



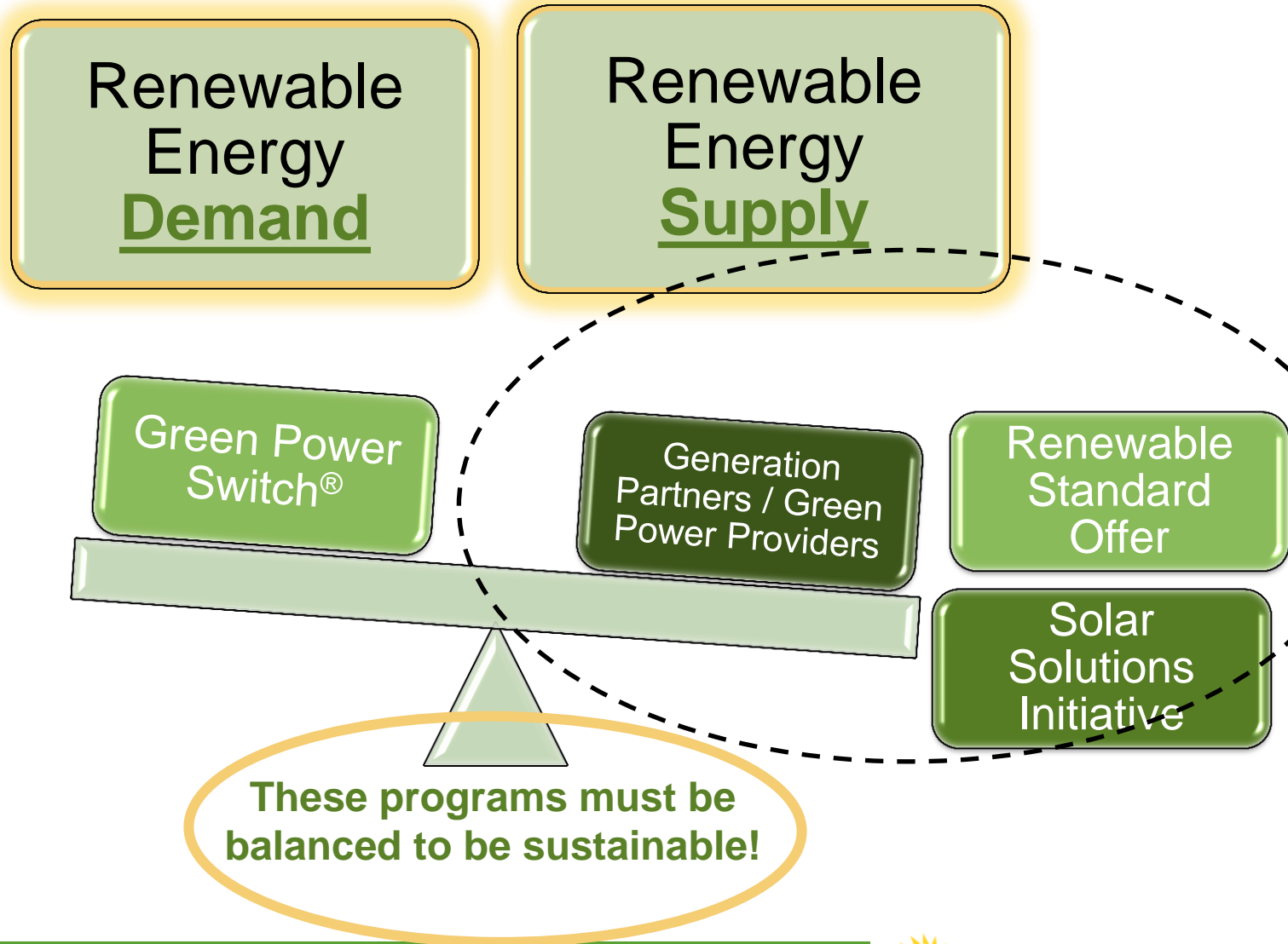
Green Power Switch[®]

An EnergyRight Solution

Jenny Wright
Product Manager, Green Power Switch

March 9, 2012

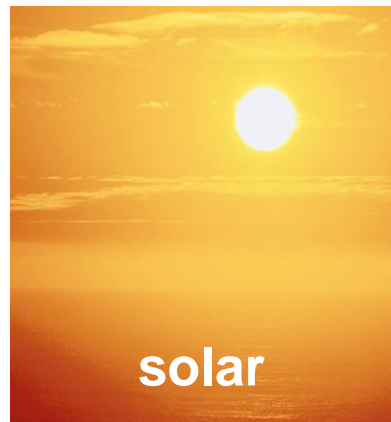
TVA's Renewable Energy Programs



What is Green Power Switch[®] ?

It's a simple way to increase use of renewable energy today for a cleaner environment tomorrow.

- Adds more *renewable* energy to our local grid
- Preserves natural resources
- Protects our environment
- Offered by TVA and participating local power companies



How does Green Power Switch Work?

1. Customer buys “blocks” (each 150 kWh) of Green Power Switch at \$4 each

Local utilities include an extra line item for this premium product on customers’ monthly electricity bills.

2. TVA ensures at least an equivalent amount of regional renewable energy is generated

TVA generates or purchases renewable energy above and beyond what ‘s already included in the regular generation mix (e.g. coal, nuclear, natural gas, and hydro).

3.



3rd party verification process ensures that customer GPS purchases result in added renewable energy to our regional grid.

What does a Green Power Block Equate to?



+

=



Installing a 16-panel south-facing solar system in Nashville*

or

25% Green Power

Converting the typical home to about 25% renewable power over the course of a year**

Purchasing 2 blocks of green power monthly is equivalent to.....

*Assumes 175 W(dc) photovoltaic panels located in Nashville. Calculated using PV Watts v.2. The calculation for 2.8 kW (16 panels X 175W) yields an annual output of 3,577 kWh, or an average of 298 kWh/month.

** Based on average TN Valley state residential use of 1,205 kWh/ month

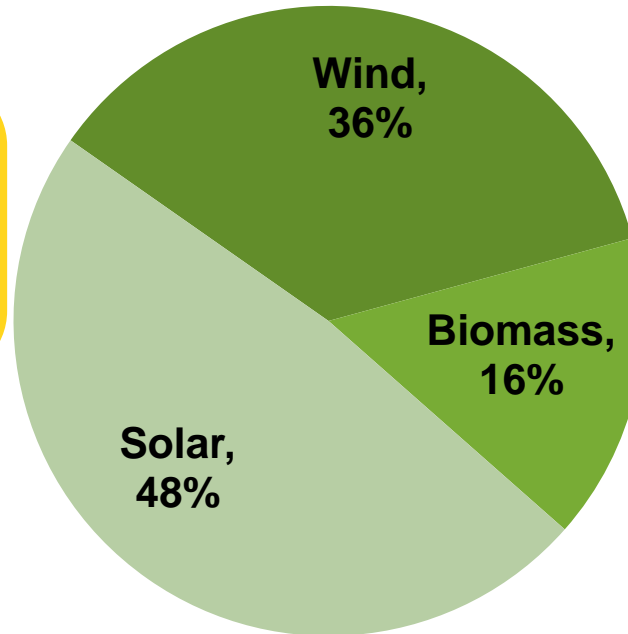
Source: <http://www.eia.gov/cneaf/electricity/esr/table5.html>

What is the Supply for GPS?

Green Power Switch Capacity by Resource

Solar Capacity*

- 16 TVA-owned sites @ 419 kW
- 832 Generation Partners installations @ 38.5 MW



Wind Capacity*

- 18 turbines (Buffalo Mountain) @ 29 MW
- 25 Generation Partners installations @ 90 kW

1st GP hydro
2.8 kW!!

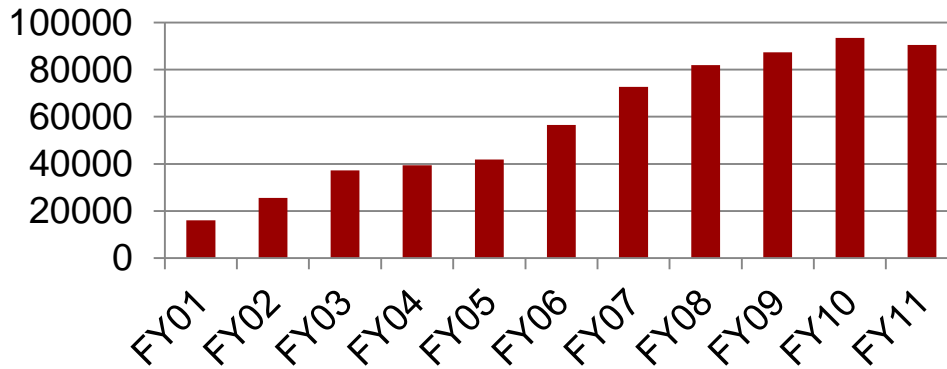
Biomass Capacity*

- City of Memphis Wastewater Treatment facility co-fired with Allen Fossil Plant (TVA site) displaces > 20,000 Tons coal per yr and generates @ 8 MW
- 5 Generation Partners installation @ 4.71 MW

*Amounts represent a resource's generation capacity. Actual generation can vary.

Are Others Buying Green Power?

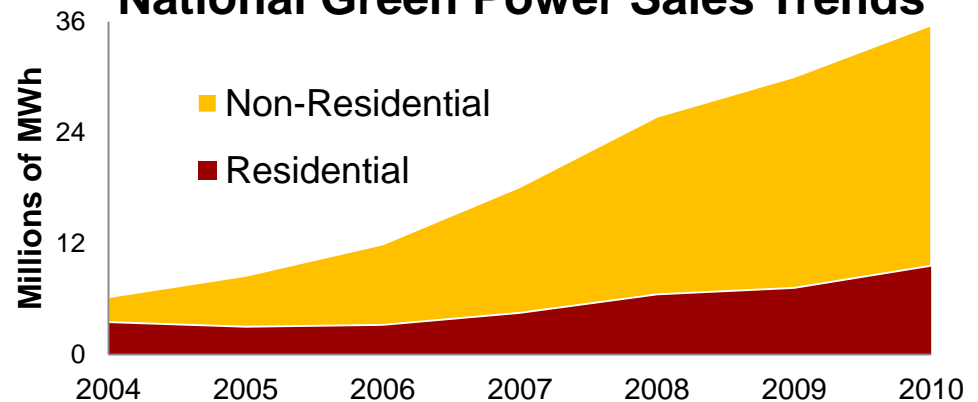
Green Power Switch Demand (MWh)



- Approximately 11,600 GPS customers today
- Non-residential make up nearly half of total sales

- Non-residential sales are driving green power growth both nationally and within TVA territory.

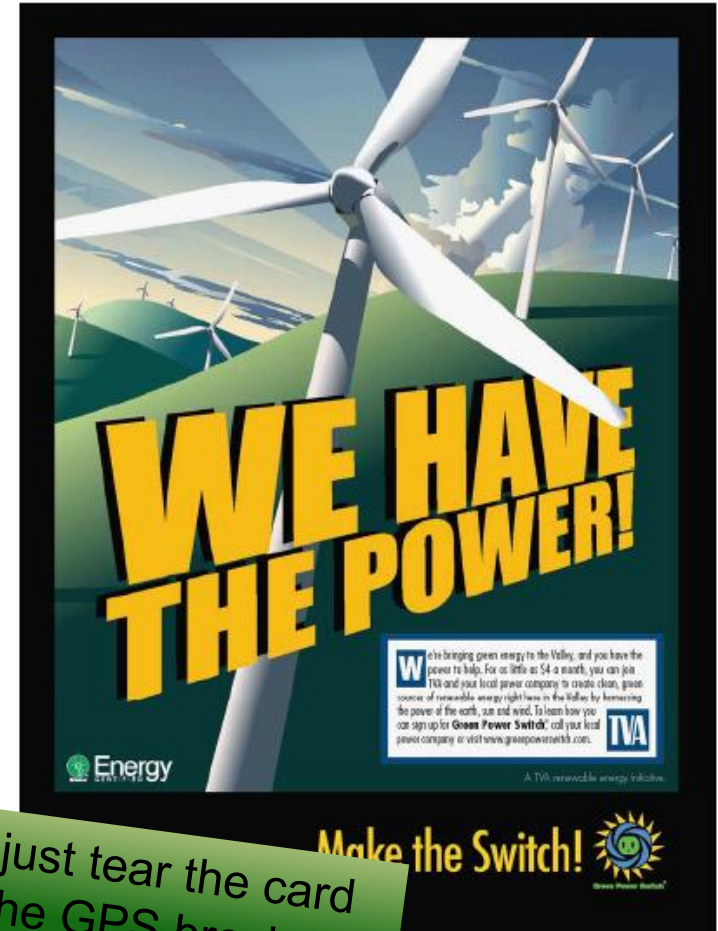
National Green Power Sales Trends



Source: NREL

Why do Customers Sign Up?

- Provides a simple low cost way for people to do their part for a bigger issue
- Preserves natural resources for future generations
- Encourages renewable energy use
- Meets corporate environmental goals
- Reduces their environmental footprint
- Provides positive PR
- Provides energy independence
- Benefits of customer recognition program
- Sign-up for Green Power Switch by:
 - Visiting greenpowerswitch.com
 - Calling 1-866-673-4340
 - Calling local power company



Or just tear the card off the GPS brochure and drop it in the mail!

How Does the Recognition Program Work?

Three Levels of Recognition	Supporter	Champion	Visionary	
Minimum Purchase Amounts	100 blocks (Monthly)	500 blocks (Monthly)	2,500 blocks (Monthly)	
Low Minimum Costs	\$4,800 (Monthly)	\$2,000 (Monthly)	\$10,000 (Monthly)	
Benefits	Group Recognition			Individual Recognition

1. Additional special recognition from TVA and your local power distributor may be available for significant purchases well beyond the 'Visionary' threshold including special recognition for customers offsetting 100%
2. Threshold levels for recognition categories may be reset annually.

National Green Power Recognition

In addition to the regional recognition that TVA provides, many national programs exist:

1. EPA -Green Power Partnership and purchaser awards (multiple categories)
2. LEED accreditation
3. Greenhouse gas accounting tools such as: WRI and WBCSD's Greenhouse Gas Protocol, and ICLEI's Local Government Operations Protocol



CRS

center for
resource
solutions

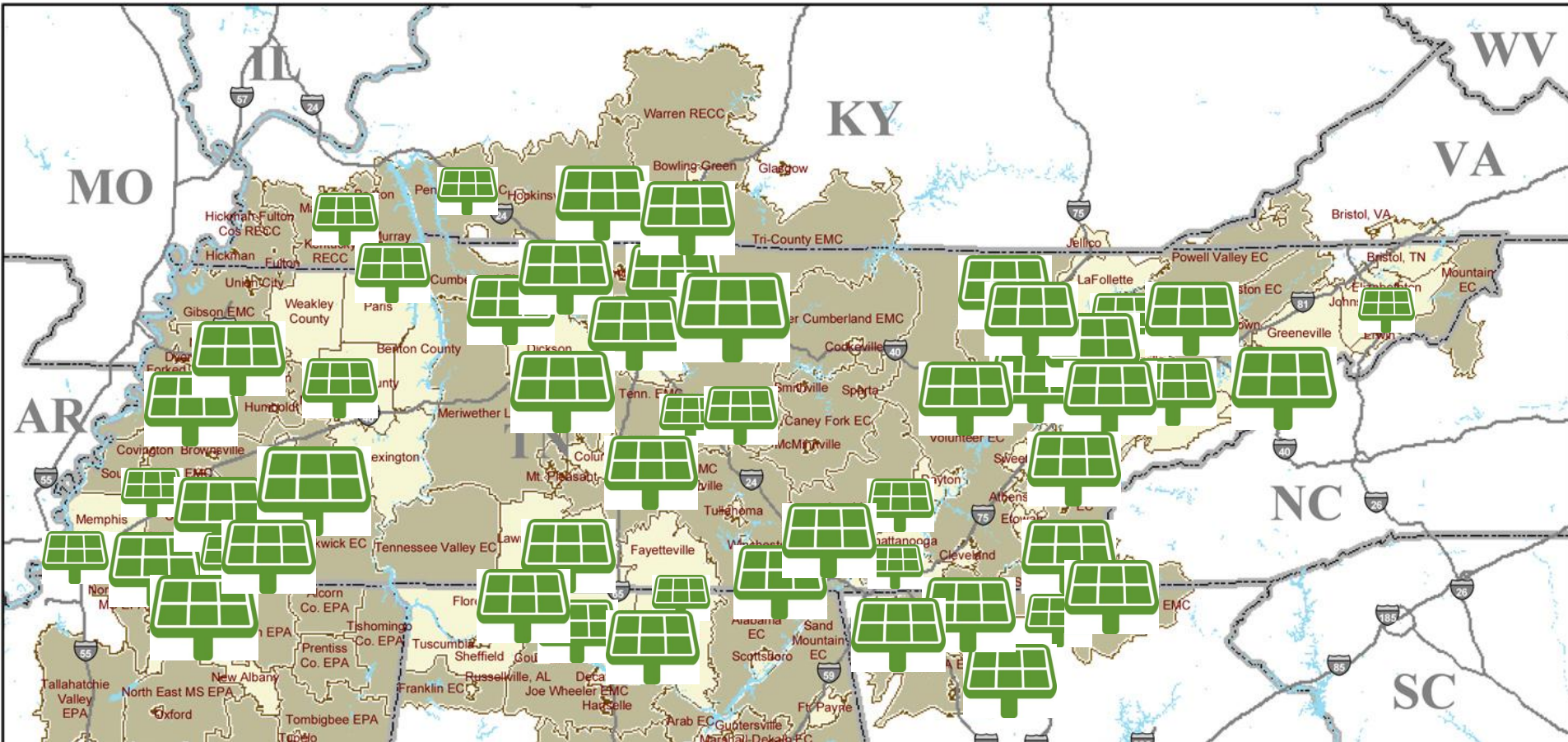


Case Study

GPS Customers enroll for many reasons. The following video is a collection of stories from real GPS customers:



Green Power Switch Drives Investment



December 2009 – 157 solar installations
December 2012 – 832 solar installations!

**Location of installations on map is demonstrative only*

Generation Partners -> Green Power Providers

- + Maximum 50 kilowatts
- + Solar, wind, hydro, biomass
- + 20 year contract
 - (10 years at premium rate, 10 years at retail rate)
- + \$1,000 incentive
- + Initial \$.12 / \$.03 premium will be evaluated annually
- + Participation will be limited to match GPS revenue

TVA's goal for Green Power Providers and Green Power Switch is to provide long-term stability and sustainability to small-scale renewable growth in the region.

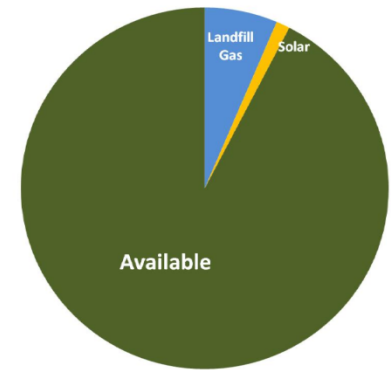
Renewable Standard Offer

2 solar installations at 1.2 MW capacity, and an additional 28.2 – 35.6 MW of biomass in the pipeline

Projects must:

- Be located in the Tennessee Valley region
- Be greater than 50 kW and less than or equal to 20 megawatts
- Be focused on solar, wind, biomass gasification, and mature renewable technologies such as biomass direct combustion, methane recovery, and co-firing of 50% or more biomass
- Establish interconnection with a power distributor's or TVA's electric system
- Have gone online no earlier than Oct. 1, 2010.

Megawatts Available - Renewable Standard Offer



RSO is not part of the GPS supply portfolio, but it will be considered for future GPS options.

[**www.tva.com/renewablestandardoffer](http://www.tva.com/renewablestandardoffer)

RSO + Solar Solutions Initiative

Available now (February 2012 launch)

- Solar Solutions Initiative – 2 year pilot
 - Economic development incentive overlay for Renewable Standard Offer solar projects in the Valley that use equipment manufactured and installed by companies in the Valley
 - Projects must be between 50 and 1,000 kilowatts
 - Limited to 10 megawatts per year



Questions?

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What Does the Recognition Program Offer?

Recognition	Supporter	Champion	Visionary ¹
Web listing by size of purchase or category	Web link	Company profile & Links	
Window cling(s)	X	X	X
GPS Mark for customer website or materials	X	X	X
Certificate	X	X	X
Plaque		For Retail Businesses	
Press release		X	X
Ready-to-Print GPS poster w/ company name		X	X
Banner for special events			X
Group Thank you Ads (paper)		X	X
Custom Thank you ad (paper) or Facebook			X
Green Power Switch Leadership Awards		X	X
Minimum Monthly Amount (Blocks) ²	100	500	2500
Minimum Monthly Purchase Price	Varies	\$2,000	\$10,000

1. Additional special recognition from TVA and your local power distributor may be available for significant purchases well beyond the 'Visionary' threshold.
2. Threshold levels for recognition categories may be reset annually.

What Are Minimum Purchase Amounts by Customer Size?

Commercial Minimums (based on usage)

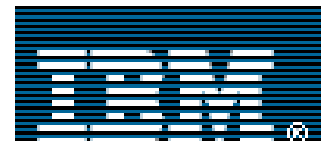
Rate Class	Minimum Monthly Purchase	Minimum Monthly Cost
GSA -1	5 Blocks	\$20
GSA- 2	25 Blocks or 5 % load (whichever is highest)	\$100
GSA-3	250 blocks	\$1,000
GSB, GSC, GSD	375 blocks	\$1,500



Green Power Switch[®]

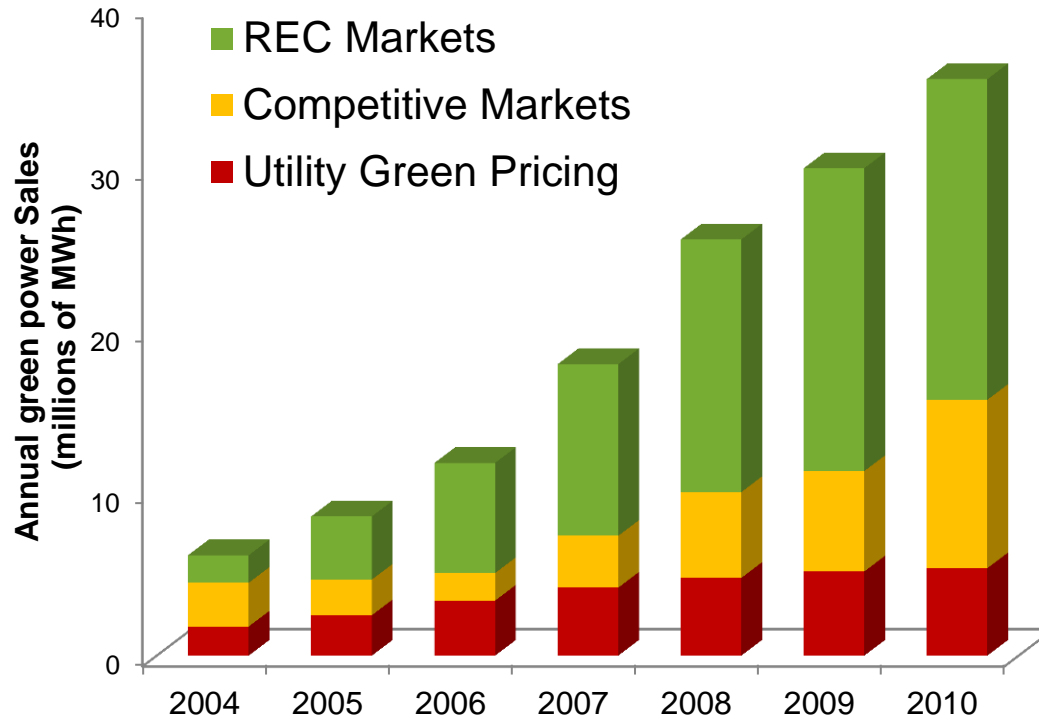
Green Power Switch Southeastern RECs

Businesses are Buying Green Power!



National Green Power Sales is Growing

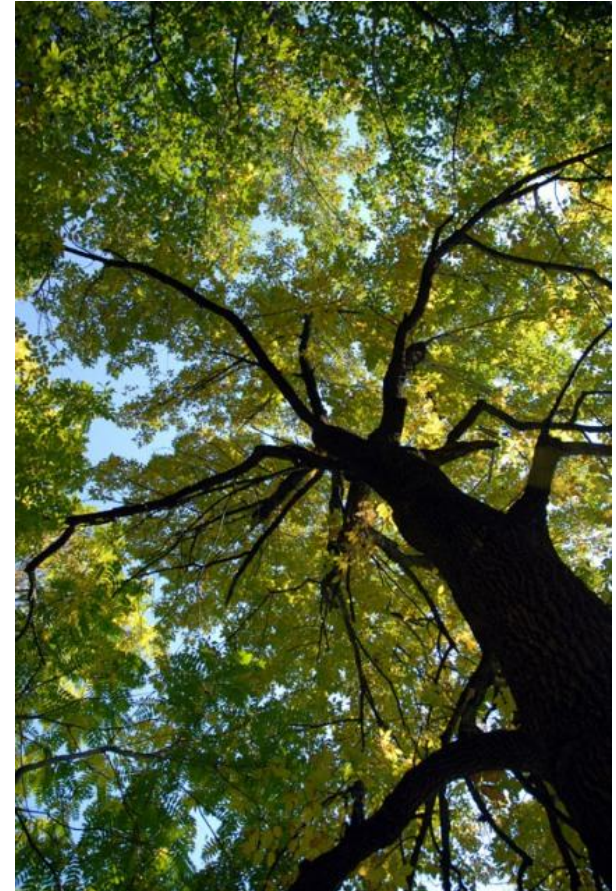
National Green Power Sales Trends



Renewable Energy Certificates (RECs) are driving growth

Does Green Power Switch offer RECs?

1. TVA is piloting a REC product for customers who buy very large volumes (minimum annual purchase of 2,000 MWh).*
2. TVA RECs are sold through power distributors at \$3 each (1 REC = 1 MWh).
3. TVA differentiates its GPS REC from the national market REC by only offering those sourced regionally, with a strong bias towards those from TVA territory.
4. RECs give the customer the legal right to make green claims and qualify for related programs like EPA's Green Power Partnership.
5. Green Power Switch purchasers also qualify for the TVA recognition program.



*This is a year-long pilot to test demand and product attributes. Your feedback is appreciated!

How does a Green Power Switch REC Work?

1. Customer buys regional RECs at \$3 each

Local utilities include an extra line item on customers' monthly electricity bills. Minimum annual purchase is 2,000 MWh.

2. TVA sources RECs

TVA buys and retires RECs with an emphasis on those that are generated in or delivered into the TVA service territory. Customer owns "green" attributes.

3.



Filed- awaiting final confirmation

3rd party verification process ensures that customer GPS purchases are matched to regional RECs retired by TVA .

Recognition and Promotion Levels Southeastern RECs

Recognition	Supporter	Champion	Visionary ¹
Web listing by size of purchase or category	Web link	Company profile & Links	
Window cling(s)	X	X	X
GPS Mark for customer website or materials	X	X	X
Certificate	X	X	X
Plaque		For Retail Businesses	
Press release		X	X
Ready-to-Print GPS poster w/ company name		X	X
Banner for special events			X
Group Thank you Ads (paper)		X	X
Custom Thank you ad (paper) or Facebook			X
Green Power Switch Leadership Awards		X	X
Minimum Annual Purchase Amount (MWh) ²	2,000	10,000 ²	50,000 ²
Minimum Annual Purchase Price	\$ 6,000	\$ 30,000	\$ 150,000

1. Additional special recognition from TVA and your local power distributor may be available for significant purchases well beyond the 'Visionary' threshold.
2. Threshold levels for recognition categories may be reset annually.

How Does the Recognition Program Work?

Three Levels of Recognition	Supporter	Champion	Visionary	
Minimum Purchase Amounts	2,000 MWh	10,000 MWh	50,000 MWh	
Low Minimum Costs	\$6,000 (Annual)	\$30,000 (Annual)	\$150,000 (Annual)	
Benefits	Group Recognition			Individual Recognition

1. Additional special recognition from TVA and your local power distributor may be available for significant purchases well beyond the 'Visionary' threshold including special recognition for customers offsetting 100%
2. Threshold levels for recognition categories may be reset annually.

Comparison: Blocks vs. Southeastern RECs

Green Power Switch Block

- + Suitable for small and medium businesses
- + Blend of wind, landfill biogas and solar
- + 100% of supply is in TVA service area
- + Minimum purchase based on customer rate class and energy consumption
- + Customer recognition program

Southeastern RECs

- + Suitable for large business
 - + customers using > 2,000 MWh/yr
- + Low-impact hydro and solar
 - + additional to TVA hydro
- + All from Southeast
 - + may be outside TVA area
- + Less expensive than block option
 - + Requires large minimum purchase
- + Customer recognition program
- + Allows access to low priced RECs while maintaining green power relationship with local power distributor

EPA Green Power Partners Program

Program Benefits

- Eligibility for national awards
- National recognition such as “top” lists for the following categories:
 - National Top 50
 - Fortune 500
 - Top 20 Local Government
 - Top 20 Retail
 - Top 20 College and University
 - Top 20 Federal Government
 - 100% Green Power Purchasers
 - Top 20 Printers

EPA Green Power Partner Participation Thresholds

Annual Energy Purchase	Minimum Purchase - Participant	Green Power Leadership Club (GPLC)
≥ 100,000 MWh	3% of use	30% of use
10,000-100,000 MWh	5% of use	50% of use
1,000 - 10,000 MWh	10% of use	100% of use
≤ 1,000 MWh	20% of use	Not Applicable

1. See <http://www.epa.gov/greenpower/join/purchase.htm> for most recent and complete participation details