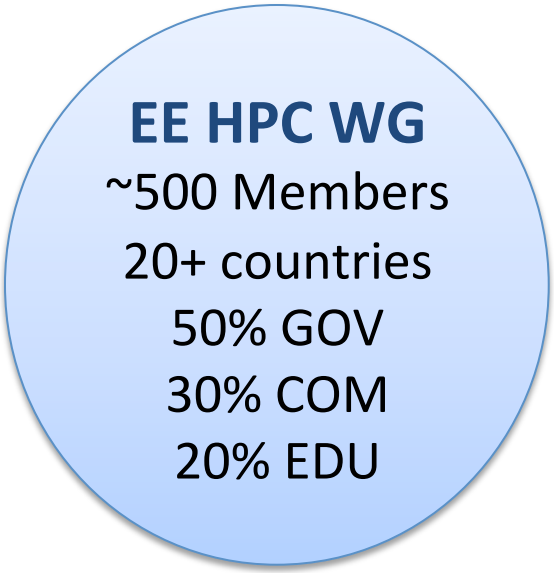
Natalie Bates,
Energy Efficient HPC Working Group

Erich Strohmaier, Top500 and LBNL

Tom Scogland, Green500 and Virginia Tech

Energy Efficient HPC Working Group

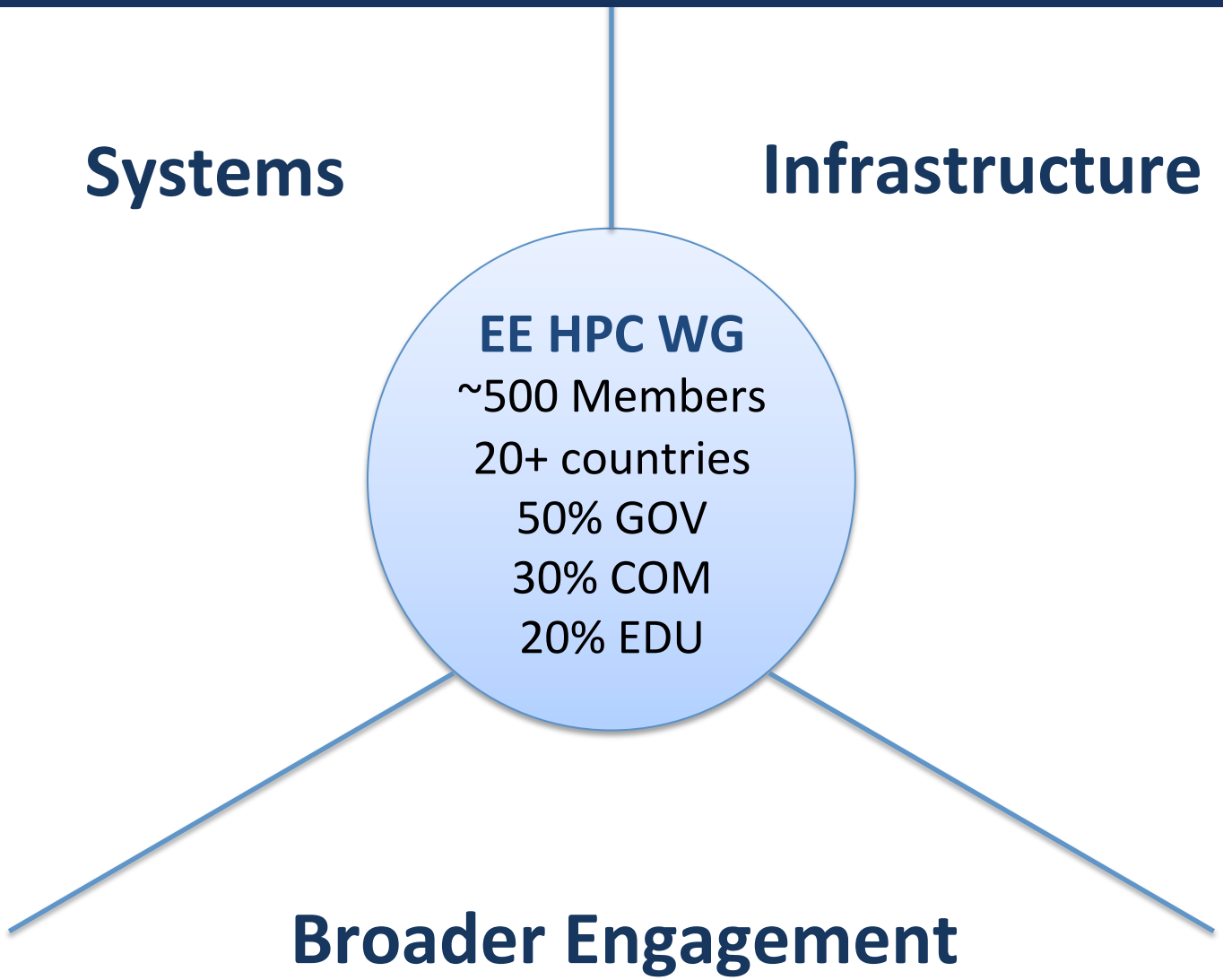
- **Mobilizing the HPC community to accelerate EE HPC**
  - **Sharing of best practices and taking collective action.**
  - **Only membership criteria is 'interest' in driving EE HPC.**



http://eehpcwg.lbl.gov

natalie.jean.bates@gmail.com

Energy Efficient HPC Working Group



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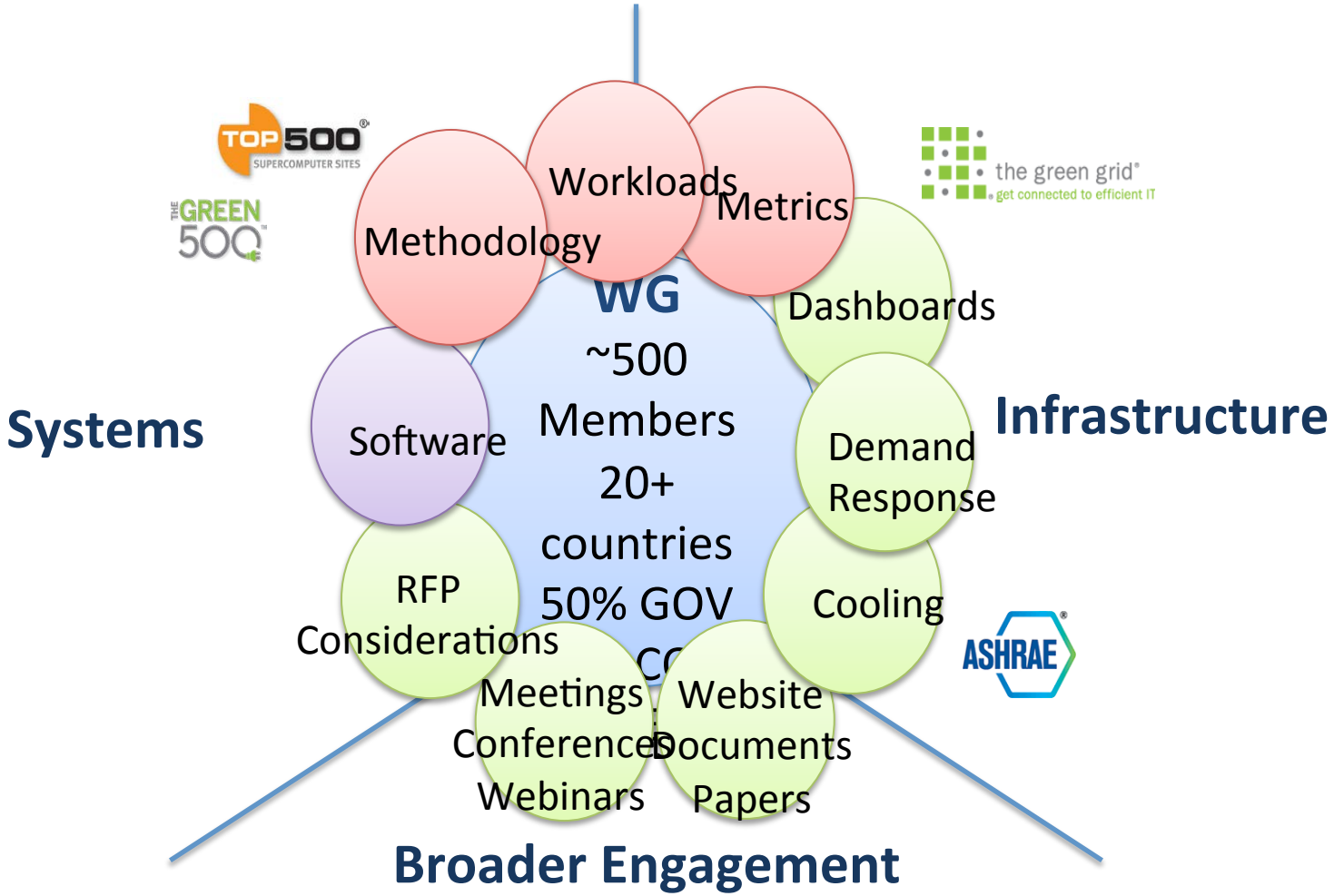
Team Activities:

http://eehpcwg.lbl.gov/calendar/minutes



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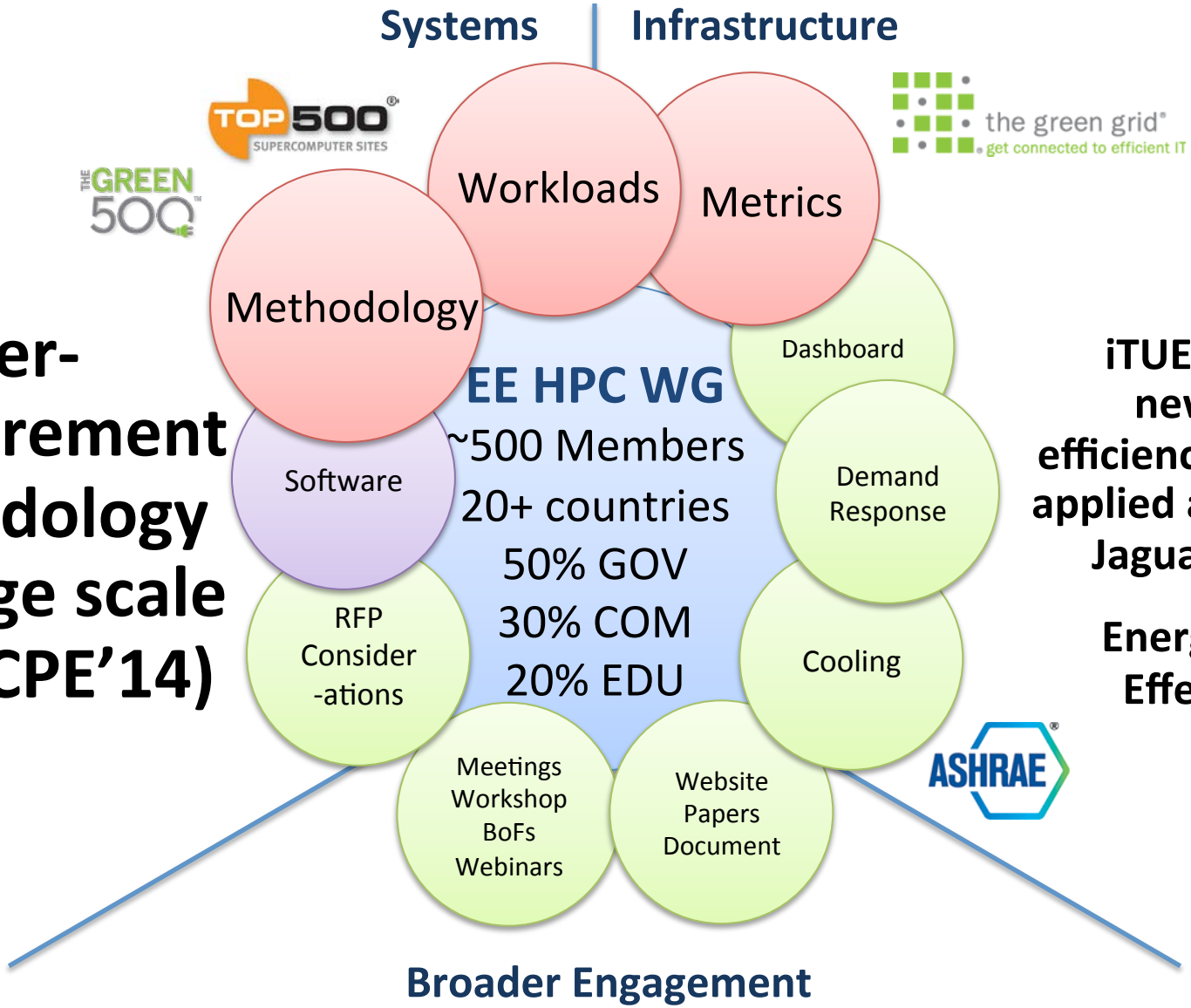

A power-measurement methodology for large scale HPC (ICPE'14)

iTUE and TUE, new energy-efficiency metrics applied at ORNL's Jaguar (ISC'13)

Energy Re-use Effectiveness (TGG)

Submissions

You must login to submit an entry

Please use the 'Log in' link at the bottom of the page to log in or create a new account.

Submission deadline **Friday, June 14, 2013, 11:59:59 PM EDT**

NOTE: This form is for Level 1 submissions only! If you have a Level 2 or Level 3 submission please contact us directly to process your submission.

Share

Run Rules

Click the link below to download the latest Run Rules to find out what you need to do before you submit an entry.

Download the latest Run Rules (PDF)

EEHPC WG: Power Measurement Methodology

Click the link below to download the EEHPC WG Power Measurement Methodology to find out more about Level 2 and Level 3 measurements.

Download the EEHPC WG: Power Measurement Methodology Document (PDF)

Workloads and Benchmarks

- Cross-Team Concern:
  - Power Measurement Methodology, Procurement, TUE, SW Teams
- Measure behavior of key system components including compute, memory, interconnect fabric, storage and external I/O
  - Workloads and Metrics might address several components at the same time
- Exercise the HPC system to the fullest capability possible
- Use High Performance LINPACK (HPL) for exercising (mostly) compute sub-system

Next Steps

- Solicit and compile other potential workloads
  - RandomAccess (Giga Updates Per second or GUPs) for exercising memory sub-system
  - SystemBurn, ORNL
  - FIRESTARTER, University of Dresden

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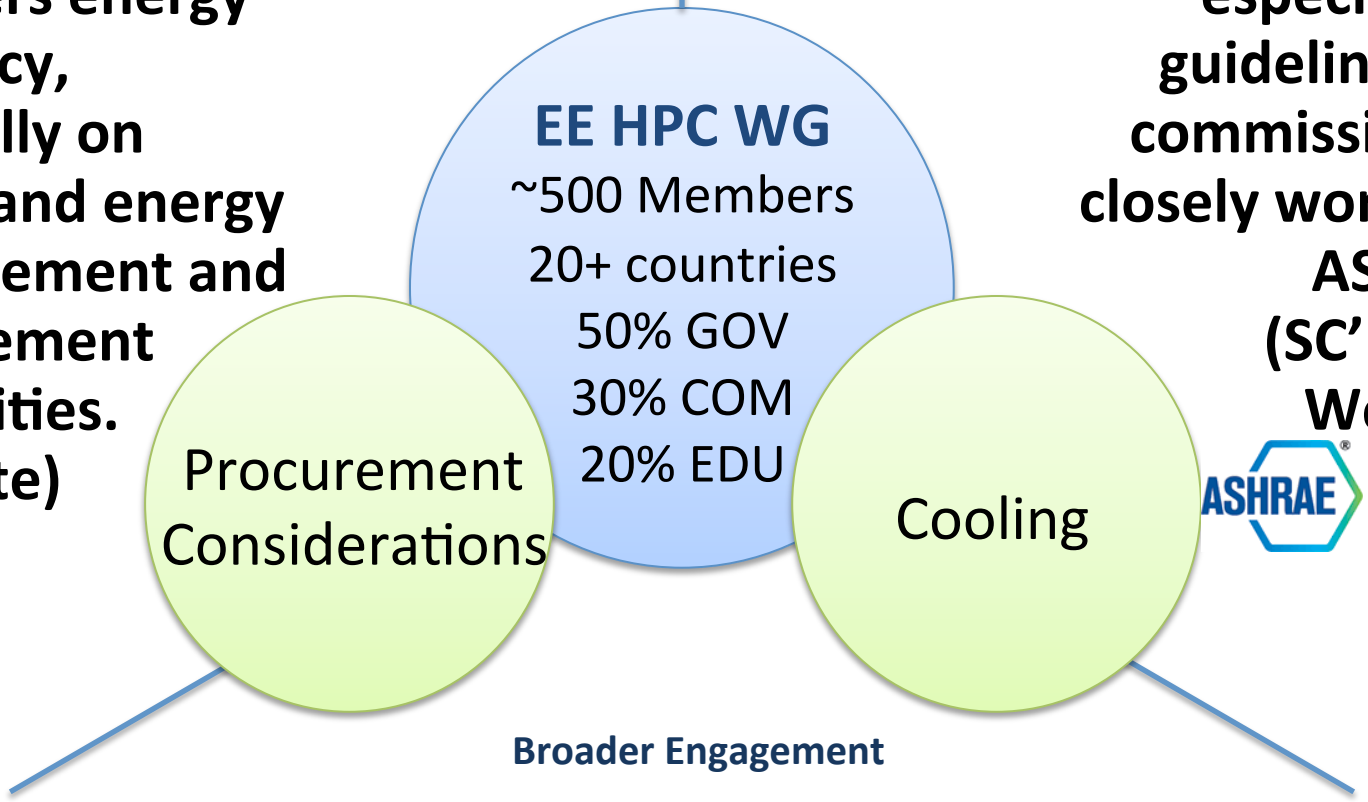
Back-up

Energy Efficient HPC Working Group

Capturing 'best practices' in system procurement that considers energy efficiency, especially on power and energy measurement and management capabilities. (Website)

Systems | **Infrastructure**

Capturing 'best practices' in cooling support for systems, especially on guidelines and commissioning; closely work with ASHRAE. (SC'10 and Website)



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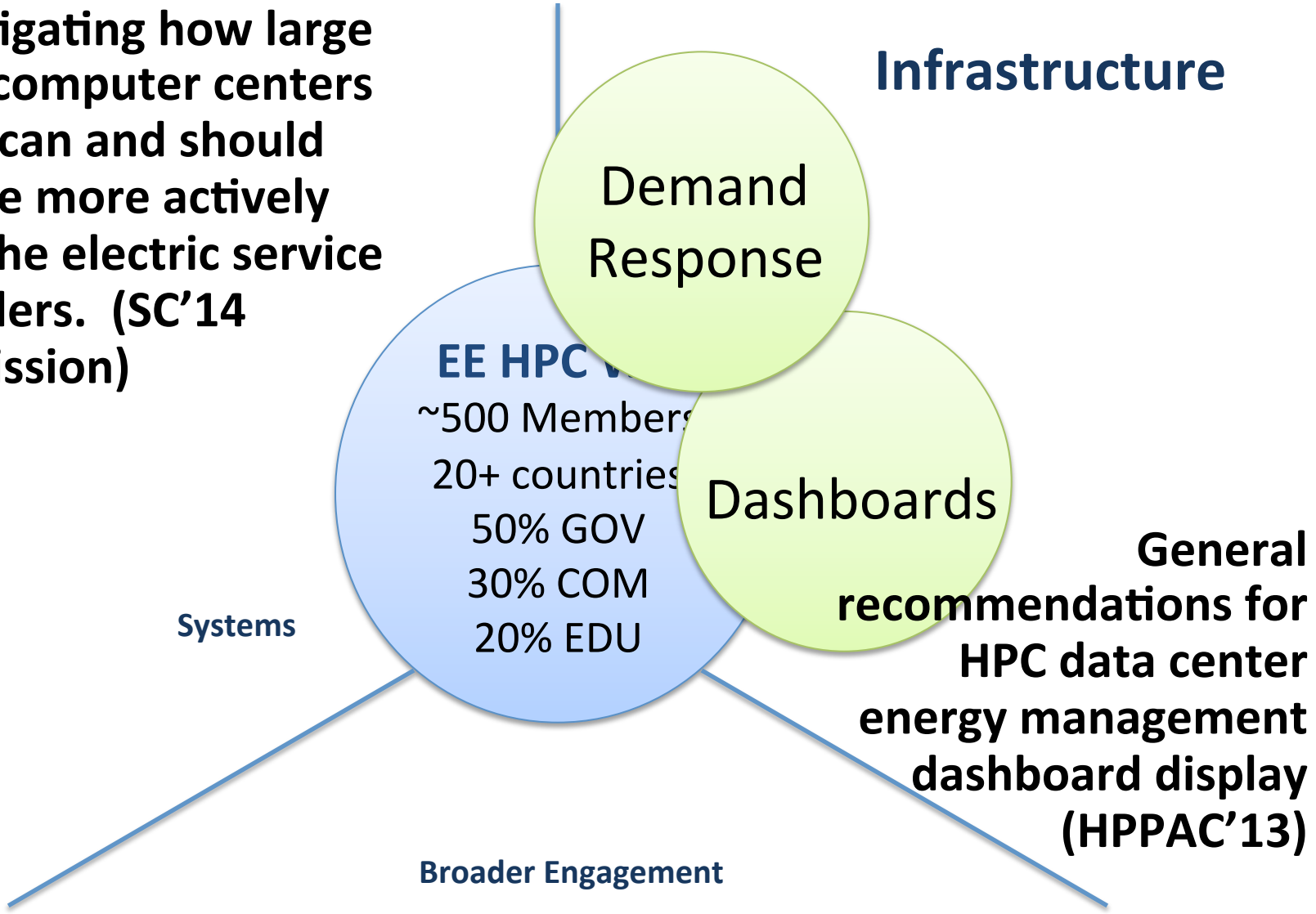
Investigating how large supercomputer centers have, can and should engage more actively with the electric service providers. (SC'14 Submission)



General recommendations for HPC data center energy management dashboard display (HPPAC'13)

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