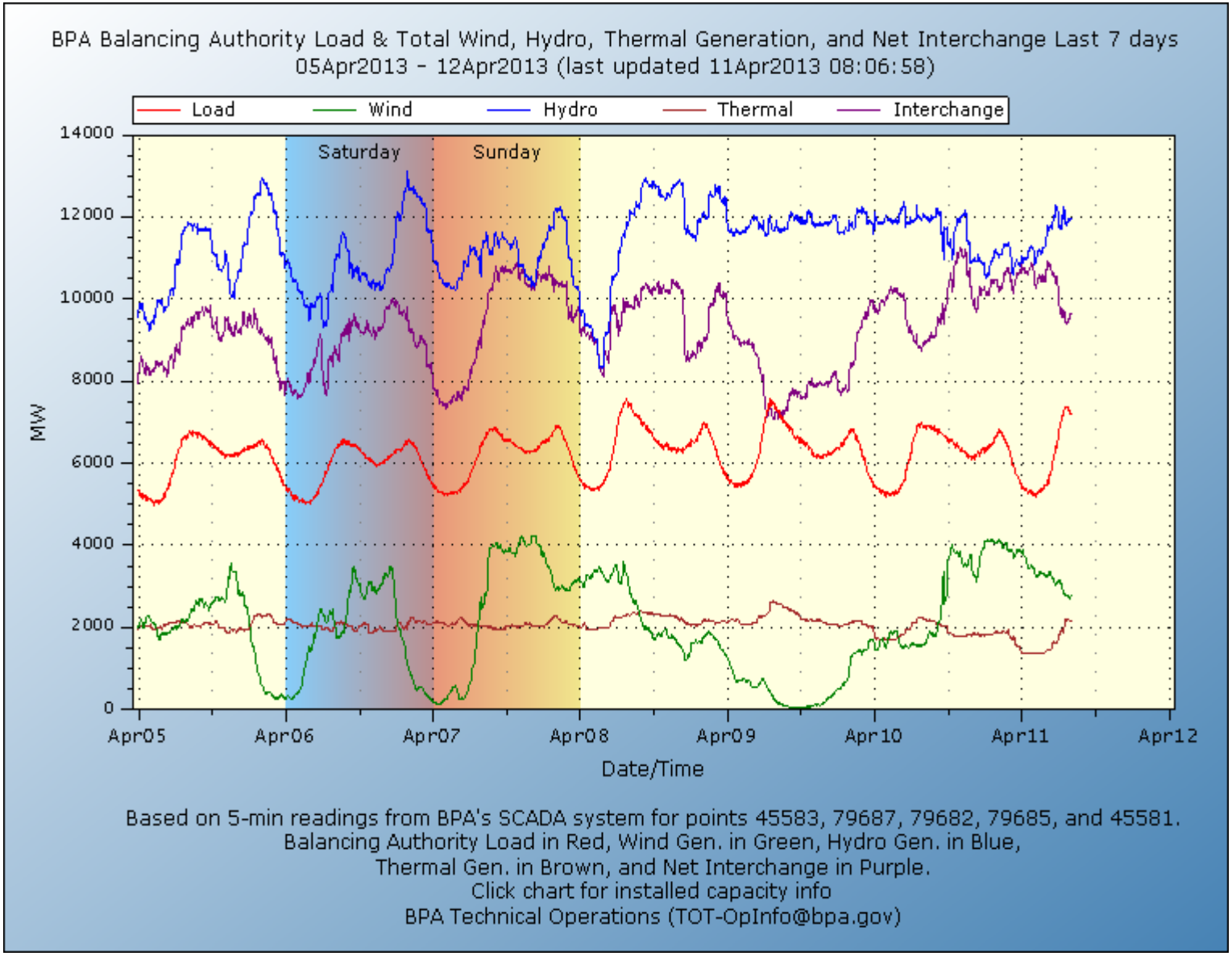
A Focus on Markets

Hydro Has Value, but….

Will it be Valued?



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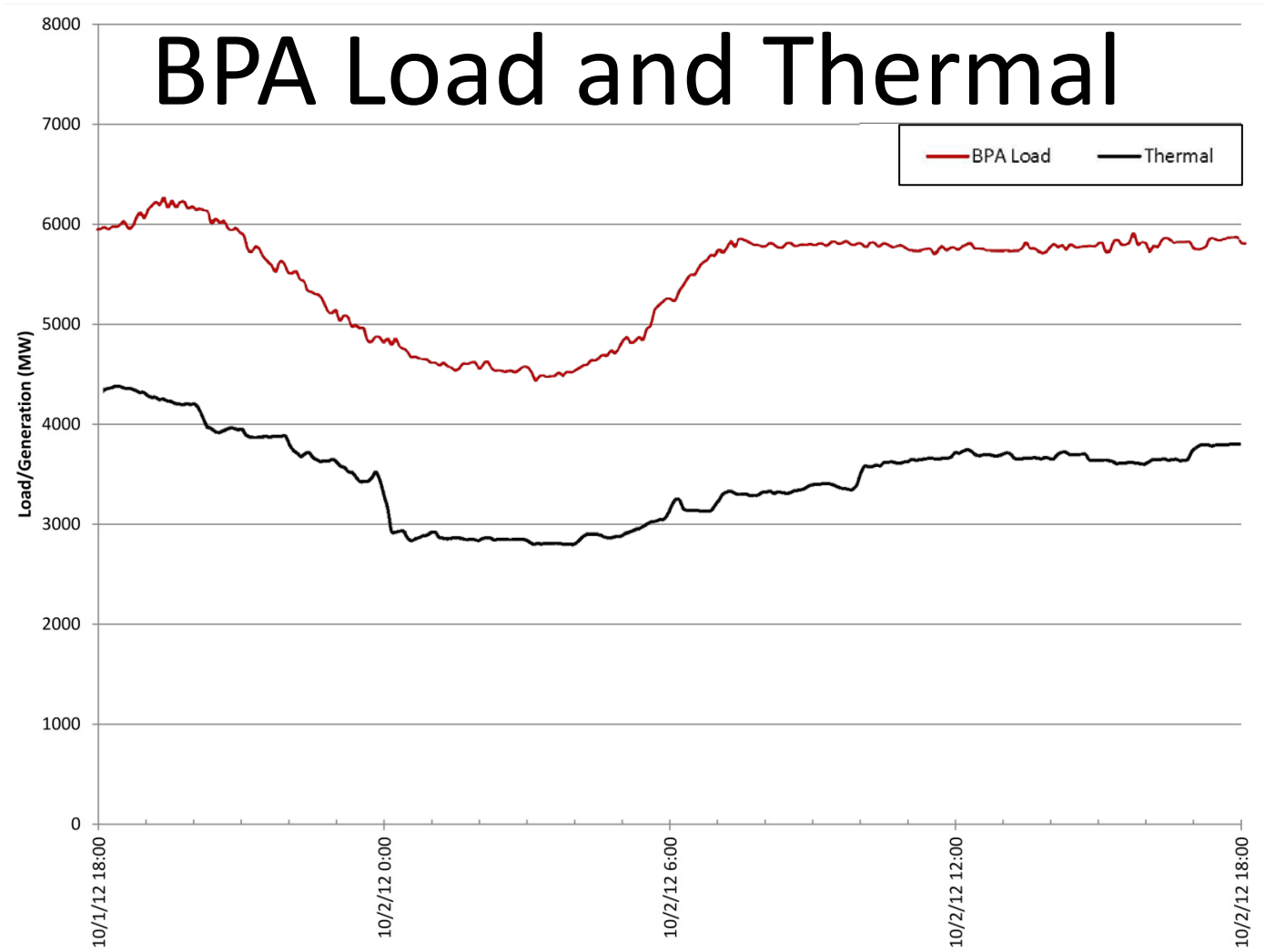
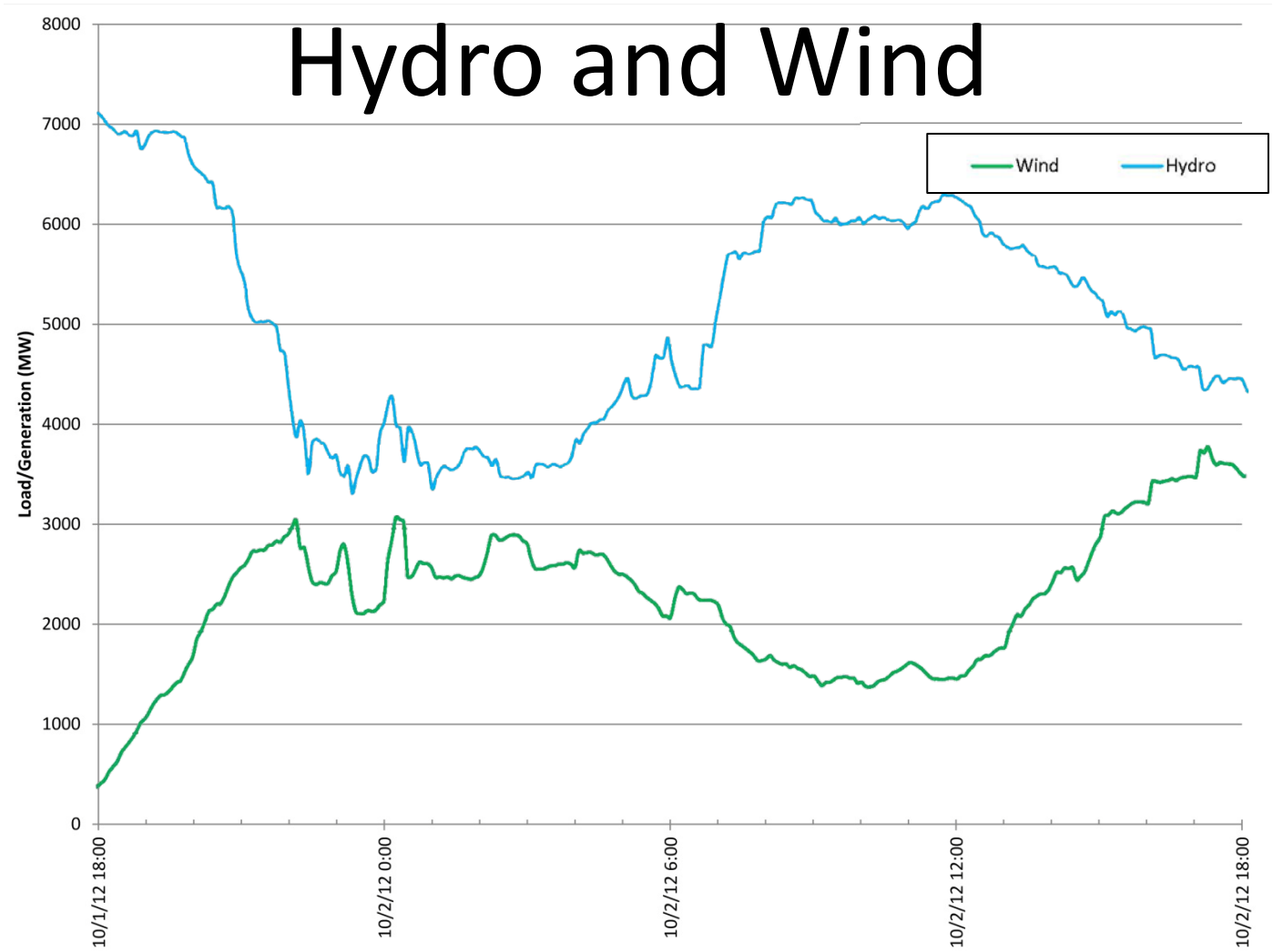
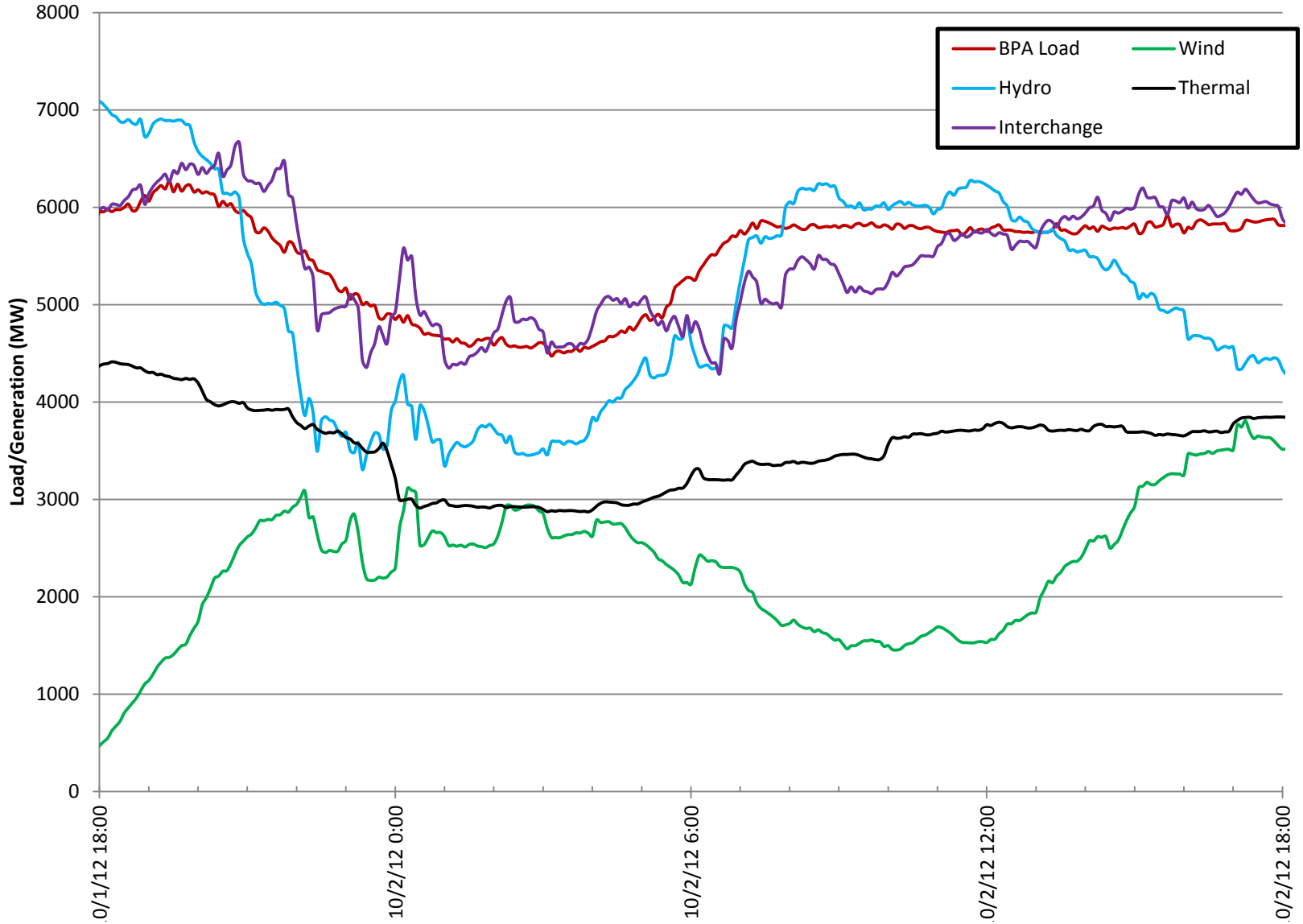
BPA Load and Thermal

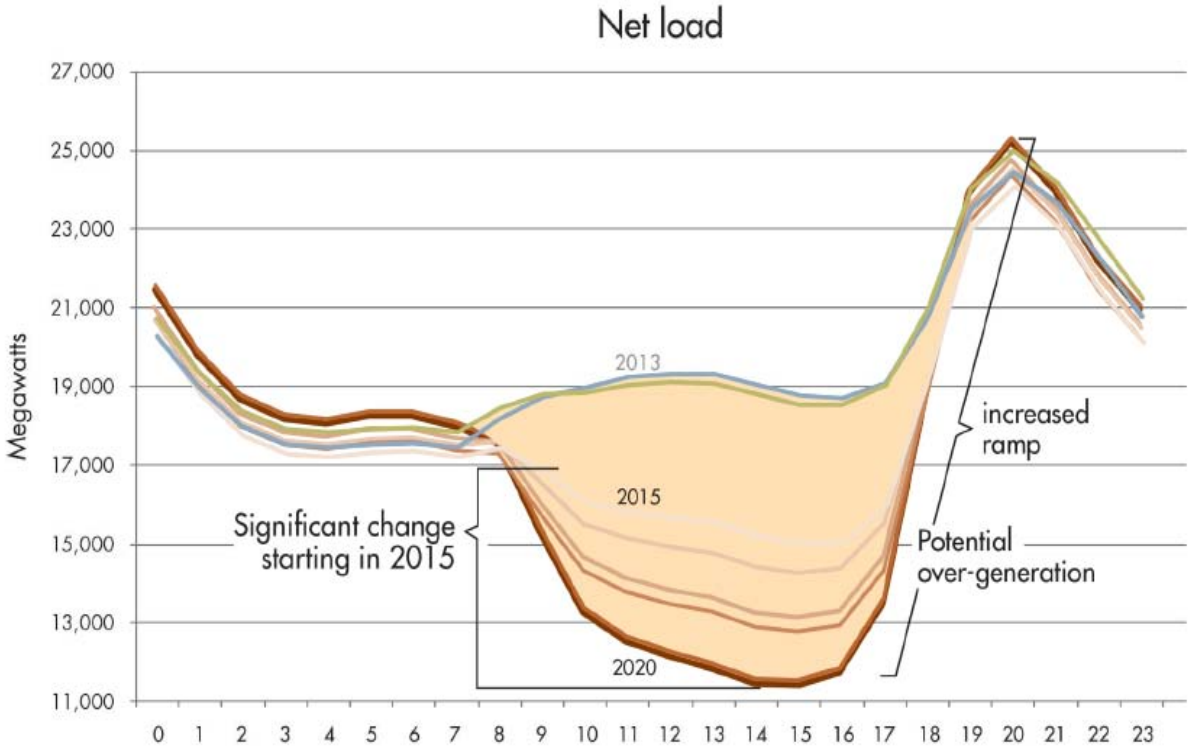


Hydro and Wind




8000
7000
6000
5000
4000
3000
2000
1000
0
Load/Generation (MW)
BPA Load
Wind
Hydro
Thermal
Interchange
0/1/12 18:00
10/2/12 0:00
10/2/12 6:00
0/2/12 12:00
0/2/12 18:00

Growing need for flexibility starting 2015



California ISO
Shaping a Renewed Future

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Contact Info

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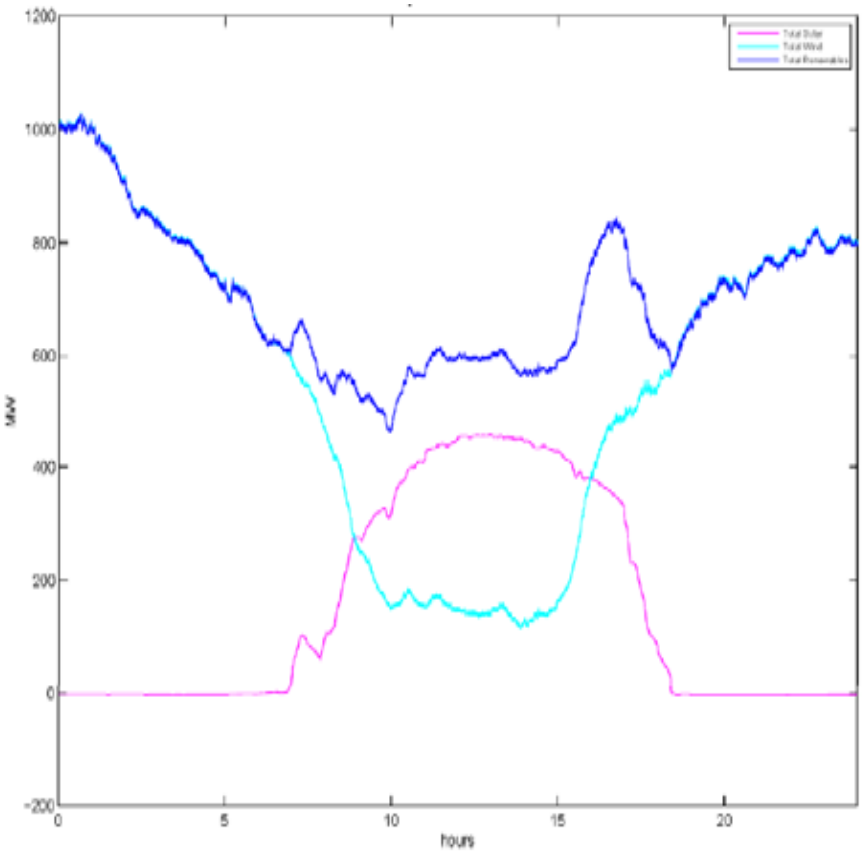
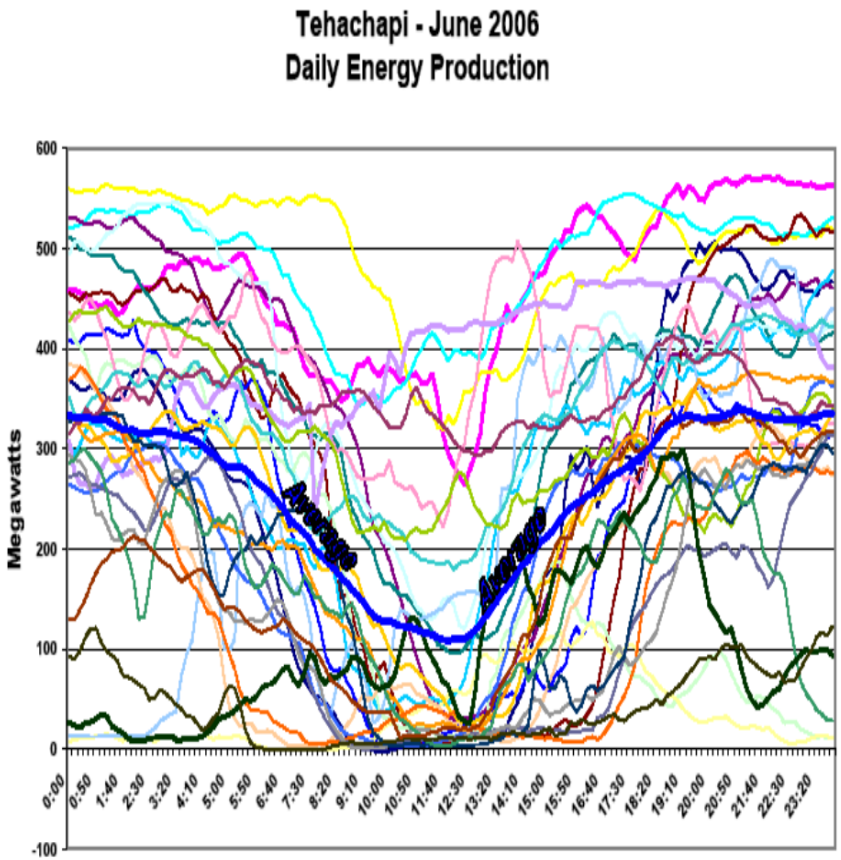
June 2010 – CEC / KEMA Study



Average wind production (July 2009)

Daily wind production (June 2006)
Tehachapi Area



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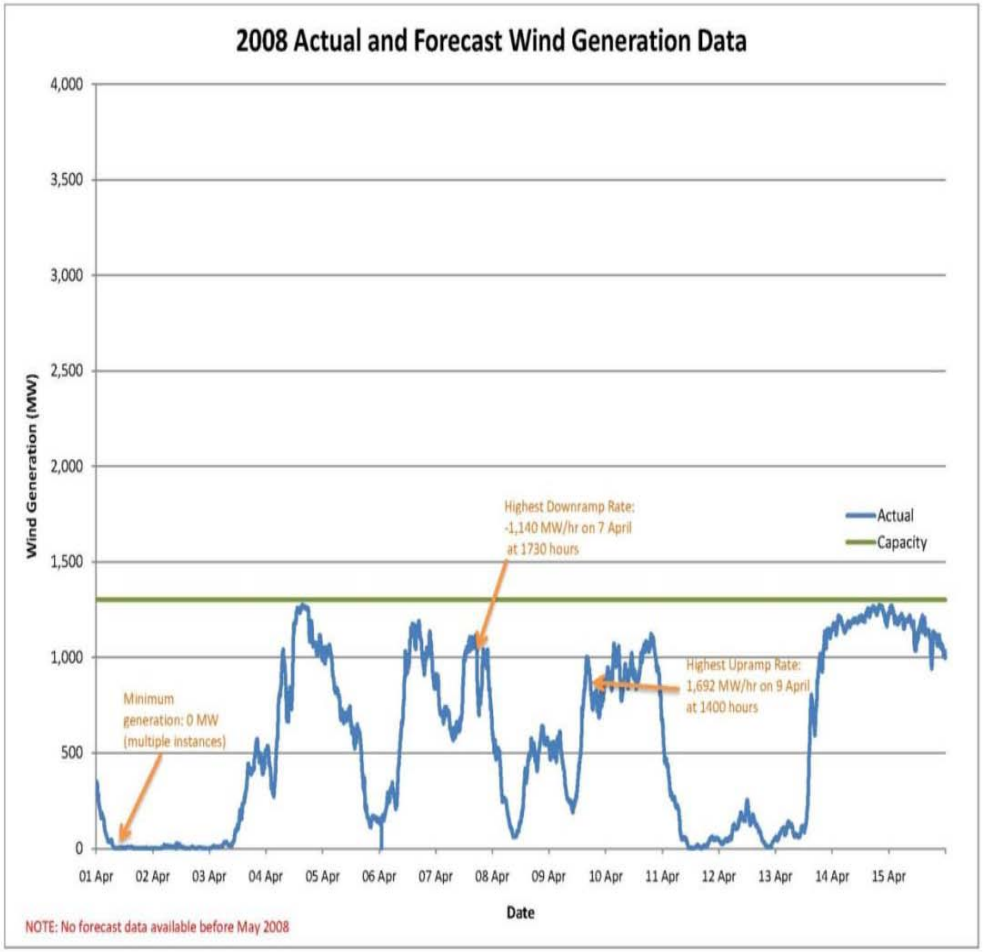
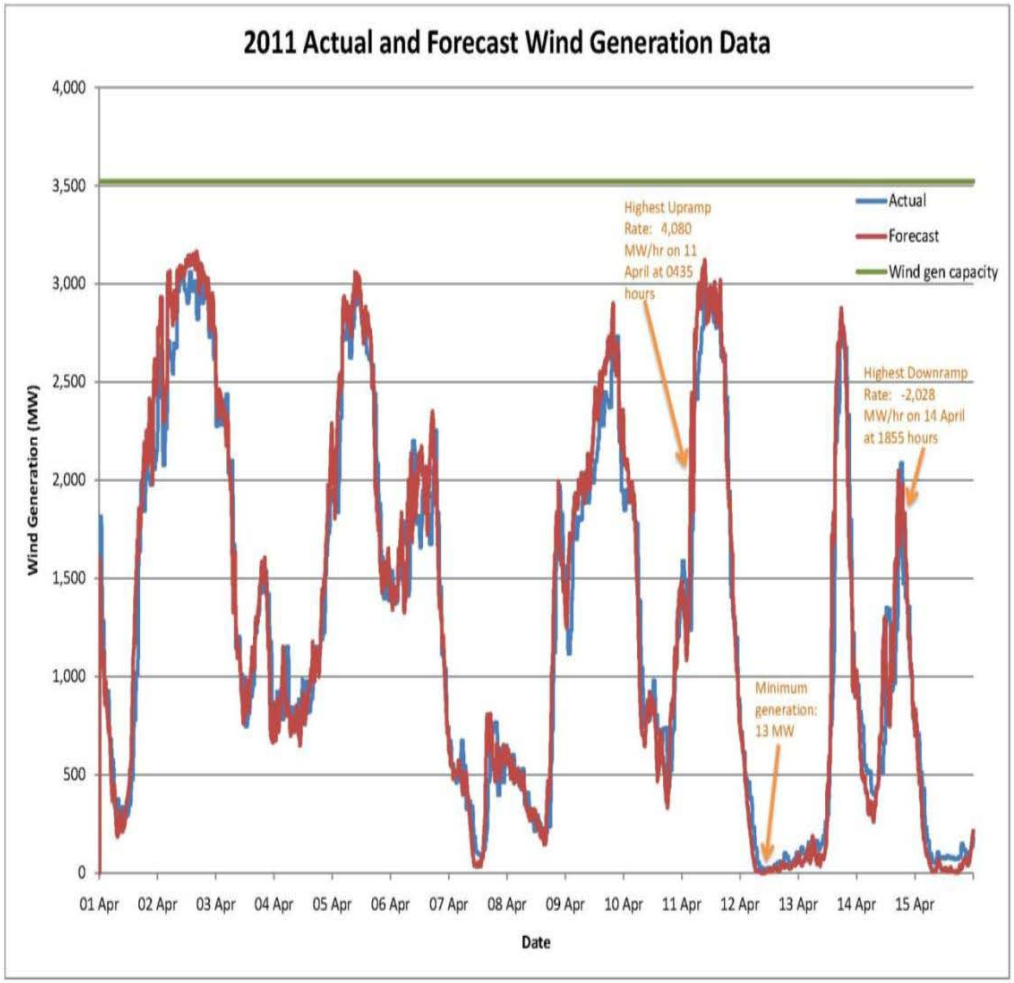
Is BPA Today California's Energy Future?

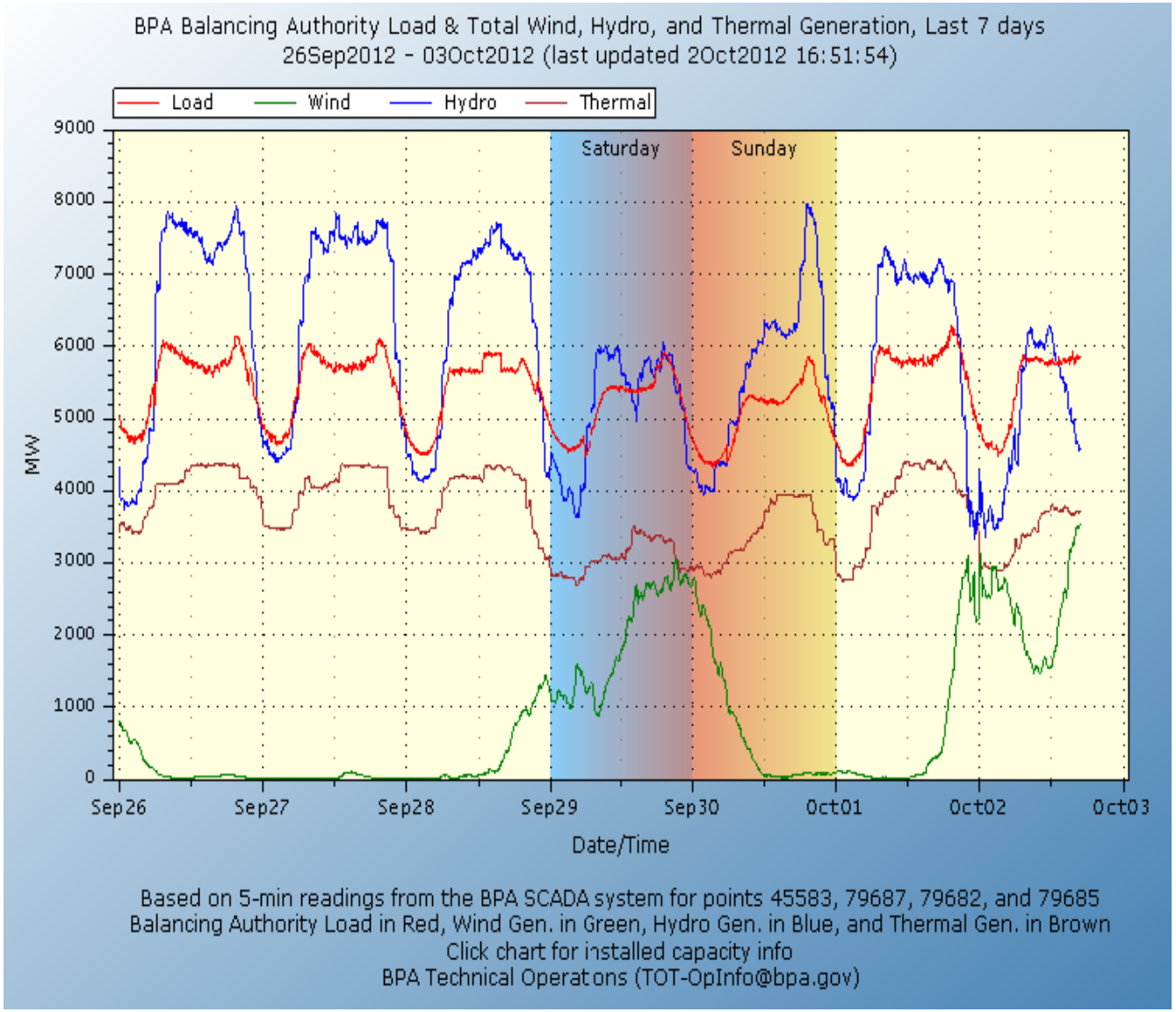


Actual and forecasted wind: large swings in power supply need to be supplemented by other sources

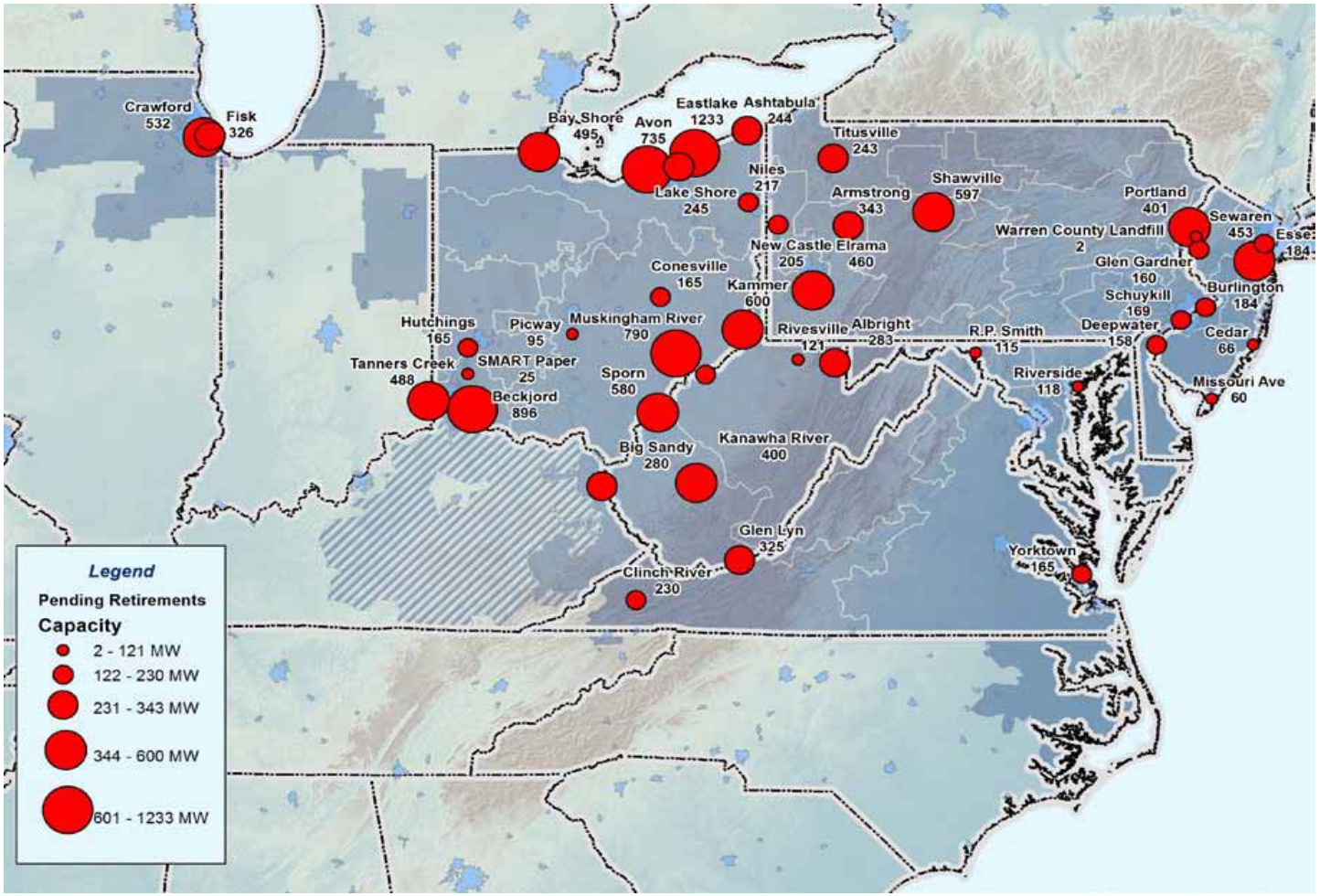
Is BPA Today California's Energy Future?

Adding Wind Plants Under Current Market Incentives ≠ Geographic Diversity : Large Ramp Rates Are Exacerbated!




BPA Balancing Authority Load & Total Wind, Hydro, and Thermal Generation, Last 7 days
26Sep2012 - 03Oct2012 (last updated 2Oct2012 16:51:54)
Load
Wind
Hydro
Thermal
Saturday
Sunday
MW
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Sep26
Sep27
Sep28
Sep29
Sep30
Oct01
Oct02
Oct03
Date/Time
Based on 5-min readings from the BPA SCADA system for points 45583, 79687, 79682, and 79685
Balancing Authority Load in Red, Wind Gen. in Green, Hydro Gen. in Blue, and Thermal Gen. in Brown
Click chart for installed capacity info
BPA Technical Operations (TOT-OpInfo@bpa.gov)

March 2013 – Proposed Power Plants Retirements



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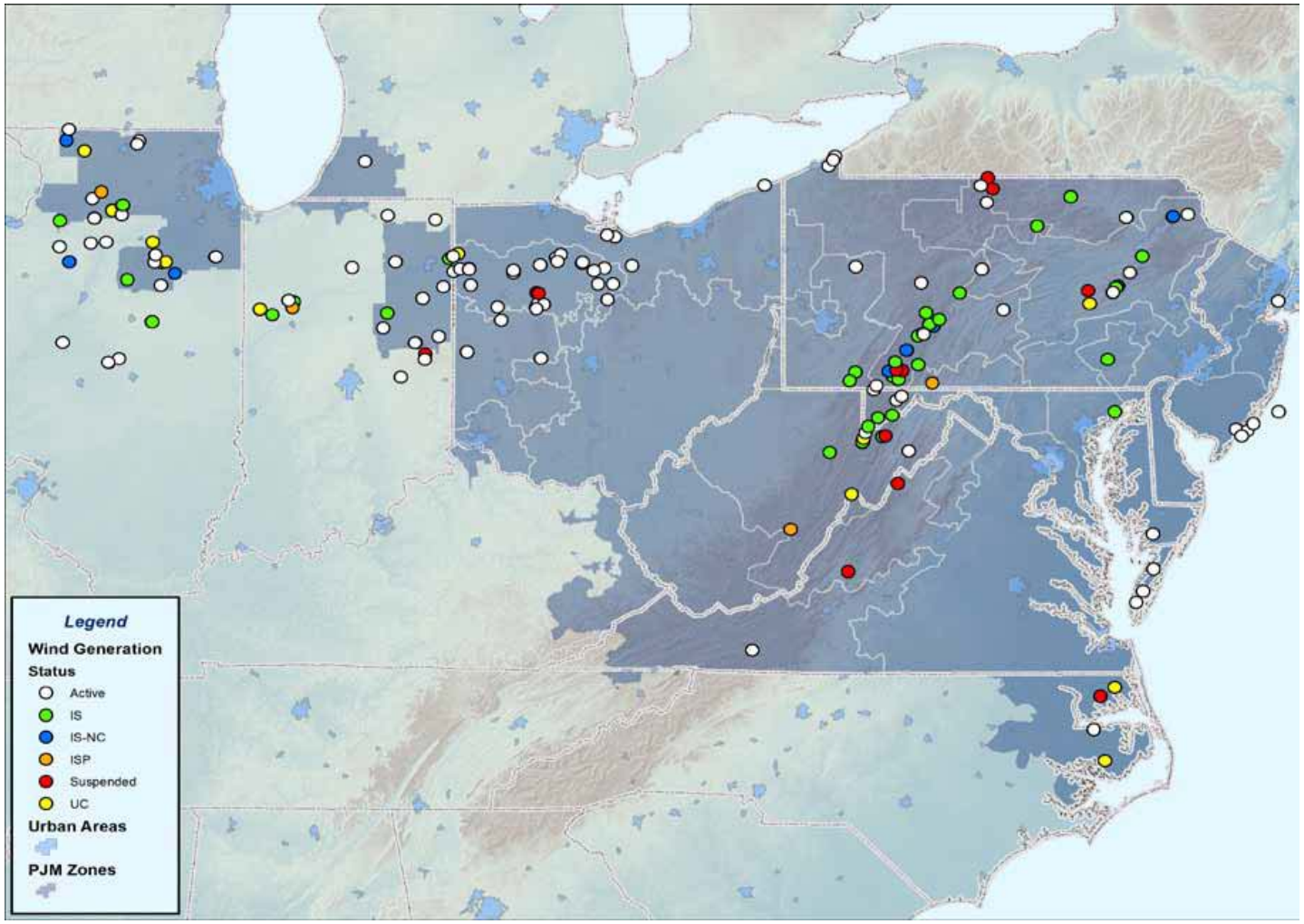
March 2013 – Proposed Gas Power Plants

March 2013 – Proposed Wind Power Plants