
DOE Quadrennial Technology Review

Steven E. Koonin

Under Secretary for Science

June 2011

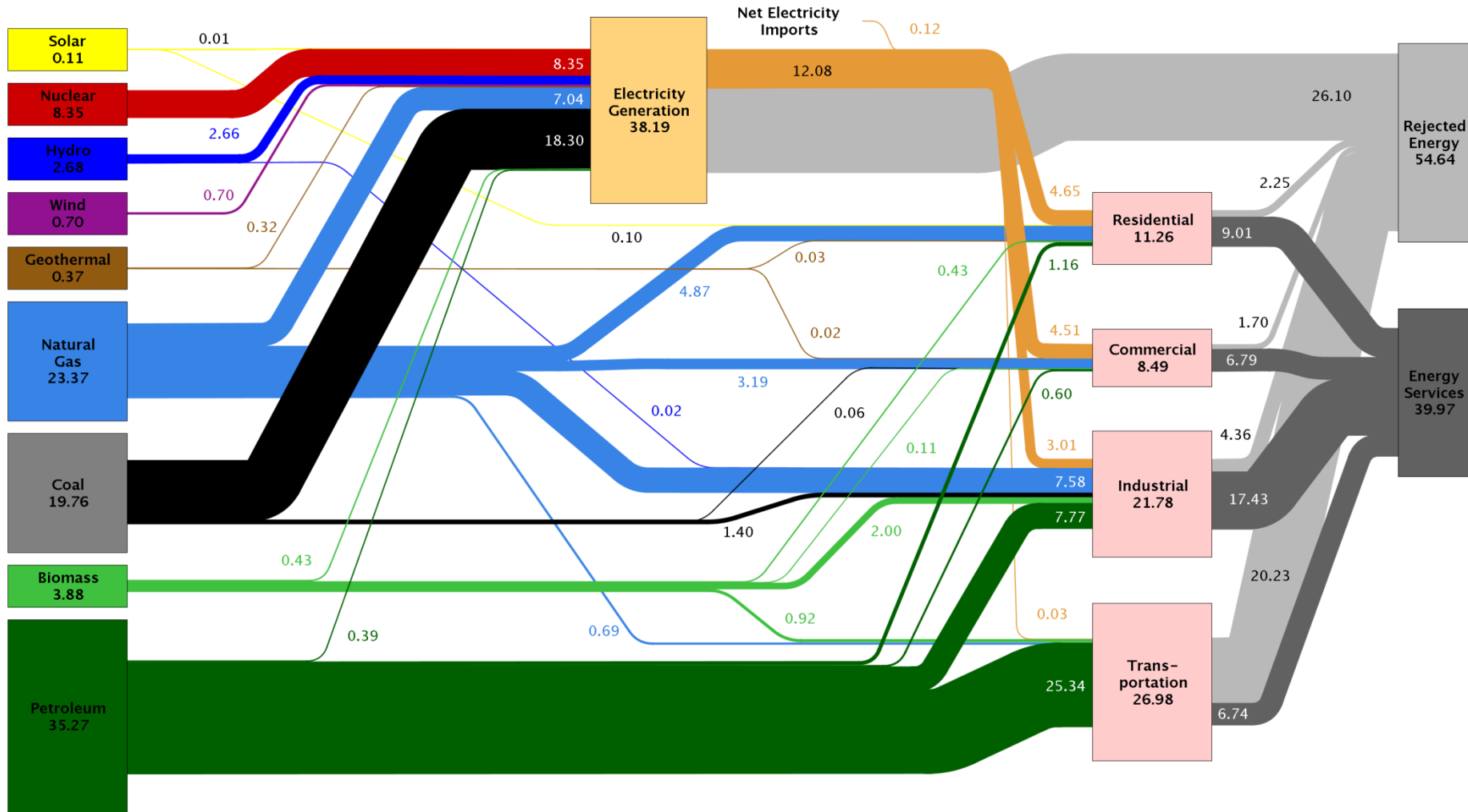


U.S. DEPARTMENT OF
ENERGY

DOE-QTR Scope

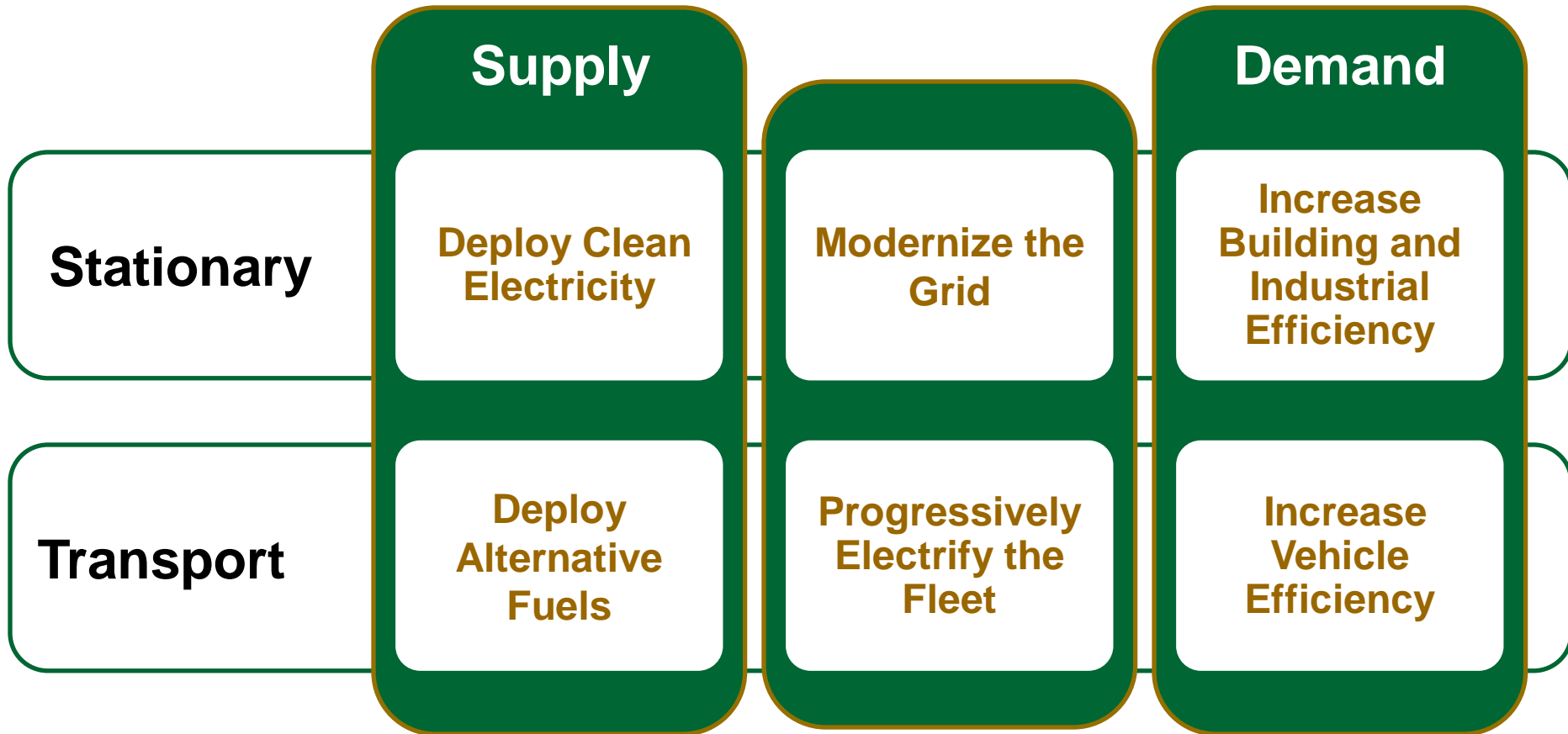
- The DOE-QTR will provide a context and robust framework for the Department's energy programs, as well as principles by which to establish multiyear programs plans and budgets. It will also offer high-level views of the technical status and potential of various energy technologies.
- The primary focus of the DOE-QTR process and document will be on the following:
 - Framing the energy challenges
 - A discussion of the roles of government, industry, national laboratories, and universities in energy system transformation
 - Summary roadmaps for advancing key energy technologies, systems, and sectors
 - Principles by which the Department can judge the priority of various technology efforts
 - A discussion of support for demonstration projects
 - The connections of energy technology innovation to energy policy

Estimated U.S. Energy Use in 2009: ~94.6 Quads

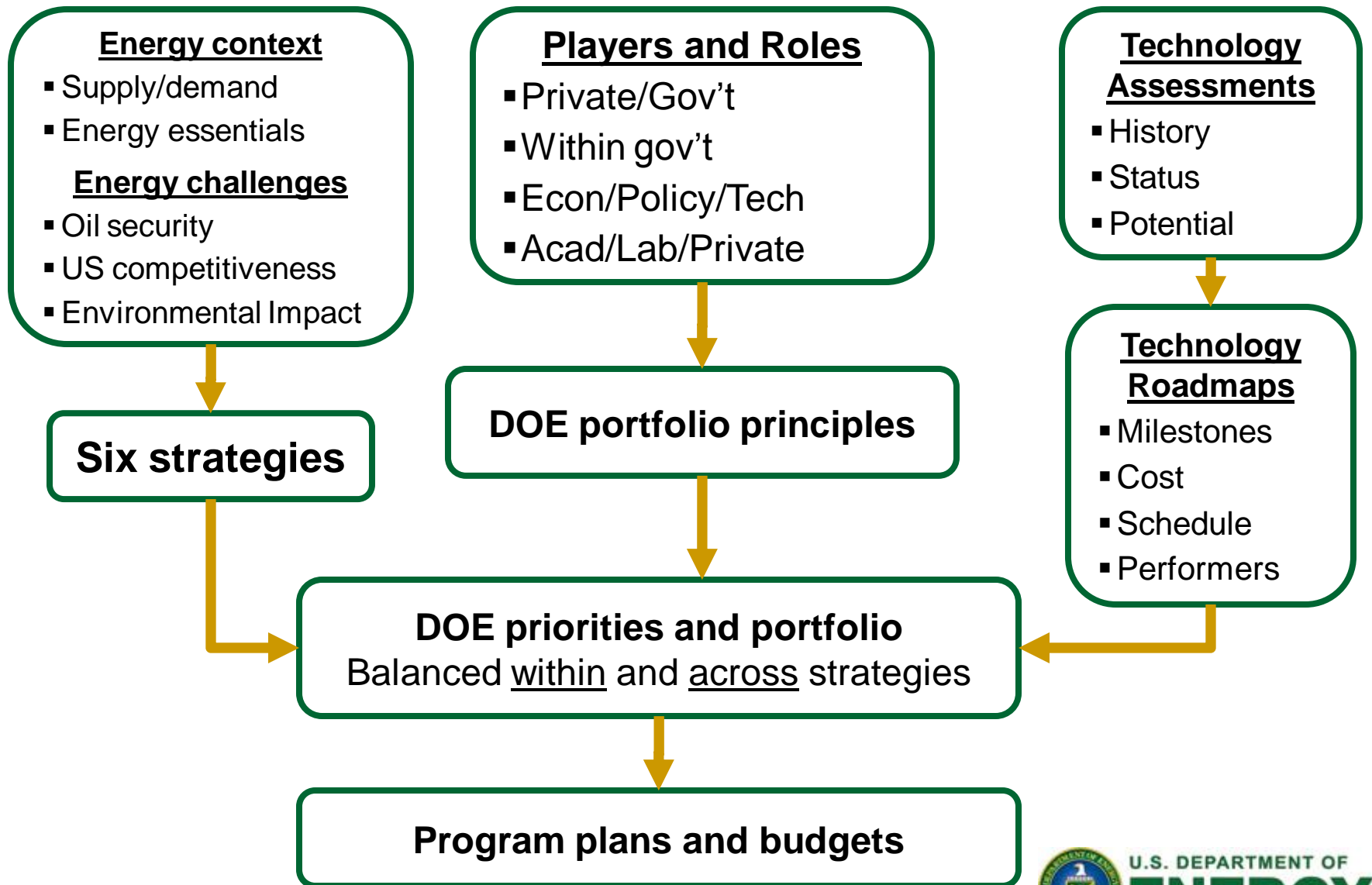


Source: LLNL 2010. Data is based on DOE/EIA-0384(2009), August 2010. If this information or a reproduction of it is used, credit must be given to the Lawrence Livermore National Laboratory and the Department of Energy, under whose auspices the work was performed. Distributed electricity represents only retail electricity sales and does not include self-generation. EIA reports flows for non-thermal resources (i.e., hydro, wind and solar) in BTU-equivalent values by assuming a typical fossil fuel plant "heat rate." The efficiency of electricity production is calculated as the total retail electricity delivered divided by the primary energy input into electricity generation. End use efficiency is estimated as 80% for the residential, commercial and industrial sectors, and as 25% for the transportation sector. Totals may not equal sum of components due to independent rounding. LLNL-MI-410527

Six Strategies



DOE-QTR Logic Flow



Timeline

Nov 2010

PCAST made recommendations for DOE to do QER

3/14 – 4/15

Public comment period for DOE-QTR Framing Document

4/20

First batch of public comments released on project website

Through mid-July

Hold workshops and discussions of each of the Six Strategies

End July/Aug

Submit DOE-QTR to White House for approval

Before Dec 2011

Release DOE-QTR

Some of what we've read and heard

DOE-QTR Workshop	Public Comments (direct quotes)	Workshop Comments
Alternative Fuels	"Some continuing support from DOE to supplement the extensive private capital is worthwhile."	The value proposition of the department is technology assessment, not technology invention.
Vehicle Efficiency and Electrification	"Electrification of the vehicle fleet means both light-weighting vehicles and better batteries and energy systems."	Industry doesn't separate demonstration and deployment. We're entering a decade of experimentation.
Building and Stationary Efficiency	"[I]nvest substantial resources into research and development to better understand the energy flows of buildings to stimulate the development and deployment of lower-cost building and equipment monitoring technologies."	We need better data on how energy is actually used in buildings and industrial processes. Skilled workforce matters.
Grid	"Other experts saw the task of modernizing the grid as one of deployment not development, and thus questioned the need for much DOE investment."	DOE's most important role is as a convener of the different grid stakeholders— helping to build a shared vision of the future of the grid both regionally and nationally.
Clean Electricity	"DoE's present approach is not selective enough when it comes to technologies that will stand the test of market viability."	The user facilities, test facilities, and technical workforce at the national labs are great national assets, but establishing common rules for partnering is critical.



Thank you!

Project Website

<http://www.energy.gov/qtr>

Questions/Feedback

steven.koonin@science.doe.gov

asa.hopkins@science.doe.gov

Official (Public) Comments

DOE-QTRmailbox@hq.doe.gov