

Policy Objective 6: Increase basic, applied, and translational research to create new knowledge and economic growth.

- The General Assembly has appropriated \$410 million through the Council on Postsecondary Education to the **Endowment Match Program (Bucks for Brains)** over the past 12 years. Of that amount, \$350 million has been allocated to the state's two research universities, and \$60 million to the state's six comprehensive institutions. The state's investment has been used to leverage an additional \$410 million in private contributions, contributing a total of \$820 million to public university endowments in support of basic and applied research activities.
- The **Kentucky Science & Engineering Foundation (KSEF)** was created to invest in research and development activity to promote innovation and build a pipeline of new ideas and technologies that could add value to the scientific and economic growth in the Commonwealth. Created under the Kentucky Innovation Act of 2000, the mission of the KSEF is to build science and engineering capacity and excellence by investing in exploratory advanced research, purpose-driven research, research in emerging technologies and ideas, human resource development, and technological innovations in Kentucky. KSEF is an initiation of the Kentucky Science & Technology Corporation (KSTC), managed in partnership with the Council on Postsecondary Education and the Cabinet for Economic Development. According to KSTC, KSEF programs consistently earn returns of approximately \$9-\$10 for every \$1 of state funds invested, either through follow-on venture capital investment and/or federal funding.
- The **Kentucky Statewide Experimental Program to Stimulate Competitive Research (EPSCoR)** mission is to enhance the research and intellectual capacity of Kentucky universities and colleges by building and coordinating strategic investments in human capital and physical infrastructures necessary to excel in federal research and development funding competitiveness. Kentucky EPSCoR also encourages collaborative efforts in education and human research development to ensure growth and support of science, engineering, and mathematics research and training in Kentucky. EPSCoR has channeled over \$340 million in R&D funding (the majority being federal funding) to the Commonwealth's academic community since its inception. KY EPSCoR is housed at KSTC and supported in part with funding from the Council.



- The **Rural Innovation Fund (RIF) and the Kentucky Enterprise Fund (KEF)** are state-funded, venture capital-like funds that invest in Kentucky-based seed and early stage technology companies. RIF specifically supports the development of entrepreneurial technology companies in rural Kentucky, and both RIF and KEF stimulate private investment into these companies and spur economic growth. The programs are administered by KSTC, and funding is provided by the Council. To be eligible, companies must be a high-growth, early stage company developing a product, process, or service in one of the following industries: Biosciences; Environmental and Energy Technologies; Human Health and Development; Information Technology and Communications; Materials Science and Advanced Manufacturing.
- The Council led the development of a **coordinated, statewide STEM initiative** to accelerate the Commonwealth's performance within the STEM disciplines; maximize the impact of resources among state agencies, schools, colleges and universities, and businesses; and develop and attract STEM-related jobs to Kentucky. The agenda was developed with input from the 110 members of the KY STEM Task Force made up of leaders within the government, business, and education sectors from across the Commonwealth. Legislation that incorporated many of the STEM Taskforce recommendations was passed by the General Assembly and signed into law in 2008. Programs like the KSTC's Advance Kentucky, WKU's SkyTeach Program, Improving Educator Quality (IEQ), and Project Lead the Way have shown great promise in strengthening STEM+H education and expanding professional development for teachers in the STEM disciplines.
- In recent years the Council has convened research leadership from the University of Kentucky, the University of Louisville, and the comprehensive universities on an ad hoc basis to discuss activities, challenges, and **opportunities in the areas of translational and applied research**. Discussions have led to the Kentucky Translational Research Forum, held in 2007; a comprehensive assessment of the Bucks for Brains program in 2008; and a state-level assessment of research and development projects in response the American Recovery and Reinvestment Act of 2009.
- The **Kentucky Regional Optical Network (KyRON)**, an operation of the Council, UK, and UofL, is one of the critical parts of the Kentucky Education Network (KEN) connecting the Kentucky P-20 education community to the national and international research and education community through Internet2. KyRON enables UK and UofL to qualify for major federal research grants and help them reach HB1 goals to become nationally recognized research institutions.
- The **Kentucky Homeland Security University Consortium**, first funded in 2004 by the Federal Department of Homeland Security, brings the knowledge resources of the state's universities and colleges to a research and development initiative that seeks to expand the spectrum of products and services used in homeland security. Consortium membership is comprised of Kentucky's public universities and community colleges and several of the state's private colleges and operates in cooperation with the Council.



- The state invests heavily in clinical and research programs related to lung cancer research through the **Kentucky Lung Cancer Research Fund (KLCR)**. The KLCR Program Governance Board is attached to the Council for administrative purposes and the funding for the program is assigned to the Council. Funds are distributed annually to the University of Kentucky's Markey Cancer Center and to the University of Louisville's Brown Cancer Center by recommendation of the Governance Board. The Governance Board is appointed by the governor and has representation from the cancer centers, the Council on Postsecondary Education, and two members at large. The program is funded through the Tobacco Settlement Agreement and has received \$40.8 million since 2000.
- A portion of Cigarette Excise Tax funds are invested through the **Cancer Research Trust** via matching programs at the University of Kentucky and University of Louisville to conduct cancer-related research. A portion of the funding is reserved for investigator-initiated grants awarded to scientists for two-years, administration of laboratories, and purchase of equipment. With matching funds, the investment in this program has totaled \$66.3 million since 2005.