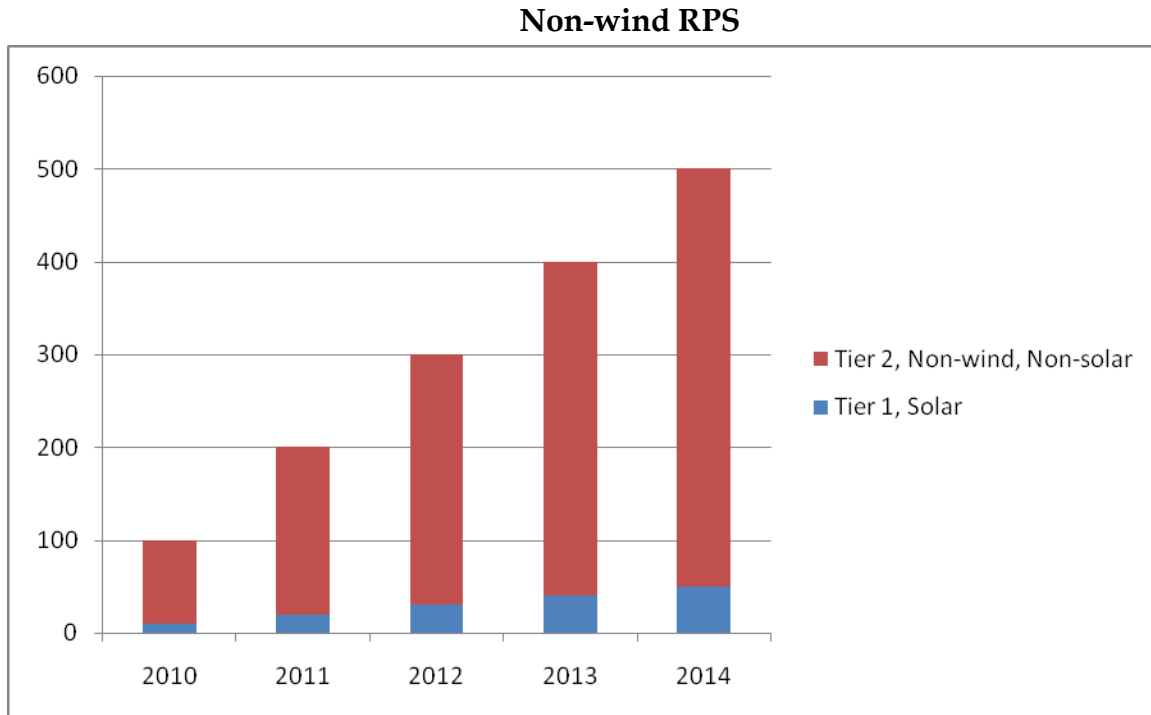


Comments on the recently published straw-man rule are due to the Commission on February 12, 2010. After this comment period, the PUC is expected to publish a formal proposed rule and begin the rulemaking process.²

¹ Using estimated numbers for 2009

² The straw-man can be seen here: <http://www.puc.state.tx.us/rules/rulemake/35792/35792.cfm>

The straw-man would create a structure for the generation of 500 megawatts of “non-wind” renewable resources, 50 megawatts of which must come from solar.



Just as in the original RPS, the straw-man establishes renewable energy credits (RECs) to serve as the tradable instrument for the 500 megawatts of new non-wind renewable energy. These RECs are tradable among competitive retail electric providers (REPs); each REP is required to purchase RECs equal to its proportionate share of retail electricity load (i.e., a REP with 20% market share would have to purchase 20% of the total RECs). The RECs have a three-year life which allows REPs to buy and hold RECs in times when abundant non-wind renewables are on-line, as a hedge against potential increases in their cost.

In the event that not enough non-wind generation makes it on-line, and thus there are not enough RECs available, the REPs would pay alternative compliance payments. These payments effectively act as a cap on the cost premium of renewable generation. A similar cap was in place

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for the original RPS. Due to the success of wind energy, the cap was only briefly reached and currently RECs trade at around 5% of the cap price.

There are two “tiers” of RECs that apply to the newly proposed RPS. A “Tier 1 REC” is a REC earned by the production of solar energy. A “Tier 2 REC” is earned by any renewable energy other than wind or solar. (Both tiers are for generation built after 2005.) The straw-man rule sets the alternative compliance payment at \$100 per megawatt-hour for a Tier 1 REC and \$40 per megawatt-hour for a Tier 2 REC.

A capacity conversion factor is used to allocate credits to REPs, while assuring the legislative and PUCT goals, which are based on total capacity rather than energy, will be met. The owner of a renewable resource shall earn one REC when a megawatt-hour is metered entering the grid at a renewable resource. Because there is insufficient performance data on some of these new resources, the capacity conversion factor for non-wind renewable energy will initially be as follows:

- 75% for non-wind renewables other than solar
- 25% for solar technologies

Based on those capacity factors, the following chart converts the capacity requirement for both tiers to the megawatt-hours (i.e., RECs generated) required by the RPS.

Required Generation by Tier

Year	# Tier 1 RECs (Solar)	# Tier 2 RECs (non-wind, non-solar)
2010	21,900 MWh	591,300 MWh
2011	43,800 MWh	1,182,600 MWh
2012*	65,700 MWh	1,773,900 MWh
2013*	87,600 MWh	2,365,200 MWh
2014*	109,500 MWh	2,956,500 MWh
2015*	109,500 MWh	2,956,500 MWh

Beginning in 2012, capacity conversion factors for non-wind renewable and solar energy technologies will be calculated using performance data for the relevant technologies.

The alternative compliance payments will effectively establish a maximum cost of RECs. However, the experience with the first RPS in Texas suggests that the market will quickly respond to bring RECs generated by non-wind renewable projects below this maximum cost. It is likely that the cost to encourage a diverse portfolio of renewable resources would be far less than the amounts in the chart below.

**Maximum Cost of the Program Based on Alternative Compliance Payment
(in millions)**

Year	Implicit Value Tier 1	Implicit Value Tier 2
Type, Cap Price	Solar, \$100/MWh	Non-wind, non-solar, \$40/MWh
2010	\$2.19	\$23.65
2011	\$4.38	\$47.30
2012*	\$6.57	\$70.97
2013*	\$8.76	\$94.61
2014*	\$10.85	\$118.26

*Implicit values will change after 2012 as performance data is collected in 2010-11.

It is not clear if the Tier 1 established for solar energy generation is intended as a cap or a floor for solar projects. The straw-man language describes Tier 2 market as being from non-wind resources other than solar. If a larger amount of solar energy is produced than is required under the RPS, and if Tier 1 RECs are ineligible to participate in the Tier 2 market, it is possible that the value of solar RECs would fall, perhaps even below the value of non-wind/solar RECs (tier 2). One or two central solar generation plants could fulfill Tier 1.

If solar is made eligible to participate in Tier 2, this could have a major or only a minor impact on Tier 2 prices, depending on whether the capacity factor were associated with the technology or with the tier. Either way, no REC in Tier 2 could cost more than \$40/MWh, under the alternative compliance payment cap proposed for Tier 2.

This and other questions remain to be answered through the straw-man process which is currently underway (comments due February 12), and the rulemaking process which will follow. Still, this is a solid start toward a diverse mix of renewable energy resources to complement the tremendous success of wind energy in Texas.