Minutes from 2nd Annual Greening Grants Work Session

Tuesday, May 10, 2016, Washington, D.C.

1. **Introduction** by Phil Wirdzek

2. **Background presentation** by Kathy Ramirez-Aguilar, Ph.D. **--** *Why is there a need for connecting sustainability and efficiency to federal research funding for universities?*

3. **Panel discussion with audience participation**

   Facilitated by Hilliary Creely. Panelists included Robert Kutcha, Brenda Petrella, and Jelena Srebric (Panelists have a variety of experiences applying for and reviewing grants, and one has now taken on a University Health and Safety role).

   a. ***Does the current federal grant process encourage efficiency (such as equipment sharing, IT resource sharing, efficient use of space, and selecting energy/water/material efficient processes)?***
      i. *Not directly, but grant applications do lend themselves to some degree of equipment sharing.* For example:
         - Information is required about resources on applications (e.g. Core facilities).
         - If a grant proposal requests an unusually large amount of money for equipment or does not indicate ample resources available at the institution, it could potentially hinder an application.
         - In the case that limited equipment is available, applicants need to explain how they will be able to conduct their research.
         - To be more competitive for equipment grants, some applicants will ask other PIs to indicate that they too will use the new equipment, which may or may not happen to the degree expected. This process though can foster relationships despite the initial self-interested motivations.
         - As grants are very long, reviewers often skim or skip over some sections, such as the page on an institution's resources in NIH grants. Thus, a resources section may only have a minuscule effect.
      ii. *Abundance of Equipment Resources Has Its Benefits:*
         - The resources at an institution can be a "power card" when applying for grants, and if institutions reduced their equipment through more sharing and optimization, it could level the playing field to the detriment of larger, well-funded institutions.
         - Having access to Core facilities can help researchers focus the specific aims of their research proposals, as the need for external collaboration and resources can make it much more complicated to conduct research.
      iii. *Buying Inexpensive:*
         - When spending grant dollars, the incentives are to maximize the buying power of the funds, thus buying cheaper, less sustainable options is typically the natural inclination.
      iv. *Some universities lack tools for sharing:*
         - At some universities, there is no system to advertise equipment that could be available for sharing. Even core facilities are sometimes not well known and end up in duplication on university campuses.
         - The addition of a Materials Manager or a website to help scientists find equipment could be a valuable conduit for fostering sharing and tracking equipment.
         - With reduced grant dollars, some labs are closing, which actually creates excess idle or unwanted equipment that could be shared if a process was in place to help.
      v. *Shared spaces can be complicated:*
         - There can be unexpected results from an open lab space that is meant to encourage sustainability principles, such as sharing and flexibility.
            - From a health and safety perspective it can be quite challenging when considering possible containment measures should they need to be implemented.

- Plus there can be a counter collaborative effect if some individuals are not decontaminating shared areas and researchers don't understand the hazards present in the neighboring areas, thereby creating distrust.

vi. *Other comments:*

- When considering ways to encourage a more efficient use of grant funding, panelists commented on the disconnect between Sustainability Offices, scientists, and the granting process.
- It was noted that some lessons could be learned from the Healthy Hospitals Initiative from Practice Green Health.
- The topic of green chemistry arose during the discussion. Potential lessons from Beyond Benign were mentioned, and the question was raised on the possibility of reaching out to labs and teaching them alternative approaches.
    - It was recommended that Robert look at some of proven procedures and guidance to get his perspective on how realistic it would be to encourage researchers to switch to green chemistry practices, as appropriate.

b. **Ideas for increasing efficiency and starting to make the connections; identifying obstacles; and actions needed to bring about ideas.** The audience also raised questions of their own.

i. **Require vs. Encourage?** ***If federal agencies started making requests for efficiency, do you think it would have impact? Would it need to be a requirement or would encouragement alone work?***

- *A mix of responses were received*:
    - One panelist felt that it had to be a requirement before it would have any impact. And even then (if it was required), still questioned how successful it would be since grant application have gotten so long with so many extra sections to answer. Sections will often just get skimmed or not looked at all. Thus, it is likely that it may not be taken into real consideration when an application is reviewed. It would also be difficult to enforce.
    - Another panelist felt that it could start as a voluntary section and then move to a requirement. That panelist felt an extra section in a grant application on this topic would have impact. *Some examples were offered by the group:*
        - <u>Education planning for post-docs:</u> A post-doctoral student mentoring plan is now a part of applications. While initially there was very little traction for this effort, some institutions have now taken it seriously and it is having impact. At least one panelist has seen it have impact on their campus.
        - <u>Data management requirement:</u> This is a fairly recent requirement. At first this was a voluntarily section where information could be provided on how data would be managed but soon afterwards it became a requirement.
        - <u>Biohazard statement requirement:</u> A similar situation has been observed for a recent biohazard statement requirement in grants where biosafety applies. One panelist mentioned how this requirement is benefiting communication between PIs and their EH&S department, which was not happening before…so requirement or voluntarily sections could open doors for conversation on campuses.
- Tools to assess and suggest improvements in lab have been developed and are in development that could help such as:
    - On the individual lab level, tools such as the Green Labs Assessment could be used: http://www.mygreenlab.org/green-lab-assessment.html
    - On the institution level for lab related efforts, the I2SL Laboratory Continuous Performance Improvement Tool that is in development could be used.

ii. Use as an Opportunity to Engage Other Stakeholders and Increase Impact?

- One possibility of including an efficiency/sustainable element in the grant process is that, even if PIs initially don't like it, the burden could ultimately be shifted elsewhere in the institution.
    - Perhaps institutions eventually could have a designated person who handles this type of sustainability information.
        - This process could raise awareness on campuses and broaden the scale of impact on universities.
        - For example if a checklist/assessment is encouraged for institutions to provide, then it may be the institution's grants officers, Sustainability Office, or others who need to gather information.
        - It could open doors of communication between scientists and sustainability offices or Green Labs Programs.
        - If early adopters can be found, the benefit is that they tend to be more flexible and willing to work with the inevitable mistakes and challenges as the process evolves.
    - The issue was raised that some institutions are better at providing grant support to PIs than others.
        - For example, at smaller, less well-to-do institutions, PIs may be stuck with filling out the section since there is likely less grant preparation support at these institutions. Some institutions don't even have the resources to have a Sustainability office.
            - Brenda noted that New Hampshire is below the state average in grant dollars, so there is a program in which Dartmouth helps award grants to smaller institutions.
                - Perhaps through this program (or a similar program), help from universities like Dartmouth could be extended to other universities in connection with possible efficiency/sustainability requirements.
                - Or this program could potentially be leveraged to drive some more sustainable buying of equipment.
        - The point was also made that grant preparation support varies even at large, well-funded research institutions. Some are better at it than others.

iii. **Require an Efficiency or Sustainability Statement?**

- One approach mentioned would be to have PIs or the institution include an efficiency or sustainability statement with their grant applications.
    - For example, on the EHS side, there is growing scrutiny on research involving human subjects and animal resources, and statements are required in grant applications. PIs sometimes look to others at the institution to help compose statements. A panelist was aware of an application that bounced back at her institution for not having an acceptable statement.
- An attendee noted that the White House now has federal agencies identifying 7 of their largest contracts and requesting that companies provide sustainability information, e.g. GHG reporting, Carbon Disclosure Project submissions, or other metrics.
- Rather than an affirmative statement, an alternative could simply be a disclosure about the status of green lab or campus sustainability goals. This could be more flexible for the wide range of institutions. Such as:
    - Sharing AASHE's STARS score

        - Stars does now contain points for having a Green Labs Program. Perhaps in the future, there could be a credit that ties in with evaluation systems such as the Green Labs Assessment Tool and I2SL LCPI Tool mentioned below.
    - Referencing an institution's climate commitment (such as President's Climate Commitment) and status of reaching goals.
    - On the individual lab level, tools such as the Green Labs Assessment could be used: http://www.mygreenlab.org/green-lab-assessment.html
    - On the institution level for lab related efforts, the I2SL Laboratory Continuous Performance Improvement Tool that is in development could be used.

iv. **How to Engage Federal Agencies?**

- *Background:*
    - Policy is already written requiring equipment sharing and avoiding duplication (Uniform Guidance 200.313 c2 and 200.318 d). It is just not enforced or encouraged by the federal government. So it is not having its intended impact.
        - The Uniform Guidance document was created to address the fact that universities were facing different rules from different agencies.
        - Different agencies are looking to get their research terms and conditions to align better based on the Uniform Guidance Document. It was reported that as the FDP meeting last week, when an NSF policy lead was asked whether the research terms and conditions document would highlight the requirements to share and avoid duplication of equipment, there was an indication that was not needed because it was in the Uniform Guidance document. The point was made that the policies are not working because there is no encouragement or enforcement of them.
        - It was noted that if state law is more restrictive in some areas, it tends to overrule the Uniform Guidance, which could come in conflict with other requirements about energy consumption, for example.
    - Outreach to raise awareness of the 2015 and 2016 Greening Grants meetings at the DOE Summit was done for many federal agencies (OMB, CEQ, NIH, HHS, EPA). Sustainability employees have attended from agencies such as NIH and HHS, but grant policy, administrators, etc. have been lacking.
    - The idea for this meeting was to have a panel including both university scientists and individuals from federal agencies with responsibility for or influence over policy development, guidance, and/or administration of federal grants, but despite great effort, no federal agency employee accepted the invitation.
    - Kathy just attended the Federal Demonstration Partnership (FDP) event in DC, which is a partnership between universities and federal agency employees involved in grant policy. The FDP is focused on reducing the administrative burden of research grants and contracts. There is a sense that there is an alignment of thought processes there since administrative burden is increasing for scientists as the competition of funding increases since scientists have to write more and more grant proposals to get the funding they need. Also, the desire is to implement greening grants in a way to minimize unwelcome administrative burden. Unfortunately, the leadership of the FDP has decided to not include greening grants as an additional topic covered by the FDP. They understand the need for this effort and appreciate knowing that there is a group of people working on it.
    - NIH does not seem opposed to Greening Grants concept.

        - When asked a question about whether NIH will be connecting efficiency with NIH extramural grant funding such as equipment sharing, Michael Lauer (Deputy Director of the NIH Office of Extramural Research) responded with the fact that one university has two core facilities that do same work in one building.
        - Also, in conversation with the Director of the Division of Grant Policy for NIH (Samuel Ashe), it was expressed that there has been conversation related to this topic and there appears that there would be openness to this subject.
        - 5 University Alliance Group members had submitted a response to a RFI from the Office of Extramural Research at NIH on optimizing processes, but received no response.
    - One idea raised was to reach out to members of Congress, who then could compel agencies to answer sustainability questions.
    - It was mentioned that GSA will be looking at sustainable certifications and pulling together data on companies.
    - The George Washington University will be hosting the GreenGov Symposium on September 8, 2016 in collaboration with CEQ. It was mentioned that Greening Grants could be a topic at the event by an attendee who is helping to organize that event.
        - [UPDATE: it was decided not to include Greening Grants in the Green Gov event. One main reason is that not all sustainability individuals in the federal government are related to grants and thus it would only be applicable to some attendees].
    - The idea of collaborating with AASHE on this topic was also mentioned because of the extensive network of universities involved in AASHE. That could help bring attention to this topic on a larger scale.
    - There is still the need to update many documents/guidelines related to grants to reflect current policy on sustainability. Thus there is opportunity to incorporate greening grants there.
    - Kathy, Jonathan Herz, and Ted Kozak will be attending a meeting with CEQ on this topic the next day. Perhaps CEQ will be interested in working on this topic.
    - Phil, Allison, and Kathy also attended a meeting with the NIH analyst for OMB on this topic on Monday. There is expected to be follow-up on that meeting.
v. **Questions To Consider:**
    - What's more beneficial: Targeting institutions or individual labs?
    - Where should the burden fall? With PIs or Research Administration, institution, etc.?
    - What factors are different across institutions that would affect how a Greening Grant initiative is received or applied?
    - Should it be part of the selection criteria?
    - Unintended consequence: How do we make sure everyone is able to participate and smaller, less funded institutions are not put at a disadvantage?
    - Is a different funding mechanism possible if federal grants are too challenging?
        - For example, the program at Dartmouth which helps award grants to smaller institutions. This could potentially be leveraged to drive some more sustainable buying of equipment.
    - As a different funding model, could more direct costs be given to offset less reimbursement of indirect costs?
    - Who else needs to be engaged?
        - More feedback is needed from PIs and research administrators
    - Federal agencies have guides for writing grants, could efficiency/sustainability be inserted there? Also in ethics courses that scientists are required to take.

- With the Uniform Guidance terms and conditions or other grant documentation for institutions, if sustainability is included, who does it affect? Will research administrators learn about it? Does the information reach PIs? As a practical matter, is the current Uniform Guidance even clear on how sustainability already fits in?
- Is there guidance on end of life and proper disposal of materials and equipment from grants?
- Does it make sense to standardize at least some practices, such as using only EnergyStar equipment, when applicable? But is this then too prescriptive and can have unintended consequences on institutions and/or the marketplace for equipment?

4. **Summary and Closing Remarks**
   a) Sustainability guidelines that reach peer-review level should not be in conflict with science
   b) Likely both bottom-up and top-down approaches are needed. PIs also need to understand the justification for sustainability and how it might matter to them.
   c) Before adding a sustainability element in a grant application process, we need to understand the levers of change at an institution and make sure our approach ultimately reaches and influences the people who can have the greatest impact at an institution.
   d) It is important to make sure that less funded institutions are not put at a disadvantage.
   e) Should an institution be responsible and not the PI for new federal guidelines? Technically awards go to an institution and not a PI, samples stay with an institution if a PI leaves. And an institution is ultimately responsible for compliance and liability.
   f) In the early 90's, grant applications were about 45 pages, they are now about 80 pages. Arguably a lot more forms, not improvement of quality. How can unwanted increases in administrative burden be avoided while still supporting efficiency and sustainability?
      - FDP will do a new survey of PI workload and determine how competitive the application is for PI, and look at the success rate for receiving grants. The data may be published in 2017 or 2018.
      - Agencies tend to have target numbers for success rate.
      - Similarly, in Pennsylvania, faculty members need to fill out a form and share how their time is spent.
      - More grants (due to lower success rate of PIs) and longer grant applications, means more burden on personnel at granting agencies, too.
   g) Make sure to include those that need to be involved in the conversation:
      - Scientists, grant managers, grants and contract offices at institutions, and offices of sustainability to understand options and feasibility to implement sustainable initiatives.
      - Federal agencies employees with responsibility for or influence over policy development, guidance, and/or administration of federal grants

5. **Next Steps**
   a. Continue to reach out to and engage with the stakeholder groups who have not been well represented in prior meetings
   b. Explore potential green labs tie-ins with AASHE and AASHE STARS
   c. Host a meeting/webinar to engage more research administrators at universities who has been underrepresented at the DOE meetings.

6. **Follow-up thoughts received after the meeting:**
   - A PI from a smaller university mentioned that labs at less funded universities may already be ahead on this issue. Because they don't receive as much research funding, researchers at these universities already do extensive sharing of lab equipment.
   - From a panelist: The more I think about who should be responsible for initiating instrument sharing and developing more sustainable procedures, I think it requires that the culture of labs change. If the PI has no

interest in these things, then that lab will not. One could also consider immersing incoming graduate students (immersion being one or two hours of education perhaps) in the ideas of becoming more efficient.