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Renewable Energy Contracting

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GSA

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# GSA Energy Division

- Part of GSA's Public Buildings Service
- Energy Division
  - Manages PBS energy and utility contracting program
  - Tracks and Reports PBS' energy, water, renewable and GHG performance
  - Manages the areawide public utility program
  - Conducts competitive procurements for natural gas, electricity and RECs
  - Formally intervenes with regulatory bodies
  - Acts as internal agency energy consultant

# GSA Energy Division

- Manages competitive electric procurements of 4.4 million MWhrs per year valued at nearly \$400 million annually
- Manages competitive procurements of renewable power/RECs of between 0.7 and 1.0 million MWhrs annually
- Manages competitive natural gas procurements of 18 million Dths per year valued at approx. \$130 million annually
- Manages areawide contracts with 98 public utilities

# Why Buy Renewable Power?

- EPACT 2005 requires that renewable power comprise
  - Not less than 5% of electricity consumed in fiscal years 2010-2012
  - Not less than 7.5% of electricity consumed in fiscal year 2013 and thereafter
- E.O. 13423 requires that at least 50% of the renewable electricity come from “new” resources (put in service after January 1, 1999)
- E.O 13514 allows RECs to offset reported agency greenhouse gas (GHG) emissions

# Common Ways to Buy Renewable Power

- Regulated green pricing programs - tend to be most expensive but also easy to implement
- Renewable Energy Certificates (RECs) – by far most common way to buy and the least expensive – somewhat more difficult to implement
- Included in competitive power contract – RECs part of contract requirement – pricing imbedded in power price – more difficult to obtain info on the RECs
- For FY2009, 10.8% of GSA's electricity came from renewable sources

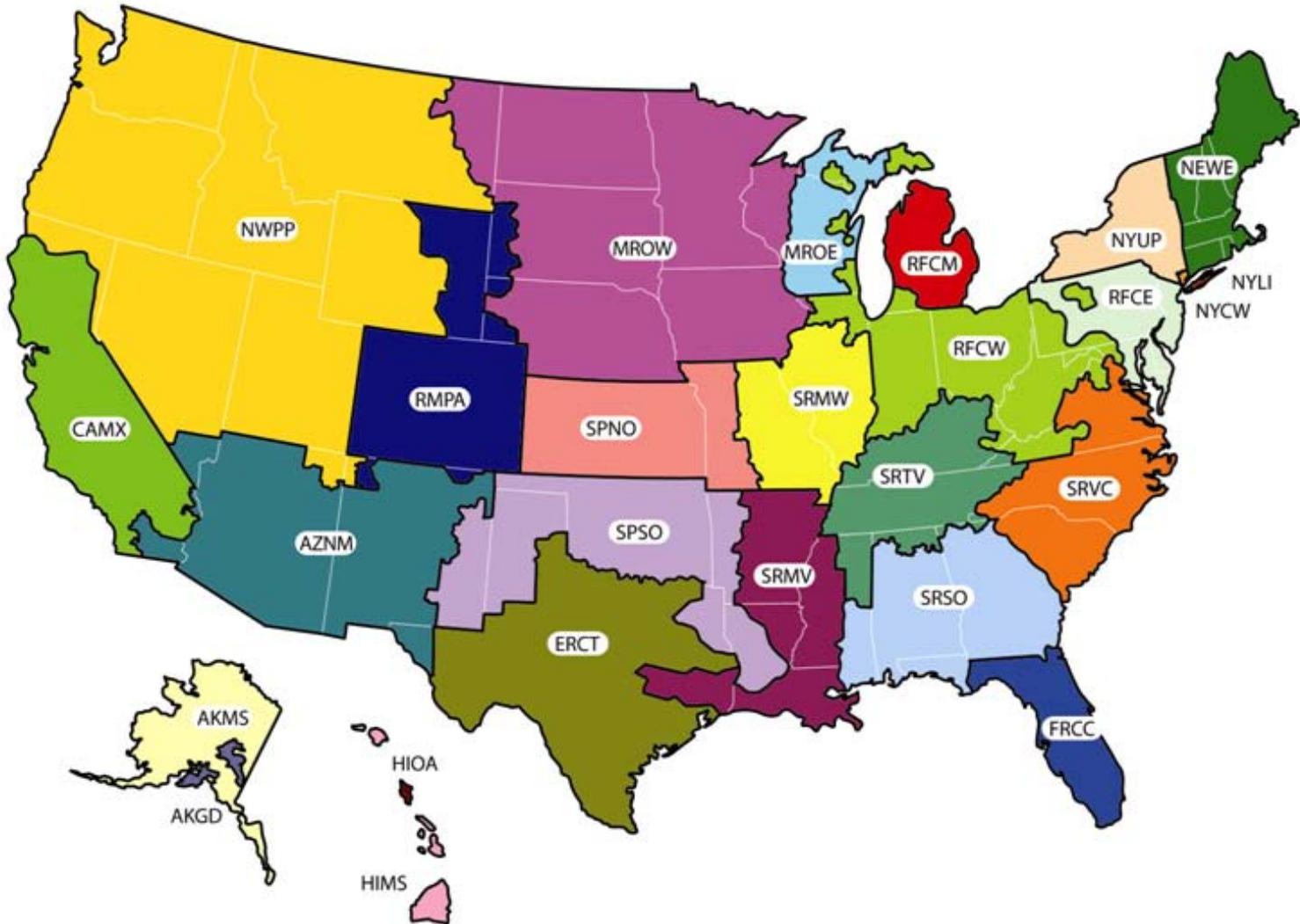
# E.O. 13514 and Renewable Power

- The E.O. requires agencies to measure, report and reduce their GHG emissions from direct and indirect activities
- FY2008 will be the baseline year
- FY2010 is first reporting year
- Accounting and Reporting Guidance is out for public comment due Sept. 1, 2010
- We are assuming that the final guidance will be essentially the same as in the draft document

# E.O. 13514 and Renewable Power

- In general, E.O. 13514 requires a level and amount of reporting that is more detailed than previous statutory and executive order requirements
- For most agencies, the E.O. is going to be the main driver for off-site renewable purchases
- Agencies may use renewable power/RECs to reduce reportable GHG emissions
- Location of renewable resource will determine amount of reduction

# eGRID2007 Subregion Map



<b>eGRID2007 Year 2005 Subregion Emission Rate Factors (CO2)</b>			
		<b>Baseload</b>	<b>Non-Baseload</b>
<b>eGRID</b>	<b>eGRID</b>	<b>CO2</b>	<b>CO2</b>
<b><u>Acronym</u></b>	<b><u>Subregion Name</u></b>	<b><u>(kg/MWh)</u></b>	<b><u>(kg/MWh)</u></b>
AKGD	ASCC Alaska Grid	559	668
AKMS	ASCC Miscellaneous	226	661
AZNM	WECC Southwest	595	545
CAMX	WECC California	328	491
ERCT	ERCOT All	601	508
FRCC	FRCC All	598	614
HIMS	HICC Miscellaneous	687	759
HIOA	HICC Oahu	822	841
MORE	MRO East	832	829
MROW	MRO West	826	979
NEWE	NPCC New England	421	596
NWPP	WECC Northwest	409	605
NYCW	NPCC NYC/Westchester	370	692
NYLI	NPCC Long Island	697	685
NYUP	NPCC Upstate NY	327	687
RFCE	RFC East	517	812
RFCM	RFC Michigan	709	754
RFCW	RFC West	698	904
RMPA	RFC Rockies	854	734
SPNO	WECC Rockies	889	984
SPSO	SPP North	752	626
SRMV	SPP South	463	570
SRMW	SERC Miss Valley	830	953
SRSO	SERC Midwest	676	770
SRTV	SERC South	685	906
SRVC	SERC Virginia/Carolina	515	808

# E.O. 13514 Reporting and Renewable Power

- A GSA building in Washington, DC (eGRID RFC East) uses 50,000 MWh per year of electricity
- Scope 2 Baseload Output Emission Rate for CO<sub>2</sub> = 516.673 kg/MWh eGRID RFCE
- CO<sub>2</sub> emissions are 50,000 MWh \* 516.673 kg/MWh = 25,833,650 kg
- These emissions can be reduced with the purchase of renewable power/RECs
- RECs must use the Non-Baseload Output Emission Rates for reduction calculations

# E.O. 13514 Reporting and Renewable Power

- GSA buys RECs to reduce the building's GHG emissions
- In FY09, RECs were sourced from SERC Tenn Valley (SRTV) with a Non-Baseload Emission Rate of 906.435 kg/MWh – GSA buys 50,000 MWhs
- $50,000 \text{ MWhs} * 906.435 \text{ kg/MWh} = 45,321,750 \text{ kg of CO}_2$
- Reported CO2 for this building is zero (25,833,650 kg – 45,321,750 kg = -19,488,100 kg) - can't report a negative

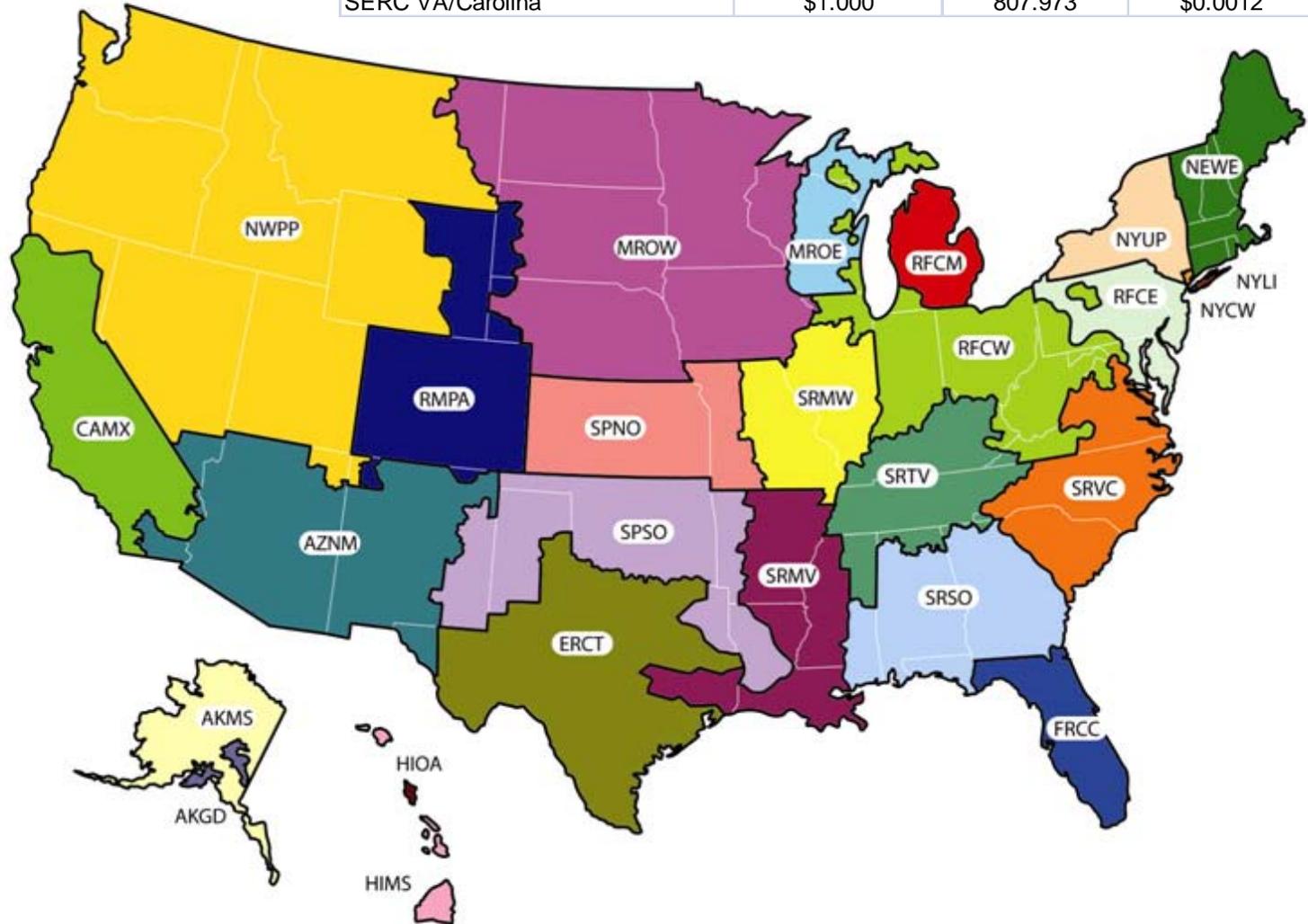
# E.O. 13514 Reporting and Renewable Power

- GSA buys RECs to reduce the building's GHG emissions
- Recently, a large number of RECs have been sourced from ERCOT with a Non-Baseload Emission Rate of 507.502 kg/MWh – GSA buys 50,000 MWhs
- $50,000 \text{ MWhs} * 507.502 \text{ kg/MWh} = 25,375,100 \text{ kg of CO}_2$
- Reported CO<sub>2</sub> for this building is 458,550 kg  
(25,833,650 kg – 25,375,100 kg = 458,550 kg)

# E.O. 13514 and Future Buys

- IF the goal of buying RECs is to reduce GHG emissions THEN an alternative and more appropriate approach may be to price the buy in \$/KG CO<sub>2</sub> of Non-Baseload Emissions
- The number of RECs requested would not be specified, but rather the KG of CO<sub>2</sub> Emissions that are required to be purchased through RECs
- Geographic resource substitution may be allowed provided total KG of CO<sub>2</sub> Emissions required is met

eGRID Subregion Name	Non-Baseload Output Emission Rates		
	\$/MWh	KG CO2	\$/KG CO2
ERCOT All	\$1.000	507.502	\$0.0020
MRO West	\$1.000	979.204	\$0.0010
SPP North	\$1.000	625.525	\$0.0016
SERC Tenn Valley	\$1.000	906.435	\$0.0011
SERC VA/Carolina	\$1.000	807.973	\$0.0012



# E.O. 13514 Reporting and Renewable Power

- REC “Vintage” Requirements – DOE allows RECs to be counted if they are produced during a contract year, the 6 months prior to the contract year and the 3 months following the contract year.
- GSA often buys RECs with a contract year that coincides with the fiscal year ending 9/30
- Delivery of RECs as late as 12/31 will not allow GSA enough time to report
- Vintage requirements that allow 3 months following the fiscal/contract year may not be feasible

# E.O. 13514 Reporting and Renewable Power

- No Federal doubling “bonus” for renewable power
  - produced and used on-site
  - produced on Federal lands and used at a Federal facility
  - produced on Indian land and used at a Federal facility

# Recent GSA REC Prices

- Aug. 2010 - \$0.79/MWh
- Feb. 2010 - \$1.14/MWh
- July 2009 - \$0.95/MWh and \$1.13/MWh new wind
- Sept. 2008 - \$2.29/MWh
- Sept. 2006 - \$0.90/MWh
- Sept. 2005 - \$0.35/MWh
- Sept. 2004 - \$1.0/MWh new wind

# Conclusion

- RECs will be used extensively to reduce agency GHG emissions as a result of E.O. 13514 under proposed rules and laws (i.e. no carbon legislation)
- GHG emissions offset by RECs will become the driving factor in Federal REC procurements
- Prices for RECs are low relative to previous years right now
- Reducing GHG emissions through REC purchases will be relatively easy and inexpensive at least for the next few years

# Points of Contact

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