

An approach to developing the REE Roadmap for Research, Education and Extension

Section 7504 of the Food Conservation and Energy Act (FCEA) requires the development of a roadmap for agricultural research, education, and extension that (1) identifies current trends and constraints and (2) identifies major opportunities and gaps that no single entity within USDA would be able to address individually. The roadmap is to involve interested parties from the government and nongovernmental entities as well as the NAREEE Advisory Board; and is to incorporate roadmaps and other planning documents made available by other federal entities, agencies or offices. Among other requirements, this roadmap is to be used to set the research, education and extension agenda of the Department of Agriculture as well as to describe recommended funding levels.

The Under Secretary for REE is to initiate the development of the roadmap within 90 days of passage to the 2008 Food Conservation and Energy Act and implement and report on the roadmap within one year of commencing work. This is a daunting task given the complexity of the REE mission area and the agencies and external partners who work to meet various programmatic goals.

Programs supported by taxpayers should be implemented for the ultimate benefit of those same taxpayers and for society in general. Consequently, setting an agenda for implementation of these programs appropriately involves recognition of the status of these constituencies and the environmental trends and opportunities that are likely to impact them in relationship to the mission of the department and its partners.

Suggested Process

The Land Grant University community encourages the Under Secretary/designee to appoint a Roadmap Steering Committee (RSC) to guide development of the Roadmap. While it is recognized that developing the Roadmap is the prerogative of the Department, it is expected that input and assistance will be sought from representatives of key partner groups, including Land Grant University teaching, research and extension participants and that subsets of the RSC, along with assistance of partner representatives will staff these efforts. This approach and those detailed below will assure the development of a robust roadmap with broad support. Based on these expectations, the following procedures are suggested.

Review of Existing Plans

The RSC will collect current strategic plans, roadmaps and similar documents for the components of the agricultural research, extension and education system, from both within the Department and from partner entities.

These background documents will be reviewed to ascertain key trends, constraints and opportunities on which the documents are based. These may include, for example, changing demographics, significant social changes, advances in science and technology, and changes in information-seeking behavior of the Department's beneficiaries. The RSC will synthesize and summarize the key trends, constraints and opportunities identified in these background documents, list them and provide a brief description of each.

These background documents reflect societal needs for research, Extension and education at the point in time the documents were created.

Recognizing these needs, themes for a USDA-REE science roadmap that are inclusive of the core organizations of intramural and extramural research, education, extension and outreach education that includes science-based knowledge and technology transfer, and human capacity development are essential.

Gap Analysis

The RSC will conduct a “gap analysis” to identify additional trends, constraints and opportunities that may not be included in the foundation documents. For example, the relationship of food and energy and the sustainability of both may not be adequately portrayed in the documents.

In the interest of time, the “gap analysis” could be conducted as follows.

- a. The base document (synthesized list with brief descriptions) could be provided on-line with a request that respondents identify additional trends, also with brief descriptions of the trends and how they relate to the mission of the Department and its partners.
 - i. Within the Department, responses could be solicited and summarized by the various agencies, i.e., ARS, CSREES, ERS, FS, NASS.
 - ii. With the Land Grant University partners, responses can be solicited and summarized by the various Board on Agriculture (BAA) Committees, i.e., ESCOP, ECOP, ICOP, ACOP, and AHS. This process will ensure that all entities, including the 1890s, 1994s and Non-Land-Grant Colleges of Agriculture are fully engaged in this process.
 - iii. With NAREEE Advisory Board, responses could be solicited and summarized by the Board executive. The advisory board provides some representation from nongovernmental entities, as prescribed by statute.
- b. Since the NAREEE Advisory Board may not adequately represent other key nongovernmental stakeholders, e.g., youth, families and rural communities, BAA staff can coordinate the collection of responses from the Board on Human Sciences and from 4-H representatives.
- c. The RSC (or designated working group) will integrate the gap analysis data collected with data gleaned from the foundation documents. The result will be a draft white paper focused on Trends, Constraints, Opportunities and Gaps related to implementation of the CFEA of 2008 which will inform the identification of REE goals.

Using themes to develop a draft Roadmap

The elucidation of Trends, Constraints, Opportunities and Gaps will provide critical insights into cross cutting *themes* which should inform the USDA research, education and extension agenda. The RSC would develop a “Conceptual Framework” document which broadly, but succinctly, describes those themes identified from the above. The “Conceptual Framework” would serve as the guiding document for the development of the REE Roadmap. These broad themes would guide the RSC in identification of underlying issues, and subsequently, writing groups which would more fully develop the background information on each issue including goals and objectives.

Each theme would be led by a small goal development team (GDT), led by a member of the Roadmap Steering Committee, which would assume responsibility for the development of an overarching white paper or plan. Each theme/goal would be supported by a series of underlying issues as indicated above.

Each underlying issue would be addressed through the development of a short 4-5 page white paper crafted by small writing team comprised of appropriate contributors. These teams would have broad representation so as to gain the best thinking and input. Writing teams would be comprised of representatives of USDA ARS, ERS, CSREES, university researchers, Extension, and academic programs, etc. Each writing team would obtain additional input on their particular topic as needed.

The GDT reviews the issue papers looking for cross-cutting themes to create a draft goal statement(s) with underlying details. The resulting goal statements would be shared with the respective contributing writing teams for comments with a short turnaround.

(Note: An initial set of potential themes with several underlying issues based on the Food, Conservation and Energy Act (FCEA) of 2008 and existing planning documents is shown in Appendix A. For brevity only a few underlying themes have been provided.)

Drafting the Roadmap

Since the goal statements will have been developed by separate development teams, it is essential that the RSC employ an editor who will synthesize a draft Roadmap from the themes/goals documents.

Roadmap Steering Committee or REE obtains input on the draft Roadmap and modifies as appropriate.

Budget Implications

The Food Conservation and Energy Act of 2008 also requires that the Roadmap

“(5) describes recommended funding levels for areas of agricultural research, education, and extension, including—

(A) competitive programs;

(B) capacity and infrastructure programs, with attention to the future growth needs of—

(i) small 1862 Institutions, 1890 Institutions, and 1994 Institutions;

(ii) Hispanic-serving agricultural colleges and universities;

(iii) NLGCA Institutions; and intramural programs at agencies within the research, education, and economics mission area”

It is essential to maintain and grow capacity funding of the LGU system to respond to current and emerging needs. There is also need to enhance the capacity at 1890, 1994 and small 1862 institutions and to provide resources for the Non Land Grant Colleges of Agriculture to meet new and emerging needs. Finally, there is need to enhance the pool of resources available in the Agriculture and Food Research Initiative within the National Institute, with the proper balance between basic, applied and integrated programs.

Appendix A: An Example of Themes and Issues

An initial set of themes can be drawn from existing plans, the Food, Conservation and Energy Act (FCEA) of 2008, and input from the gap analysis. The linkages between USDA research, education and extension and the Land-grant universities are essential for a successful science roadmap for USDA-REE.

Example themes which are consistently present in relevant planning documents are displayed under the general heading of "Putting Science to Work in a Time of Rapid Change." Several brief topics are provided under the eight overarching themes, each of which in this example would serve as the basis for short discussion white papers. These papers would inform the corresponding GDT in its development of a goal statement(s). It is expected that there would be additional issues under each of the broad themes.

Putting Science to Work in a Time of Rapid Change

Agriculture in a Changing Global Landscape

- Sustainable plant and animal systems
- Competitiveness and profitability from farm to table
- Changing global economy
- Adjustments to global climate changes

Safe and Abundant Food for America

- Food safety
- Food production
- Communities and food systems

Energy and Materials from America's Renewable Natural Resources

- Initializing innovation on farms and in industry
- Natural resources use and conservation

Sustaining our Environment

- Water, land and air for the future
- Sustainable agricultural systems

Enhancing Science Capacity and Adoption of Technology

- Pre-college programs, K-12 STEM, enhancing undergraduate education and research and graduate education
- Addressing needs for future faculty and other professionals
- Youth as leaders of change
- Formal and informal education and human capacity development
- Using information and communications technology to expand learning and engagement
- Using the education and extension systems to enhance adoption of research-based technologies by users

Attacking Worldwide Hunger

- Enhancing the capacity of others
- Securing America

Individual, Family and Community Resilience

- Security, safety and health
- Entrepreneurship and small business development
- Families that work in today's society
- Human nutrition

Strengthening International Connections

- Fellowships and student training
- Study abroad, scientific exchange programs
- Building international capacity on campuses

Appendix B: Background Information Sources

Legislation

Food, Conservation, and Energy Act of 2008

USDA Agency Documents

USDA Strategic Plan 2005-2010: <http://www.ocfo.usda.gov/usdasp/usdasp.htm>

CSREES Strategic Plan 2007-2012: http://www.csrees.usda.gov/about/offices/pdfs/csrees_stratic_plan.pdf

ERS Strategic Plan 2007-2012: http://www.ers.usda.gov/AboutERS/ERSstrategicPlan2007_2012.pdf

ARS Strategic Plan 2006-2011:

<http://www.ars.usda.gov/SP2UserFiles/Place/00000000/ARSStrategicPlan2006-2011.pdf>

NASS Strategic Plan 2006-2011: http://www.nass.usda.gov/About_NASS/Strategic_Plan/spnass2011.pdf

REE Energy Sciences Strategic Plan: http://www.ree.usda.gov/news/bead/USDA_REE_strat_plan.pdf

Forest Service Strategic Plan 2007-2012: <http://www.fs.fed.us/publications/strategic/fs-sp-fy07-12.pdf>

Cooperative Extension

Strategic Opportunities for Cooperative Extension (2008)

<https://www.nasulgc.org/NetCommunity/Document.Doc?id=369>

Cooperative Extension in 21st Century (2002)

<https://www.nasulgc.org/NetCommunity/Document.Doc?id=152>

eXtension Strategic Roadmap

http://about.extension.org/mediawiki/files/5/57/EXtension_Strategic_Roadmap_FINAL_07-28-08.pdf

eXtension executive summary:

http://about.extension.org/mediawiki/files/9/9b/EXtension_Strategic_Roadmap_Executive_Summary_FINAL_07-28-08.pdf

Experiment Stations

ESCOP Science Roadmap Documents: <http://escop.ncsu.edu/Infobook.cfm?upperlevel=18>

2002 Roadmap: http://escop.ncsu.edu/workroomattach/23_roadmap2.pdf

2006 Roadmap update:

http://escop.ncsu.edu/workroomattach/20_Roadmap%20Update_2006,%20read%20version.pdf

1890 Agricultural Research Directors

http://www.umes.edu/ARD/Default.aspx?id=11228#Strategic_Five_Year_Goals

Academic Programs

Under development

International Programs

Under development