

CCST Council Meeting

Susan Hackwood
CCST Executive Director

February 6, 2014



Summary of CCST Activities

- ✧ New Board & Council chairs, Council members, and Senior Fellows
- ✧ 5th class of S&T Policy Fellows & new Executive branch pilot program
- ✧ California's Energy Future – Policy
- ✧ California's Water Future
- ✧ Hydraulic Fracturing
- ✧ Cal TAC
- ✧ California Academy of Young Innovators



New Board Chair

Charles F. Kennel

Distinguished Professor of
Atmospheric Science
Scripps Institution of
Oceanography

New Council Chair

Corey Goodman

Managing Partner and
Co-Founder
VenBio



New Council members

- **Ziyad Duron** - Harvey Mudd College
- **Dona Crawford** - LLNL
- **David Martin** - Avid Biotics
- **Prasad Ram** – Gooru

Mim John and **David Gollaher** have been appointed as Senior Fellows.



2012-13 Class of Fellows (Year 4) continuing careers

- 1 permanent staff position with CA Legislature
- 1 staff position State government
- 2 working at policy positions in private sector
- 2 returned to academia
- 1 working for non-profit in Washington, D.C.

2013-14 Class of Fellows (Year 5)

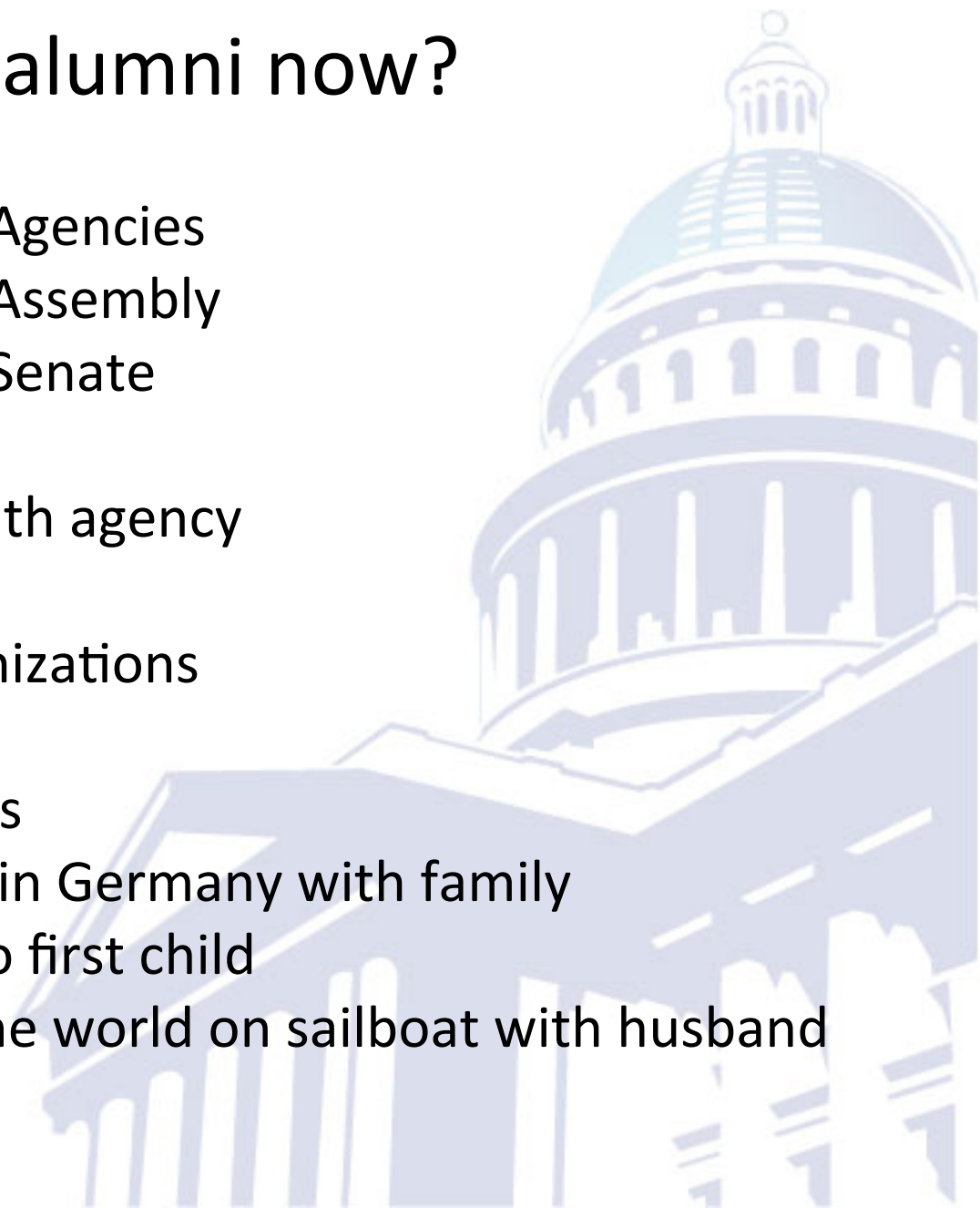


Left to Right: : Nathan Phillips, Brandon Gaytán, Alexis Erwin, Sarah Brady, Brie Lindsey, Toni Lee, Karen Morrison, David Ernest Garcia, Alia Schoen, Colin Murphy

- **Sarah Brady** – Ph.D. University of Oregon, Chemistry; *Assembly Member Bonilla*
- **Alexis Erwin** – Ph.D. Cornell University, Ecology and Evolutionary Biology; *Senate Energy, Utilities and Communications Committee*
- **David Ernest Garcia** – Ph.D. University of California, Berkeley, Chemistry; *Assembly Member Skinner*
- **Brandon Gaytán** – Ph.D. University of California, Berkeley, Molecular Toxicology; *Assembly Member Bradford*
- **Toni Lee** – Ph.D. California Institute of Technology, Biochemistry and Molecular Biophysics; *Senate Natural Resources and Water Committee*
- **Brie Lindsey** – Ph.D. Oregon State University, Oceanography; *Senate Office of Research*
- **Karen Morrison** – Ph.D. University of Illinois Urbana-Champaign, Organic Chemistry; *Senate Environmental Quality Committee*
- **Colin Murphy** – Ph.D. University of California, Davis, Transportation Technology; *Assembly Member Quirk*
- **Nathan Phillips** – Professor of Earth and Environment, Boston University; *Senate Transportation and Housing Committee*
- **Alia Schoen** – Ph.D. Stanford, Materials Science and Engineering; *Assembly Member Williams*

Where are 38 alumni now?

- 5 - California State Agencies
- 7 - California State Assembly
- 5 - California State Senate
- 7 - academia
- 1 - Local public health agency
- 1 - National lab
- 5 - Non-profit organizations
- 2 - Private sector
- 2 - Seeking positions
- 1 - left PCAST, now in Germany with family
- 1 - just gave birth to first child
- 1 - sailing around the world on sailboat with husband



Former Fellows at Dinner:

- Michael Bedard
- Stephen Francis
- Annabelle Kleist
- Katharine Moore
- Rebecca Newhouse
- Leonardo Scherer Alves
- Malaika Singleton



- ✧ **Sustainability plan:** Fundraising continues for next five years
- ✧ Current funding to sustain program through Year 7
- ✧ \$30K grant from Gordon & Betty Moore Foundation to assist with developing long-term plan

Executive Branch Pilot Program



- ✧ Science fellow selected for pilot partnership project with American Society for Mechanical Engineers to support fellow in Executive Branch
- ✧ Nicole Meyer-Morse, currently a AAAS Fellow with Dept. of Defense, now in California to work with Governor's Office of Emergency Services



Alumni Fellows Program

- ✧ \$20K grant to support development and operation
- ✧ Steering committee of 8 former Fellows has met several times
- ✧ Mission statement, business plan, LinkedIn discussion site, newsletter, counseling seminars

Staffing

- ✧ **Amber Mace:** CCST Deputy Director
- ✧ **Doug Brown:** Project Director
- ✧ **Randy Chinn:** Program Advisor, chief mentor, liaison with Legislature
- ✧ **Annie Pierce:** Program Coordinator

California's Energy Future

- ✧ Reports continue to generate interest
- ✧ CEF project chairman Jane Long regularly asked to comment on study in media
- ✧ Session at AAAS annual conference to focus on issues



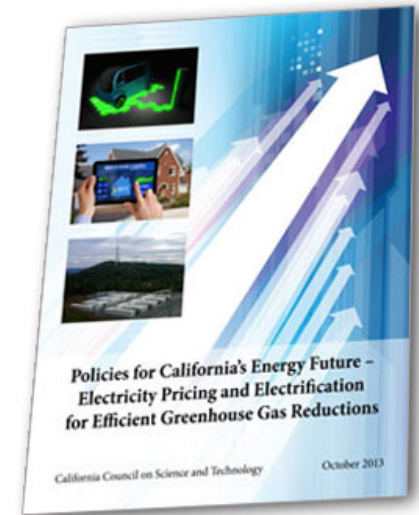
California's Energy Future - Policy



- CEF – Policy Committee formed to address policy implications of technology analyses
- Committee completing work – grants from Cummings Family Foundation and Heising-Simons Foundation
- Funding to finish additional projects needed; most of these projects will require analysis not included in Cummings budget

CEF Policy studies planned & status

- **Electricity Pricing:** **Published**
- **Scaling Up Advanced Biofuels:** **In review**
- **Carbon Capture and Storage:** **Jane Long** leading an effort funded by Bipartisan Policy Center; pro-bono student support from EDF and Boalt Law School
- **Tools for choosing an emission-free electricity portfolio:** \$25K seed grant from Heising-Simons; workshop held in July to define issues related to five factors: build out rate, cost, reliability and system issues, water/land use, policy requirements. Workshop report in preparation.



Science and Technology Innovation for California's Water Future

Project Goals:

- ✧ Identify and describe technology innovation and/or systems approaches that can be used in California, on a statewide, regional, local, or project basis, within the next five to ten years.
- ✧ Identify agents responsible for adoption of recommendations and inform technology planning, actions, pilot projects and investments by Federal, Tribal, State, regional and local governments and agencies, non-governmental organizations, and private applied research and innovation initiatives to achieve the needs outlined.
- ✧ Make specific recommendations on policy and process changes needed to incorporate identified innovations.

California's Water Future Project status

- Project has completed subject matter expert review and Board & Council review (as of Feb. 4)
- Final publication this month
- Committee members will provide details of report

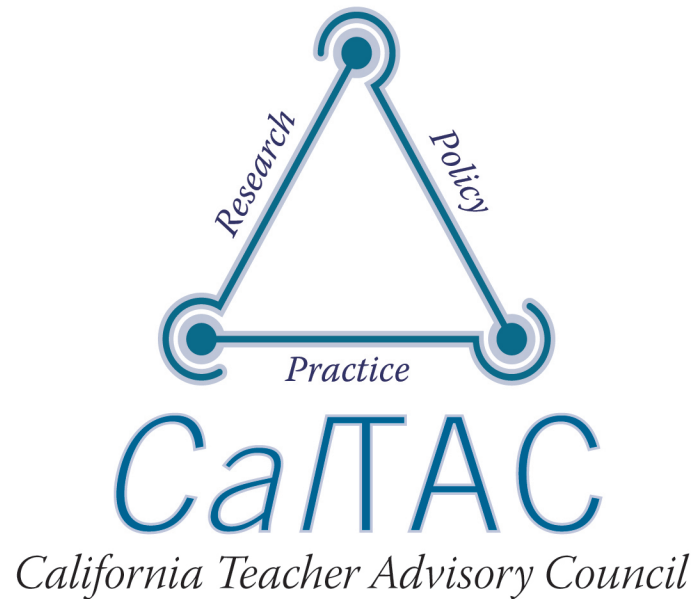
Hydraulic Fracturing in California

- ✧ At request of Bureau of Land Management, CCST is conducting an independent scientific review of oil and gas development technologies in California
- ✧ Purpose of assessment is to synthesize and assess the available scientific and engineering information associated with well completion techniques, including hydraulic fracturing, in California
- ✧ Draft report due for completion March 18

SB4 Well Stimulation Assessment

- ✧ Dept. of Conservation working with CCST to extend BLM study in response to legislative mandate
- ✧ Assessment of well stimulation technologies in California
- ✧ SB4 mandate overlaps with BLM study





- ✦ Continued discussion on digitally enhanced education
- ✦ Workshops and symposia designed to enable participants to explore digital teaching and learning by:
 - ✦ Providing opportunities for candid discussion
 - ✦ Connecting innovators
 - ✦ Engaging policy community

Symposium on Sept. 13 2013 brought together education leaders from around California to discuss what current research says about effect of digital teaching and learning platforms, tools, programs, and resources



Summary report from symposium is in the review process

Cal TAC Convocation: STEM Learning is Everywhere

- ✧ Joint convocation at Beckman Center with National Research Council's Teacher Advisory Council (NTAC)
- ✧ Stakeholders from across the US will engage in conversations about opportunities to enhance STEM learning in K-8 through strategic connections amongst formal, informal, and afterschool learning communities
- ✧ Joint NTAC/Cal TAC meeting afterwards

Cal TAC proposal to expand reach and role

- ✧ **Increase** Cal TAC membership
- ✧ **Connect** to education and policy communities through Cal TAC Education Policy Fellows
- ✧ **Impact** culture of teaching profession
- ✧ **Convene** state-level partners
- ✧ **Inform** policies that strengthen teaching in STEM disciplines
- ✧ **Strengthen** preparation and retention of STEM teachers

New Cal TAC leadership



Heidi Haugen
Chair
Science teacher
Florin High School



Andy Kotko
Vice-Chair
First grade teacher
Folsom Cordova Academy
for Advanced Learning

New members:

- **Darrel James**
Biology
High School

- **Arthur Lopez**
Computer Science
High School

- **Roy Mason**
Biology Instructor
Community College

California Academy of Young Innovators

- ✧ CCST seeking support to design and create a new type of academy, in part modeled on Global Young Academy network



- ✧ For California to maintain its status as high-tech leader, must continue to create and attract the very best young innovators, and equip them with the tools needed to succeed, e.g., invent new industries, define new areas of inquiry, and communicate their ideas broadly
- ✧ If supported, California Academy of Young Innovators (CAYI) would be embedded within CCST and connected with National Academies