

**Context Statement for Science Advisory Board Review:
ORD Sustainability Research Strategy and
Science and Technology for Sustainability Multi-Year Plan**

(For Public Dissemination)

As part of its research planning and management, EPA's Office of Research and Development (ORD) often prepares **Research Strategies** and **Multi-Year Plans**. Each **Strategy** defines broad areas of research that ORD expects to undertake and lays out an organizational road map addressing related research questions. The more specific **Multi-Year Plans (MYP)** serve as implementing documents for the frameworks set out in the Research Strategies. Each MYP identifies a set of long-term goals and associated Annual Performance Goals (APGs) and Annual Performance Measures (APMs). Intended as a living document, ORD updates each MYP as needed, reflecting the current state of the science, resource availability, and Agency priorities.

ORD is now developing a new **Sustainability Research Program**. As detailed in the *Sustainability Research Strategy*, a combination of growing world population, rapidly expanding GDP and other forces suggest that significant stress will be placed on the earth's resources and on humanity's ability to maintain or improve environmental quality. Today's and future generations thus face the challenge of preventing or mitigating the negative consequences that come with this population growth and economic expansion while we simultaneously work to improve the protection of human health and environmental quality. ORD believes that the growing challenges on our environment require a new set of approaches that help our nation move toward a more sustainable future.

ORD's new approaches include the ORD's *Sustainability Research Strategy*, along with the associated *Science and Technology for Sustainability MYP*, which will play a crucial role in achieving measurable sustainable outcomes. The *Sustainability Research Strategy* promotes will unify existing and future ORD research programs and their associated MYPs. The *Science and Technology for Sustainability MYP* is the first of several ORD research programs that will contribute to the implementation of work that responds directly to the research questions laid out in the Sustainability Research Strategy.

This new research activity will provide added value to EPA through scientifically based models, methods, technologies, and strategies for the long-term protection of the environment. It recognizes that problems exist within systems whose spatial and time scales are extremely large. Adding a time dimension reflects the idea that, rather than attempting to remediate or restore already damaged watersheds and other ecosystems, it's better to seek ways to maintain the healthy conditions of ecosystems. Emphasizing the spatial dimension in ORD's new research activity recognizes that the environmental consequences of actions must be examined for their system-wide impacts.

External peer review, including public comment, is an important part of any scientific activity. ORD is pleased to submit both the *Sustainability Research Strategy* and the

implementing *Science and Technology for Sustainability MYP* to the Science Advisory Board for its review and guidance. The SAB's recommendations, as well as public comments, will be incorporated in to the final Strategy and MYP.

Sustainability Research Strategy and MYP Charge to the SAB

ORD requests that the Science Advisory Board provide consultation and advice on the Sustainability Research Strategy and its accompanying Multi-Year Plan (MYP). ORD asks the SAB to respond to the following specific charges:

Strategy:

Does the SAB agree with the central premise of the Strategy that sustainability is all about decision making and that ORD research support should aim to inform and allow decision makers at all levels of government and in the private sector to choose courses of action that will lead to achieving sustainable outcomes?

Does the strategy make a compelling case for ORD and EPA that Sustainability Research is a priority for ORD?

Does the strategy focus on priority national issues and identify the right research questions?

Does the strategy identify the right implementing steps to address research questions and achieve sustainable outcomes (Advance technology, develop tools and approaches, advance systems research and disseminate and apply results.)

Does the strategy adequately and correctly connect to policy and/or decision-makers inside and outside EPA for achieving desired sustainability outcomes?

Does the strategy enable ORD to prioritize its research investments?

Does the strategy define an appropriate role for EPA relative to other funding agencies? Does it sufficiently encourage other Federal agencies and organizations to relate their sustainability efforts to EPA's so as to promote co-funding and/or collaboration where appropriate?

Does the Strategy outline an adequate roadmap for ORD to implement this program (P2 transition to Sustainable Technology, coordination among NPD and across existing MYPs, leveraging interagency cooperation, and defining emerging research areas?)

Does the SAB believe that sustainability research is a sufficiently strong concept for integrating and coordinating across ORD research programs?

MYP

Does the organization of the new Sustainability Technology MYP provide a clear logical framework for implementing an element of the overall Sustainability Strategy?

Does the MYP follow appropriately from the Sustainability Research Strategy? Are the research issues identified in the MYP consistent with the research questions identified within the Sustainability Research Strategy?

For each major research track addressed within the MYP (e.g., Decision Support Tools, Education, Technologies, Systems, and Metrics/Indicators), do the Annual Performance Goals (APGs) and Annual Performance Measures (APMs) represent a logical progression of activities and intended outcomes? Does the MYP identify the specific issues motivating the research program?

Does the MYP lay out a balanced program addressing both short-term and longer-term research that meets current needs while positioning the Agency to respond to emerging issues?

Do the long-term goals address the high-priority science, engineering, and technology needs of users that will help the Agency meet its strategic goals relating to sustainability? Do the long-term goals clearly relate to the research tracks within the MYP framework? Do they provide a picture of what the program is trying to achieve? Will the proposed research activities lead to progress towards these goals? Are the goals appropriately linked to long-term environmental outcomes?

Are the research products supportive of the strategic target as set forth in the Agency's Strategic Plan under Objective 5.4?

Does the scope of work proposed within the MYP complement research being supported by other programs inside and outside EPA?

Are there other potential emerging research areas that the MYP should consider?

Is the level of resources specified by the MYP sufficient to address the research issues that it identifies, allowing ORD to achieve the intended outcomes of the research program? Is the MYP's relative allocation of those resources among the research tracks of the sustainability research program appropriate, based on a consideration of scientific and programmatic needs?

Does the MYP appropriately address findings and recommendations in evaluations of the program and its components?