

CASCA

Computing and Data Committee input to MTR 2014

James Wadsley (McMaster)

Erik Rosolowsky (Alberta)

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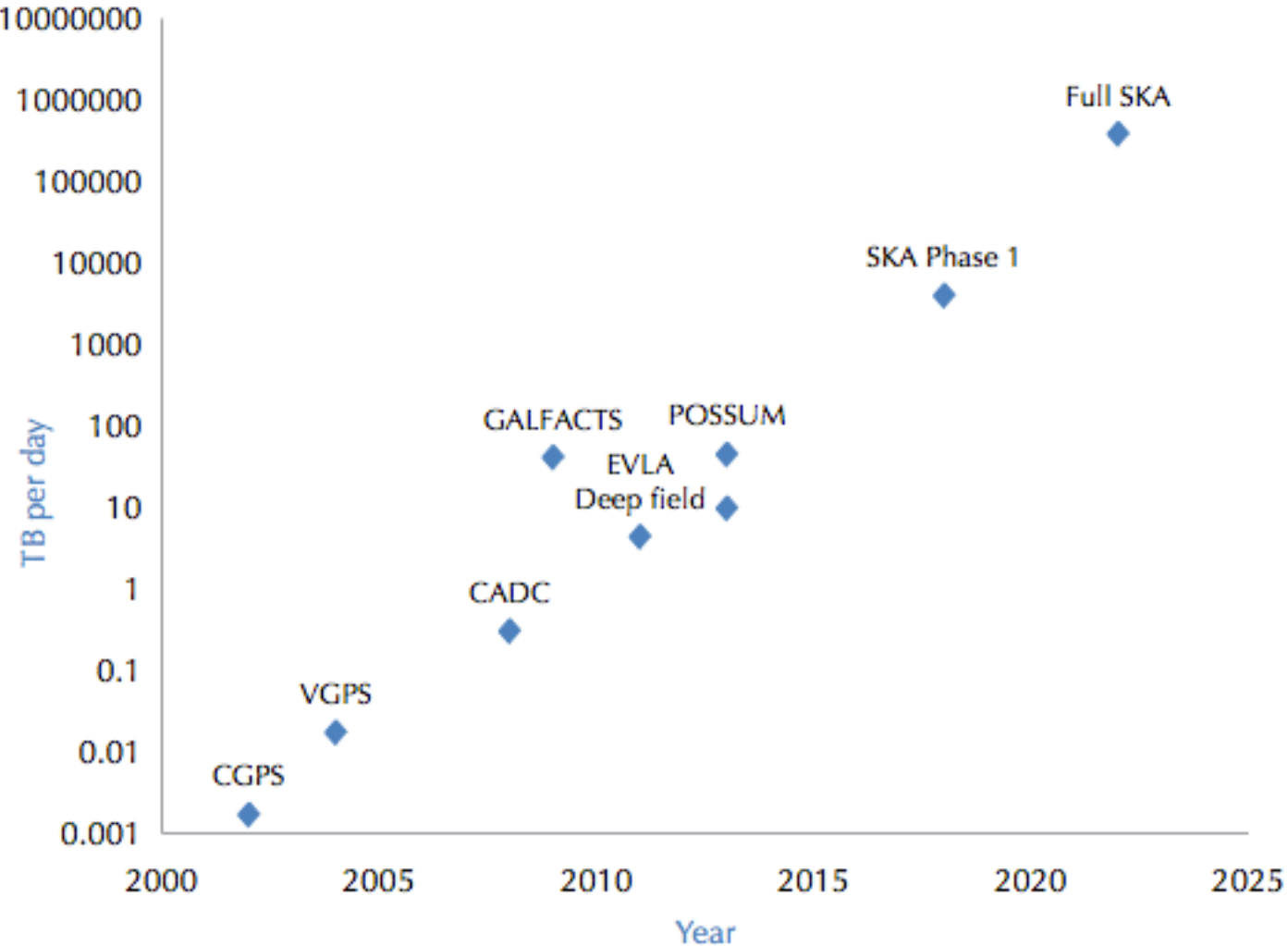
JJ Kavelaars (NRC)

LRP2010 Recommendations

10	Compute Canada funding should be doubled to bring us up to at least 2/3 of the G8 average HPC funding per GDP. At least 1/5 of this funding should go towards encouraging user innovation through research support, and to the provision of HPC consultants. Compute Canada should also budget funds to ensure a “Tier 1” facility is available to researchers.
11	The LRPP recommends that Compute Canada move to fully support users with cloud computing requirements.
12	The LRPP reiterates the need for a coherent Canadian Data Management Policy. As observatories become more dependent on data analysis, end-to-end management of data, including decommissioning archiving, needs to be a critical part of project development. A working group from the NRC (CADDC) and CASCA should be formed to address this point, particularly focusing on the needs of the “world observatories”.

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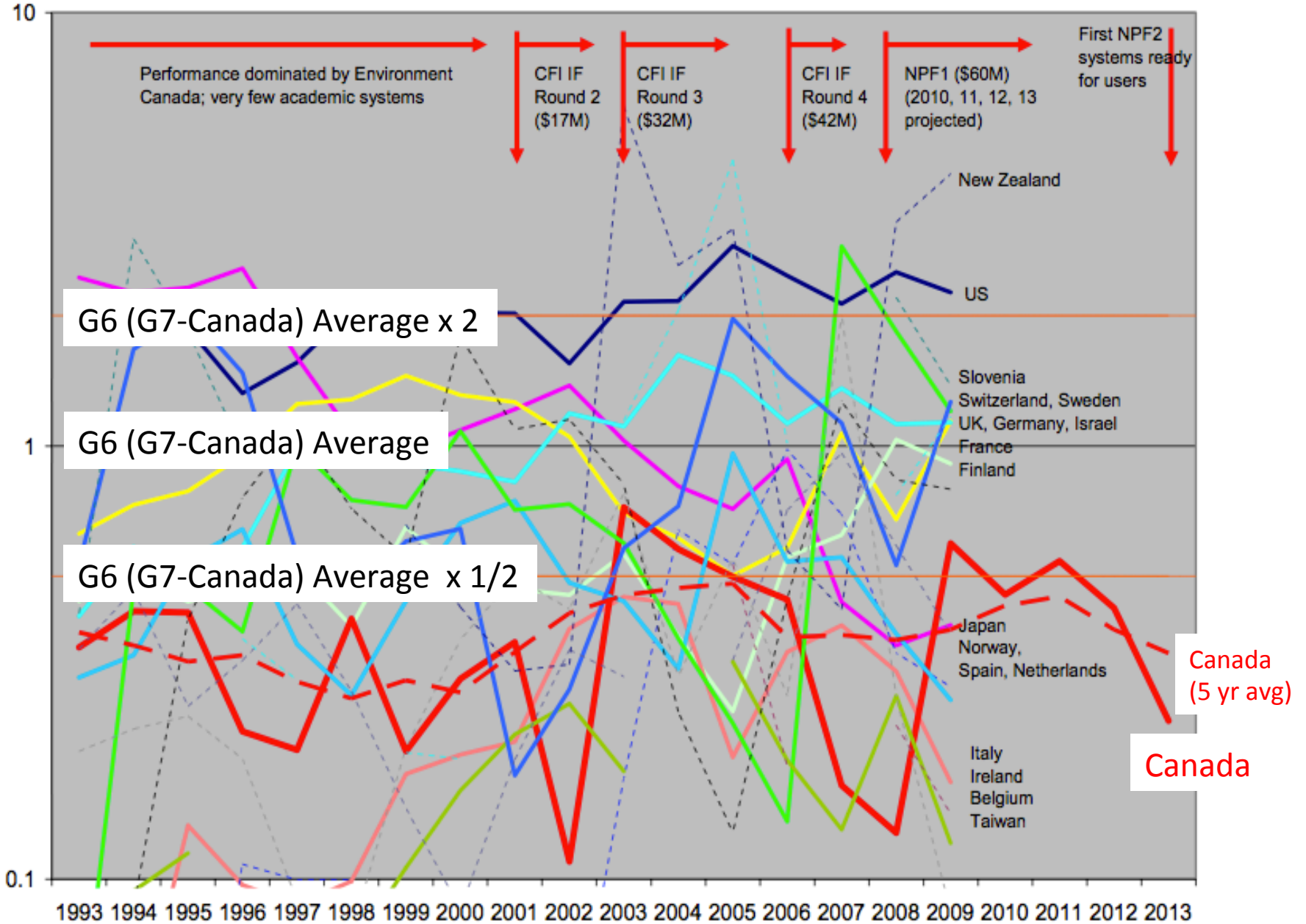
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CADC has made great strides with 11 and 12, providing storage, distribution and processing for Canadian Astronomical Data with CANFAR

Constraints:

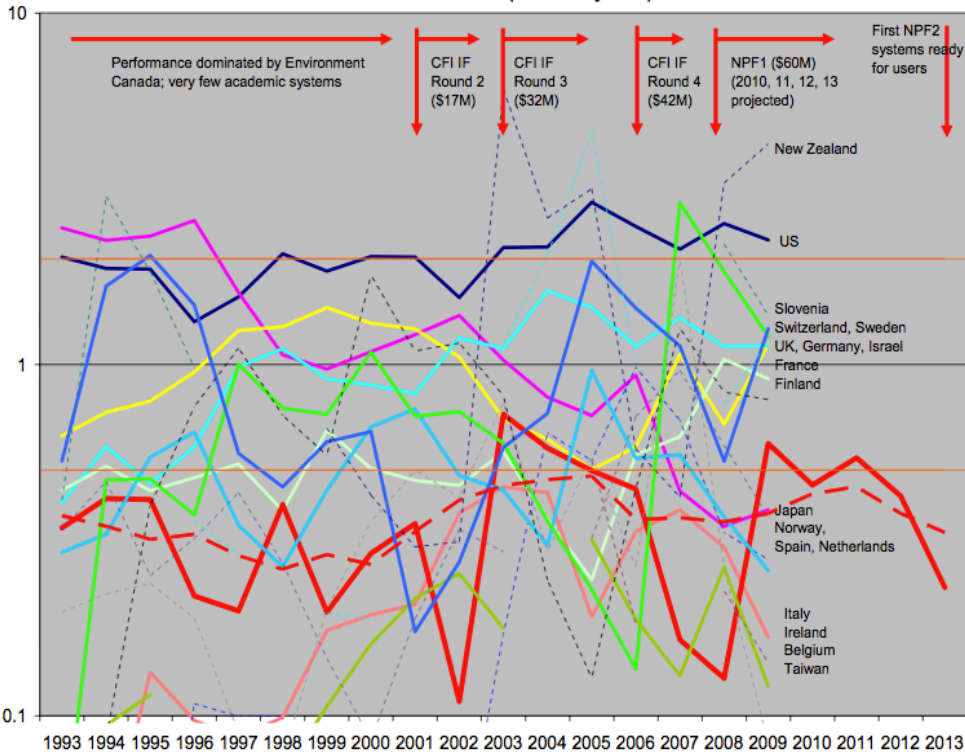
1. Limited storage, provided through Compute Canada
2. Appropriate development/operational support

HPC relative to GDP by country (ordered by GDP)



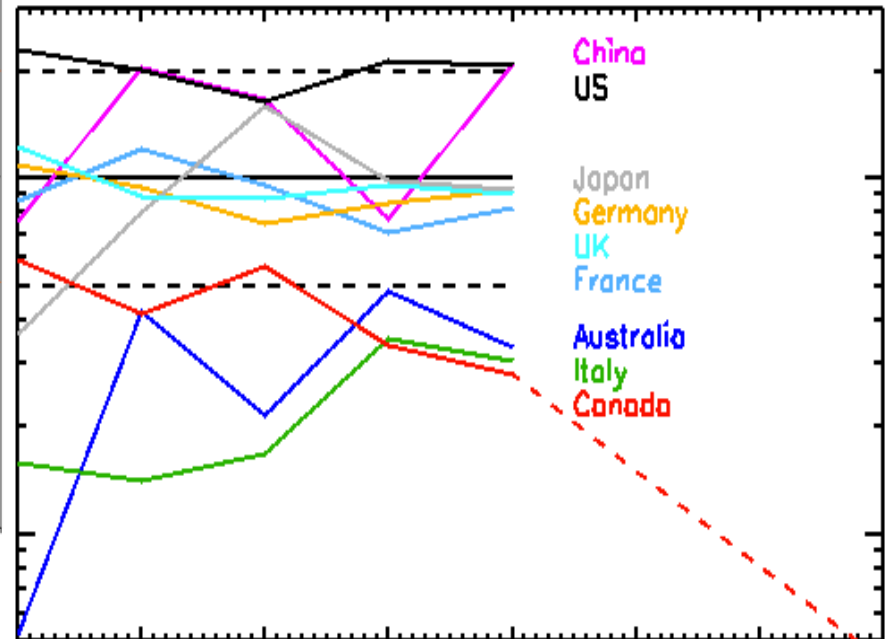
Recent Investment in HPC

HPC relative to GDP by country
(ordered by GDP)



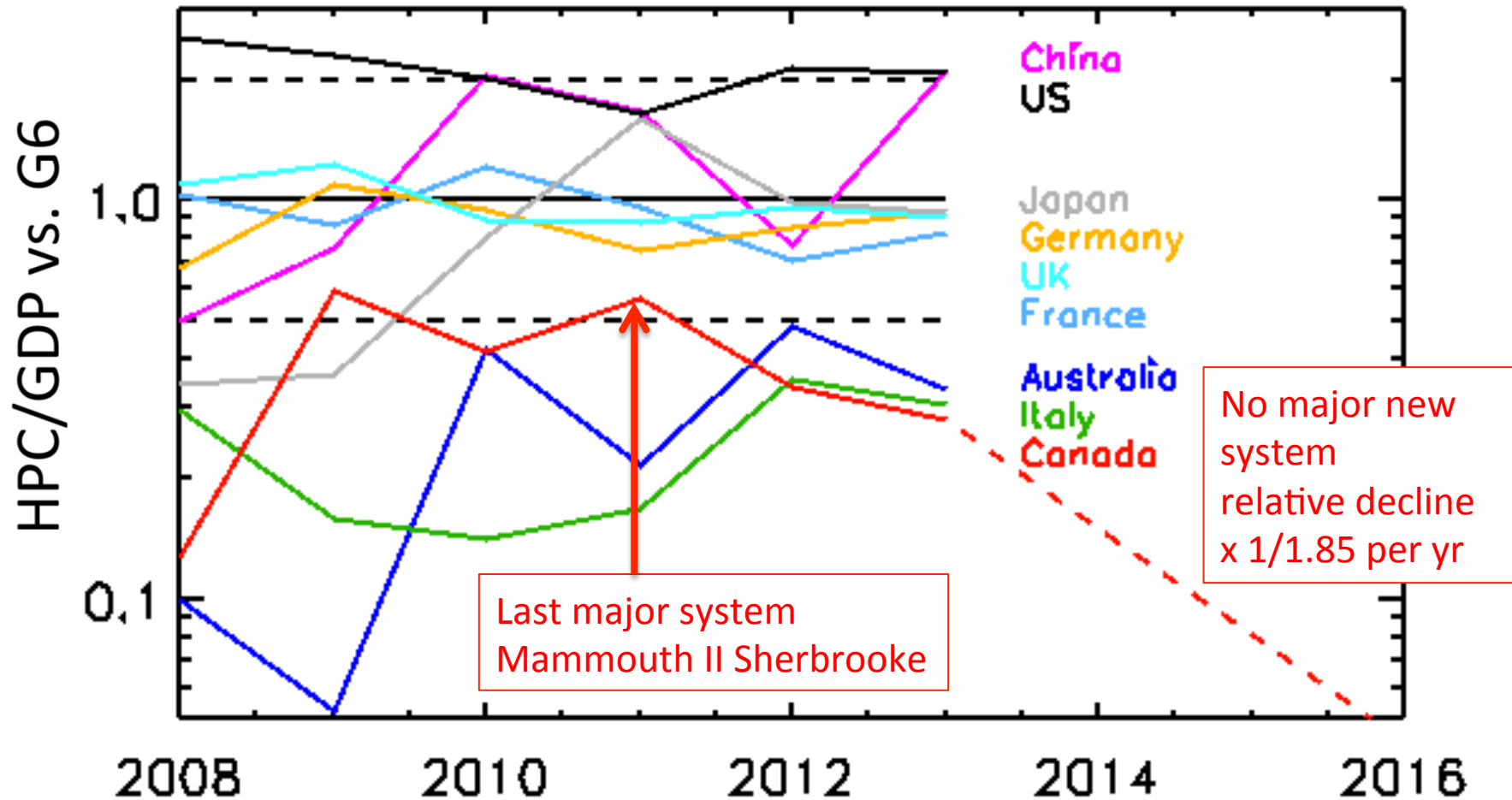
LRP 2010 Couchman
Extrapolation to 2013

Actual HPC/GDP to 2013



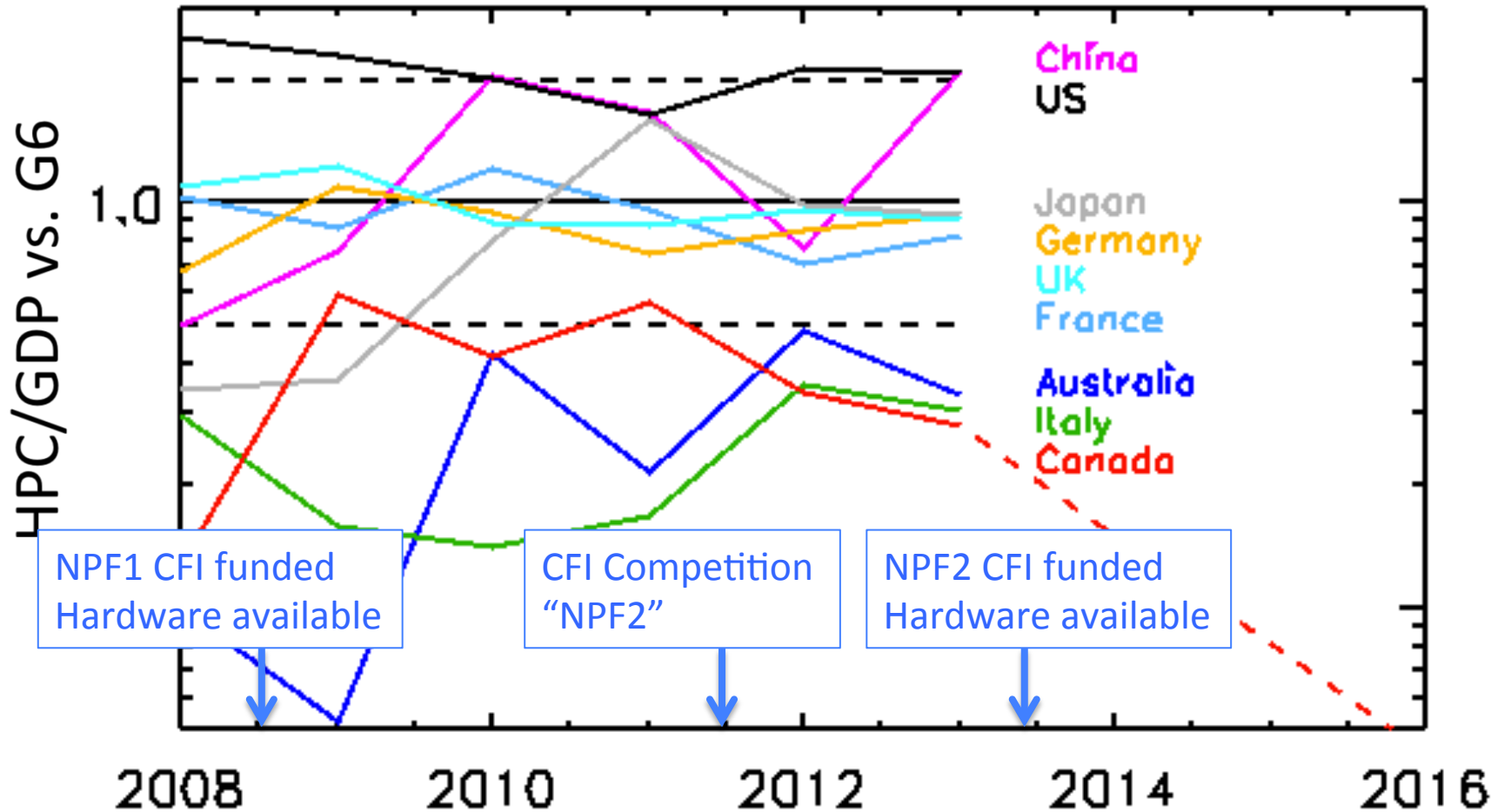
2009 2010 2011 2012 2013 2014 2015 2016

Investments in HPC



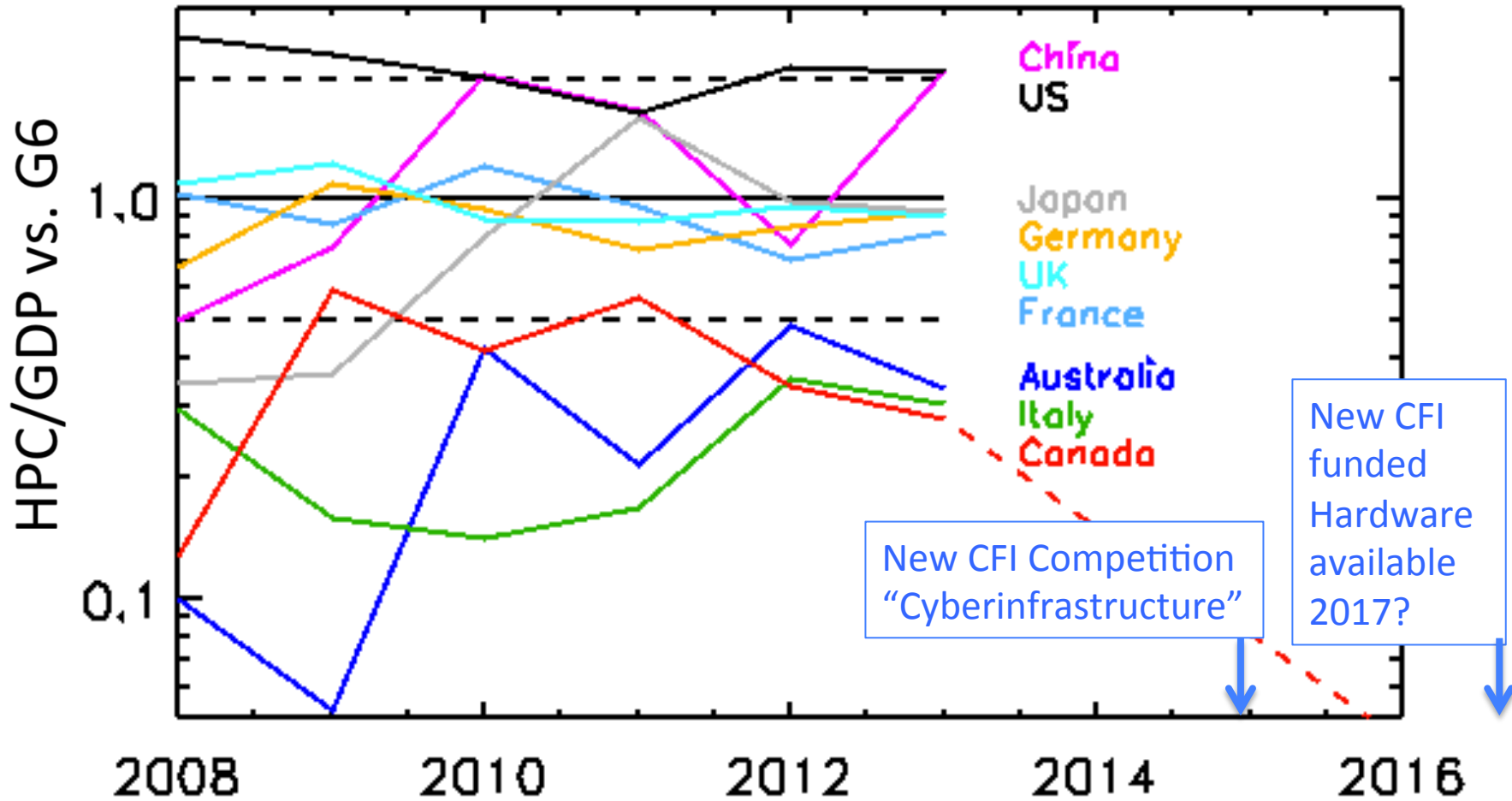
LRP 2010 Anticipated

Investments in HPC



Better late than never...

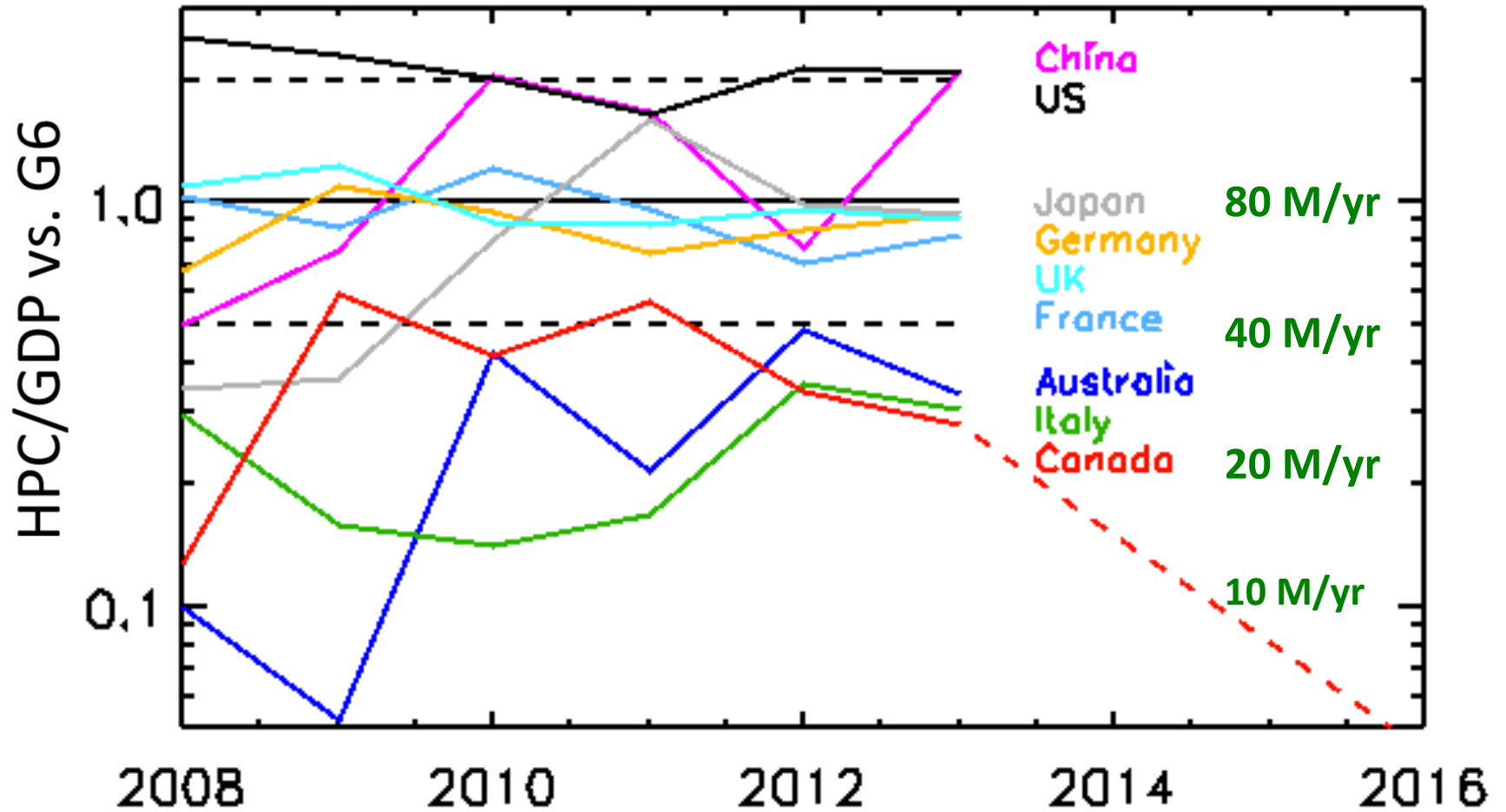
Investments in HPC



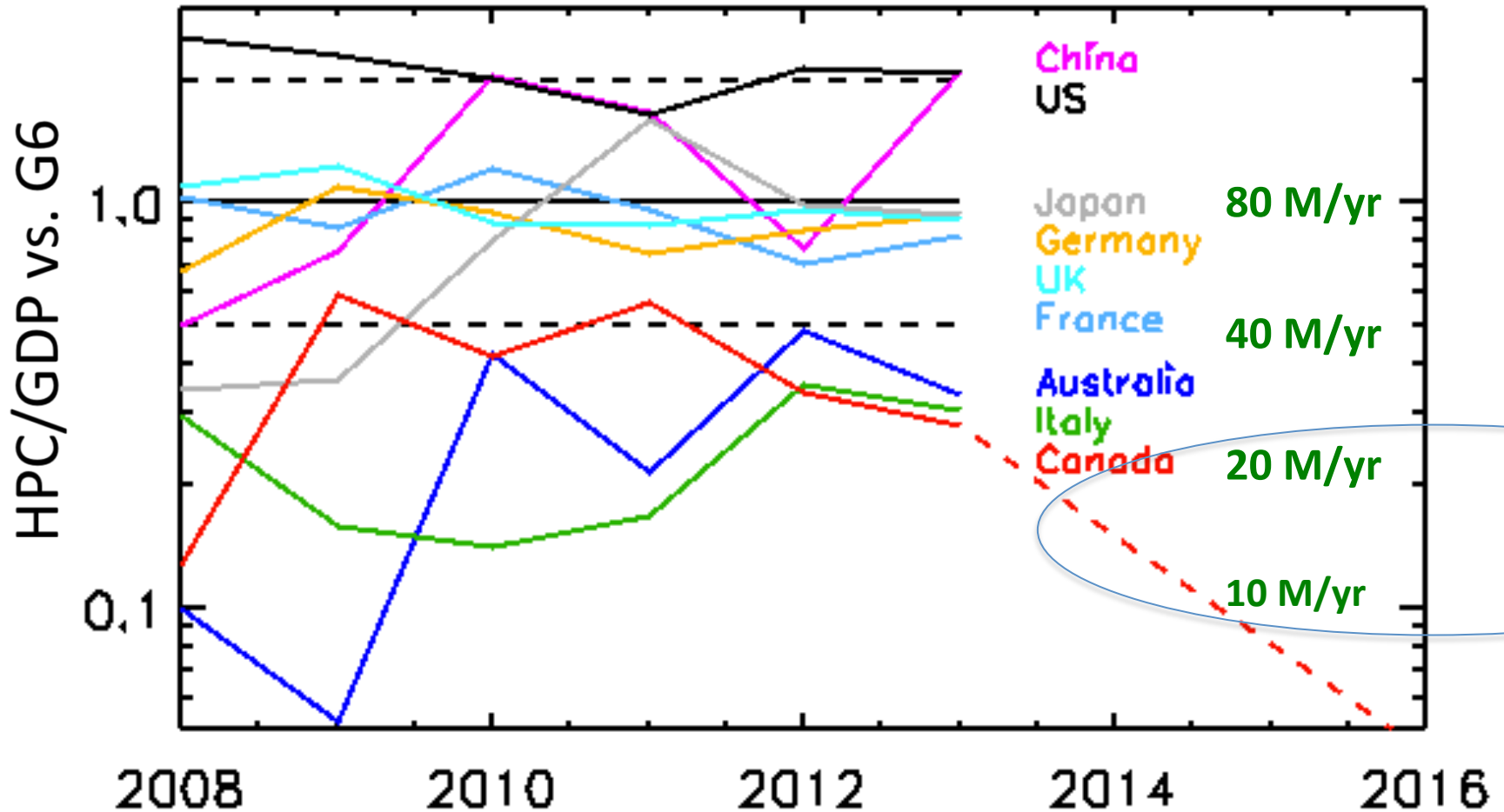
CFI Cyber-infrastructure Initiative

- Draft Call: June 2014, Consultations June 5-12
<http://www.innovation.ca/en/OurFunds/CFIFunds/CFIcyberinfrastructureinitiative>
- \$50M (CFI) + \$50M (Provincial match)
cf. 2002-2006 \$91 M 2006 NPF1 \$60 Mostly HPC
First opportunity to rebalance data/HPC mix since 2006
Two parts:
 - Compute Canada (HPC) renewal (\$8M CFI)
 - “Domain Specific” Data-Projects (\$6M CFI x 7?)

Investments in HPC



Investments in HPC



CFI Cyber-infrastructure timeline

Compute Canada Renewal

- Oct 2014 Call
- April 2015 Draft Plan
- May 2015 Review
- June 2015 CFI decision

- Nov 2015 Final Plan including Data Project support
- March 2016 CFI decision

Data Projects

- Oct 2014 Call
- Jan 2015 NOI

- June 2015 Proposals consult CC on how to support Data Projects
- Oct 2015 Review
- Nov 15 CFI Decision

What is a Data Project?

- “... addressing the needs of data-intensive research ... of strategic importance to Canadian research institutions”

Assessment:

- Multidisciplinary Assessment Committees
 - “identify proposals that best meet standards of excellence, sustainability and potential benefits”
 - Preference: Multi-institutional, Scale-able
- Provincial reps allowed to observe, give input

What is a Data Project?

Eligible infrastructure

- May include, hardware (storage and compute), software development costs
 - May to some degree compensate for low HPC-only investment
- Hardware purchased/managed by CC
- Eligible for 30% overhead towards operating costs

Note: CFI still “open for input”: e.g. from CASCA

CFI Cyber-infrastructure: Concerns

- Low overall investment (particularly in HPC/ CC renewal)
- Artificial separation of Compute (HPC) & Data
- Lack of defined process for CC renewal (level of experience in CC management with HPC proposals/procurement/coordination with provincial agencies)
- Truncated role for provinces
- Pit research areas against each other, some left out entirely?
- Average users left out?
- Preferred strategic areas, e.g. health, put in multiple NOI, take majority of resources
- Prospect for waste, overstated claims by areas without computational experience

Compute Canada Response

CC Management: New CEO: Mark Dietrich, CSO Dugan O'Neil, (CTO unfilled)

ACOR Researcher advisors: incl. J. Wadsley, R. Thacker

- Proposed Plan: “Sustainable Plan for Advanced Research Computing” (SPARC)
- Propose to ask for white papers from CASCA and other organizations, consult with researchers
- Missing element: Expert panel of researchers who are consortium/regional reps to write proposal and coordinate with provinces

Astronomy: Recommendations

- Work with provinces, consortia – contribute feedback to CFI. (note: Unclear how much plan can be modified) – by fall 2014
- Influence CC renewal: now to April 2014
 - Contribute whitepaper, gather data on data/compute needs
 - Push for regional expert panel of researchers
- Put together national astronomy data project proposal – led by CADC, built around CANFAR? – NOI due Jan 2015