

Faculty Senate
Tuesday, March 22, 2011
3:30 – 5:30 p.m. – Adelbert Hall, Toepfer Room

AGENDA

| | | |
|-----------|---|-------------------------------------|
| 3:30 p.m. | Approval of Minutes from the February 16, 2011 Faculty Senate meeting, <i>attachment</i> | A. Levine |
| | President's Announcements | B. Snyder |
| 3:35 p.m. | Provost's Announcements | B. Baeslack |
| | Chair's Announcements | A. Levine |
| 3:40 p.m. | Report from the Executive Committee | G. Chottiner |
| | Report from Secretary of the Corporation | C. Trembl |
| 3:45 p.m. | Certificate in Design, Innovation and Intellectual Property Management <i>attachment</i> | G. Wnek C. Nard |
| | Certificate in Wireless Health <i>attachment</i> | G. Wnek P. Crago |
| | MSM- Finance, Shanghai <i>attachment</i> | G. Wnek A. Gupta |
| 4:05 p.m. | Climate Action Plan <i>attachment</i> | J. Lawyer J. Ruhl S. Campbell |
| 4:30 p.m. | Strategic Plan for University Libraries <i>attachment</i> | M. Quinn Griffin A. Hirshon |



Faculty Senate Meeting

Tuesday, March 22, 2011

3:30-5:30 p.m. – Adelbert Hall, Toepfer Room

Members Present

Keith Armitage
Hussein Assaf
Bud Baeslack
Ronald Blanton
Lee Blazey
Ben Brouhard
Richard Buchanan
Mark Chance
Gary Chottiner
David Crampton
Lisa Damato
Mary Davis

Faye Gary
Julia Grant
David Hutter
Quentin Jamieson
Betsy Kaufman
Jim Kazura
Kenneth Ledford
Alan Levine
Ken Loparo
Joseph Mansour
Laura McNally
Frank Merat

Diana Morris
Heather Morrison
Carol Musil
Daniel Ornt
Leena Palomo
Mary Quinn Griffin
Alan Rocke
Barbara Snyder
David Wilson
Gary Wnek
Elizabeth Woyczynski
Nicholas Ziats

Members Absent

Kathryn Adams
Bruce Averbook
Timothy Beal
Jessica Berg
Martha Cathcart
Elizabeth Click
William Deal
Jared Hamilton
Alfredo Hernandez

Sue Hinze
Peterson Huang
Christine Hudak
Kalle Lyytinen
Jim McGuffin-Cawley
G. Regina Nixon
John Orlock
Faisal Quereshy
Roy Ritzmann

Cassandra Robertson
Jonathan Sadowsky
JB Silvers
Sorin Teich
Lee Thompson
Susan Tullai-McGuinness
Michele Walsh
Georgia Wiesner
Xin Yu

Others Present

Daniel Anker
Christine Ash
Glenn Bieler
Richard Bischoff
Stephen Campbell
John Clochesy
Donald Feke
David Fleshler

Steven Fox Dent
Anurag Gupta
Arnold Hirshon
Joseph Jankowski
John Lawyer
Ginny Leitch
Ermin Melle
Marilyn Mobley

Charles Rozek
John Ruhl
Ginger Saha
John Sideras
Lynn Singer
Christian Swol
Colleen Trembl
Jeff Wolcowitz

Call to Order

Professor Alan Levine, chair, Faculty Senate, called the meeting to order at 3:30 p.m.

Approval of minutes

The minutes of the Faculty Senate meeting of February 16, 2011 were approved as submitted.

President's announcements

President Barbara Snyder said that she greatly enjoyed hosting the recent reception for the 2011 nominees for the Wittke and Jackson awards for outstanding undergraduate teaching and mentoring respectively. Ms. Margaret Carney, university architect has accepted a new position at Temple University. Case Western Reserve will launch a national search for a new university architect. President Snyder announced that applications for undergraduate admission were up by about 45%; she thanked faculty for assisting with recruitment efforts. In November 2010 the US House of Representatives declared the week of April 11, 2011 as Undergraduate Research Week. President Snyder asked the Faculty Senate to consider recognizing the week of April 11, 2011 as the Undergraduate Research Week at Case Western Reserve University. The Faculty Senate voted to endorse the proposal.

Provost's announcements

Provost Bud Baeslack said that Mr. Mark Coticchia, vice president for research and technology management, resigned to pursue new opportunities as a consultant. The job search for the half-time position of associate provost for research has been terminated; instead, a national search for a vice president for research will commence shortly.

Chair's announcements

Prof. Alan Levine, chair, Faculty Senate, said that the final report of the *ad hoc* SAGES Review Committee has been posted on the faculty senate website. The Executive Committee charged the Faculty Senate Committee on Undergraduate Education (FSCUE) with making a proposal about the governance of SAGES, the university's common undergraduate core curriculum. The Case School of Engineering made a proposal to give engineering majors an alternative means to complete their SAGES requirements. The executive committees of the Case School of Engineering and the College of Arts and Sciences met to discuss the School of Engineering's proposal. The Department of English has drafted a compromise proposal which will be considered at a second meeting of the executive committees. Prof. Levine anticipates that a mutually agreeable proposal will be brought to the Faculty Senate for final review in the fall 2011.

Prof. Levine said that the division of Information Technology Services is moving to Oracle 11, which will require a move to Blackboard 9. Blackboard 9 is significantly different than the current version that is in use, Blackboard 8. Moodle is a possible alternative to Blackboard that the faculty may want to consider. A couple senators noted that information about the impending change has not been substantively discussed with the faculty. Prof. Levine has asked the Faculty Senate Committee on Information and Communications Technology to consider the matter and to report back to the Senate.

Prof. Levine said that International Planning Committee has been discussing the internationalization of the curriculum at Case Western Reserve University. The committee will provide a proposal to the provost shortly. Prof. Jim Kazura and Prof. Janet McGrath, co-chairs, International Planning Committee will make a presentation to the Executive Committee and the Faculty Senate in April.

Report from the Executive Committee

Prof. Gary Chottiner, chair-elect, Faculty Senate said the Executive Committee heard a summary report from Prof. Emeritus Wally Gingerich, conciliation counselor, about the 18-month pilot faculty conciliation and mediation program. It seems that the program has been successful; the Faculty Senate

will hear the report in April and will vote whether or not to establish the program permanently. There was a question about faculty voting privileges for faculty appointments; the instructions in the Faculty Handbook are incomplete. Prof. Alan Levine, chair, Faculty Senate, has asked the Committee on By-laws to draft language that will clarify the procedures.

Report from Secretary of the Corporation

Ms. Colleen Treml, interim general counsel and secretary of the corporation, said the Board of Trustees approved resolutions for new endowments and new appointments for faculty. Two new board members, both CWRU alumni, were approved: Ms. Julie Gerberding and Mr. Vincent Guadiani. Prof. Alan Levine provided a report from the Faculty Senate. Mr. Minh-Tri Nguyen provided a report from the Undergraduate Student Government. Ms. Marilyn Mobley, Vice President for Inclusion, Diversity and Equal Opportunity gave a report about diversity initiatives. There was a progress report on the strategic alliances, *US New and World Report* rankings of colleges and universities, and the University Career Center. The Board of Trustees approved a 3.9% increase in tuition, and a 4.9% in room and a 4.5% increase in board for 2011-2012.

Certificate in Design, Innovation and Intellectual Property Management

Prof. Gary Wnek, chair, Faculty Senate Committee on Graduate Studies, introduced Prof. Craig Nard, School of Law, who presented the proposal to offer a certificate in Design, Innovation and Intellectual Property Management. With some minor clarifying amendments, the Faculty Senate voted to approve the proposal. The amended proposal is attached to these meeting minutes.

Certificate in Wireless Health

Prof. Gary Wnek introduced Prof. Pat Crago, associate dean, Case School of Engineering who presented the proposal to offer a graduate certificate in Wireless Health. The Faculty Senate voted to approve the proposal which is attached to these meeting minutes.

MSM- Finance, Shanghai

Prof. Gary Wnek introduced Anurag Gupta, associate professor, Banking and Finance, Weatherhead School of Management, who presented the proposal to offer a Master of Science in Management in Finance in Shanghai, China. The Faculty Senate voted to approve the proposal which is attached to these meeting minutes.

Climate Action Plan

Mr. John Lawyer, associate vice president for campus planning; Prof. John Ruhl, director, Sustainability Alliance; and Mr. Stephen Campbell, vice president for campus planning shared a presentation about the university's Climate Action Plan. The plan will be submitted by the May 15 extended deadline to the Association for the Advancement of Sustainability in Higher Education. In April 2008 the Faculty Senate Executive Committee endorsed the university's commitment to achieve carbon neutrality by 2050. The Faculty Senate voted to endorse the updated Climate Action Plan. The presentation about the updated Climate Action Plan is attached to these minutes.

Strategic Plan for University Libraries

Prof. Mary Quinn Griffin, chair, Faculty Senate Committee on University Libraries and Mr. Arnold Hirshon, University Librarian, presented the proposed strategic plan for the University Libraries. Mr. Hirshon reported that budget cuts to the operating budget of Ohio LINK are fortunately just 2.5%. Forums for faculty to comment on the proposed strategic plan are being offered. A final draft of the proposed strategic plan will be presented to the Faculty Senate Committee on University Libraries.

Update from Enrollment Management

Mr. Rick Bischoff, vice president for enrollment management, said that the acceptance rate for the first year students applying for fall 2011 was 48%, down from the 66% percent acceptance rate for fall 2010. The number of admitted students in the humanities and social sciences, nursing, management and engineering increased; there were decreases in the number of admitted students in the sciences, pre-med, and undecided students. The report is attached to these meeting minutes.

Second Quarter Forecast

Mr. John Sideras, senior vice president for finance and chief financial officer, presented the second quarter forecast. The projected year-end university operating result is a \$889K deficit, a \$3.7M improvement from Q1 forecast of \$4.6M. The stronger operating performance and use of special funds produced this result without accessing the University's \$8.2M budget contingency. The report is attached to these meeting minutes.

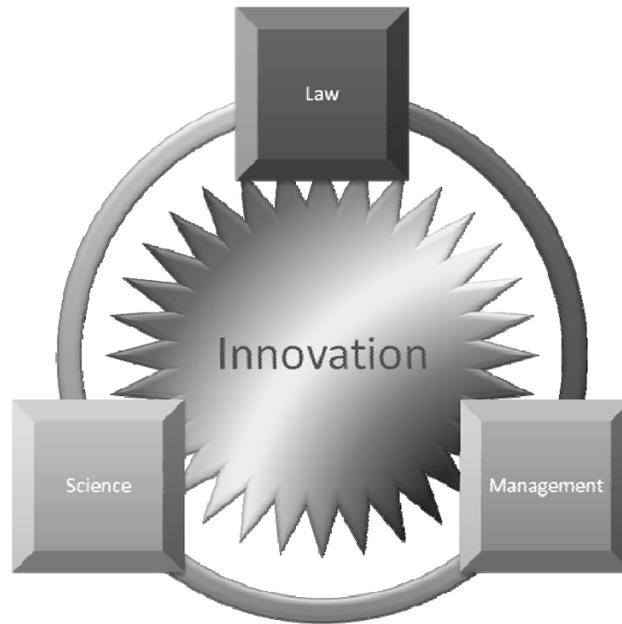
The meeting was adjourned at 5:30 p.m.

APPROVED
by the
FACULTY SENATE



ELIZABETH H. WOYCZYNSKI
SECRETARY OF UNIVERSITY FACULTY

Case Western Reserve University Graduate Certificate Program in Design, Innovation, and Intellectual Property Management



Faculty

Craig Nard, Tom J.E. and Bette Lou Walker Professor of Law
School of Law

Fred Collopy, Professor, Information Systems
Weatherhead School of Management

Joseph Jankowski, Associate Vice President, Technology
Management
Technology Transfer Office

Ted Theofrastous, Adjunct Professor, School of Law and Founder,
ThetaSquared LLC

Introduction – Building Inter-Disciplinary Perspectives around the Management and Commercialization of Innovation

The goal of this certificate program is to provide to graduate-degree graduate students a nationally-distinctive academic program that blends legal, scientific, and management disciplines to drive thought leadership and guides students through the complex path of cultivating the commercial potential of complex scientific discovery.

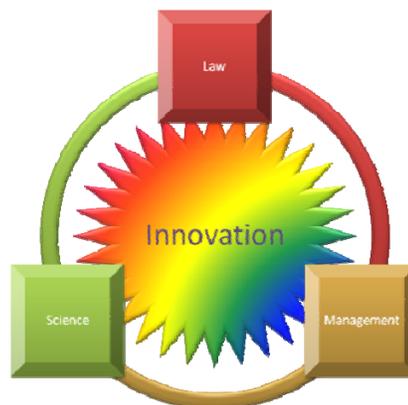
The Program is designed to provide (1) thought leadership in the field of innovation management commercialization; (2) graduate-level, interdisciplinary coursework in the field; (3) opportunities for students and faculty to apply their substantive knowledge; and (4) a launching point among CWRU’s current students, faculty, and alumni for the establishment of regional and national networks and leadership in the field of innovation management and technology-based economic development.

I. ACADEMICS – AN INTER-DISCIPLINARY ENVIRONMENT TAILORED TO CANDIDATES IN THE CWRU MBA, MD, JD, AND DOCTORAL SCIENCE/ENGINEERING PROGRAMS

A. Coursework

Six courses comprise a curriculum that reflects the following key themes:

- Interdisciplinary teams of students work together on complex scientific, legal, and industry challenges.
- Students are exposed to the technical substance of opportunity assessment and innovation, with immediate exposure to national leaders in the field of design, entrepreneurship and venture finance.
- Students learn to apply models for valuing, managing and commercializing technology that are built upon intellectual property fundamentals from both legal and business perspectives.



Students desiring to complete the certificate are required to successfully pass four of the six courses. Each student is required to pass Courses II and III (defined below), which serve as core courses; each student must then elect to pass a coupling of either: Courses I and VI (collectively “Design and Creativity”) or Courses IV and V (collectively “Design in Management”).

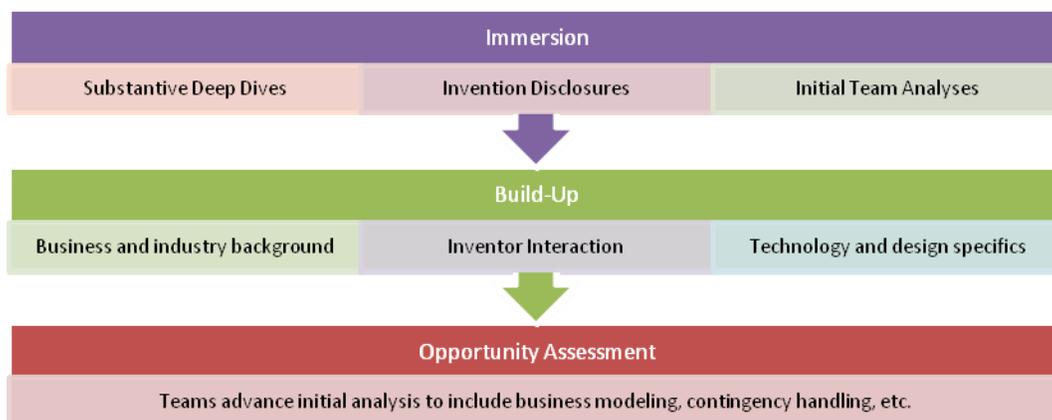
Course I – Design and Creativity

This course seeks to expose students to the fundamentals of intellectual asset creation, namely human curiosity, experimentation and creativity. A survey of the origins and history of developed approaches to intellectual asset capture and application will provide students an understanding of the framework of modern patent and information systems and aligned value-capture mechanisms. Exploration of the interface among technology, perceived value, and business opportunity will introduce students to modern approaches in innovation, including need-inspired design, collaboration, open innovation and structured innovation. By the end of the course, students will have developed skills in needs assessment, experimental design, and knowledge sourcing. This will serve as the bases for intellectual property protection and aligned opportunity assessment that will be presented in the next course.

Course II -Intellectual Property Management and Opportunity Assessment

Building on the previous coursework, , this course seeks to provide students with the ability to value a given technological advance or invention holistically, focusing on issues that extend beyond scientific efficacy and include consumer and practitioner value propositions, legal and intellectual property protection, potential market impacts, market competition, and ethical, social, and practitioner acceptance. These issues transcend disciplinary boundaries, requiring the integration of expertise in the fields of law, management, and science.

Students will learn that intellectual property strategy is implicit in business strategy, and that intellectual property is a strategic business asset that can be leveraged to create value and intellectual asset formation in the marketplace. From this, students will learn to structure of an IP portfolio that aligns with a sophisticated business model, including market identification, value assessments, and a strong sense of the competitive landscape. This module exposes students to a range of issues related to the creation, management, and evolution of innovation and intellectual property estates. The focus of the course is to provide students the ability to discern value under multi-disciplinary lenses, leading to tactical approaches to commercial development and quantifiable value creation or go/no-go decision points. Primers in intellectual property law and the influence of regulatory requirements will serve as the heart of the survey-based curriculum. Meanwhile, the skills practicum will include risk analysis, modern approaches to valuing early-stage opportunities (i.e., decision tree analysis and application of Monte Carlo simulation techniques) and transactional approaches to collaboration/licensing.



Course III – Technology Commercialization*

New company formation and/or corporate partnering are two primary (although not exclusive) tools for bringing new innovations to market. In this skills-based course, students will learn the fundamentals of organizing a commercial development vehicle around a technology-based business model. Multi-disciplinary focal points will include:

Management – early-stage company organization; private financing fundamentals (i.e., angel and venture capital); business planning; organization building; and negotiation skills/approaches.

Law – primers on corporate law and securities offerings (public and private) will be focused upon. Additionally, the impacts of industry-specific regulatory (e.g., FDA, EPA) frameworks will be taught.

Science/Engineering (e.g., genomics, chemistry, biomedical engineering) – The fundamentals of organizing product development in the company context will be a primary focus, with students developing decision skills for in-sourcing/outourcing, corporate partnering and portfolio scalability decision. A secondary, but important tenet will be to impart students with an understanding of the ultimate customer/payor/practitioner framework that strongly impacts modern development in the global biomedical and energy industries.

Tangible outcomes/deliverables of this course will include the development of a formal business plan or partnering strategy that aligns to a tactical product development approach. When appropriate for a given technology opportunity, students will be exposed to implementation plans for commercializing a technology, leading to the creation of a securities offering for early stage finance.

* Courses II and III have already been taught during the 2008-09 academic year. The format of the module was a two-semester, six-credit course that included law, MBA, and Ph.D. (in genomics) students working in interdisciplinary teams. The teams were responsible for conducting an opportunity assessment of a real-time invention and presenting their assessment to a panel of Cleveland-based venture capitalists.

Courses IV and V - Design in Management: Concepts & Methods of Practice

This is a field-based studio course whose purpose is to explore a new approach to managing organizations. The approach is grounded in the traditional skills of an MBA student but focuses on the concepts and methods of design applied to the management of organizations. Students move from the analytic perspective of traditional MBA programs toward a design perspective and synthetic, creative solutions to problems. The emphasis is on entrepreneurship: the invention of new ideas in any area of organizational life and the development of those ideas into successful innovations that benefit the organization and those served by the organization.

Projects provide students with a field setting in which they explore a wide range of issues in a managerial setting. Working in teams of three to five, students focus on specific issues within a sponsoring organization. They identify design opportunities and then design responses that have practical value to management and organizations. In the course of their work, students learn skills of research, observation, interpretation and invention. They also learn how to visualize and represent complex ideas, manage collaborative work, apply a variety of design concepts and methods to the improvement of products, services, processes and procedures, and make impactful and informative presentations. Projects may focus on any area of management and organizational life, ranging from governing ideas of vision and mission to strategy and planning, operations, business processes and the development of new products and services.

This is a two-semester sequence. The first semester is divided into two parts, developed in parallel; the second semester is divided into three components.

Course VI – Faculty- or Alumnus-based Project Focused Upon Social Entrepreneurship or Technology-Based Economic Development

The intersection of societal need and economic opportunity is the driver of the national movement toward innovation and “technological relevance”. Simply, fundamental advances in medicine and energy sources are critically needed and concurrently represent huge areas of economic growth at both the individual, corporate and national competitiveness scale. In this experiential learning course, the students will individually select a topic of interest on which to apply the skills learned throughout the certificate program. This selected focus will meet the following requirements:

- (a) The topic will be aligned to an ongoing program of interest of a current faculty member (or approved alumnus) who will oversee the student-led program;
- (b) The intention will be a technology-based approach to a defined problem or an survey/assessment of the application of given technology base to a real-world problem/opportunity;
- (c) The outcome should be a publication-quality thesis that defines the value, limitations and further needs, and suggested downstream translational approach under the inter-

disciplinary lens (i.e., considers the perspectives of management, law and science/engineering).

B. *Network Development Through Mini-Courses and Interim-Fellowships*

Underlying the field of technology commercialization is an array of funders and supporters of technology development; the spectrum of stakeholders and funders ranges from the public, whose tax contributions support federal programs in research and development, to cause-specific foundations to corporate R&D programs that comprise the largest source of innovation in the US and worldwide. Federally and within the state of Ohio, organizations that engage, fund and support early-stage technology companies and institutional development programs play distinctive roles across the evolutionary continuum. Throughout the certificate program, we intend to expose students to the theory and practice of technology-based economic development, working to provide students with both a general understanding how these approaches can impact the growth of technology industries and companies and a specific ability to engage and potentially extract developmental funding for given technological endeavors.

To supplement the classroom curriculum, the Program exposes students to a network of national experts who can provide students with deep exposure to strategically-important areas that impact the path-to-market for a given technology. Because a formulaic approach to innovation is insufficient, the Program will rely on direct interaction of the student body with recognized leaders in commercial arenas. Such interaction is intended to prepare Program graduates by providing three critical enablers of success: (1) an invaluable network of experts, many of whom are CWRU alumni, that can be called upon as assets during real-world commercialization activities; (2) inspiration begat by exposure to success – often the recognition of one’s ability to create value comes not from an analytical approach, but rather from recognition of self traits in the success of others; and (3) shared insight and experience from those who have met success in the commercial arenas most attractive to our students. Representative events and short courses relating to technology-based commercialization would include the following:

Capitalist Forum – A twice-annual, two-day event would be conducted in coordination with CWRU’s Office of Institutional Development to provide multi-faceted interaction of students with national business leaders, many of whom are CWRU alumnus.

FDA Regulation – A two-day seminar covering the ins and outs of Food and Drug Administration requirements related to new medical devices and therapeutic products.

Sales and Reimbursement – A series of workshops related to the most-critical element of business: accessing revenue through transactions with customers, whether they are consumers, industrial clients or practitioner/payors; in the case of the latter, attention will be provided to the strategic and regulatory process of developing a payment regime for new medical products.

Industry Dynamics – A series of day-long seminars related to key segments in the technology industries that are likely growth opportunities for our students; obvious sectors will include advanced energy, bioscience/healthcare and information technologies.

Wherever practicable, workshop leaders would be engaged as Program Fellows, providing opportunities for ongoing interaction, formal publication of workshop substance and the cultivation of new content and curriculum.

C. Applied Skills Development

In addition to the course-work, program-integrated opportunities will be offered to further develop a substantive understanding through exposure to working situations. Key components to apply substantive learning are intended to include:



Partnering with the Regional
Economic Development

Community Engagement: CWRU has had high levels of success deploying students within industry. The Program would seek to replicate this model by providing co-op and internships within area companies. Further, Program students would actively engage organizations that are aimed at bringing new technologies to market (e.g., BioEnterprise, Nortech, JumpStart, and Techlift).

Consulting: The skills developed by student teams working within the Program can represent an unusual value to industry. To the extent practicable, student / faculty teams would be assembled to provide analysis of opportunities, strategic research and other services that can help small and large companies manage the process of bringing new technology to market. Further, programmatic training and systems development in the field of structured innovation is a natural deliverable these teams could deliver to industry.

II. INSTITUTIONAL THOUGHT LEADERSHIP AND CONTENT DEVELOPMENT

While concepts like “technology transfer,” “commercialization,” and “technology entrepreneurship” pervade the evolving lexicon related to moving technology to market, scholarship and professional skills development in this field remains fragmented and relatively thin. By establishing a core curriculum and research agenda focused on the process of translating complex technology to market opportunities, Case Western Reserve University can emerge as a national thought leader. High-level prongs of this Program include:

Curriculum Development – creating a balanced teaching platform that puts interdisciplinary students on level footing relative to each others’ respective expertise and training. One cannot oversell the perceived importance of technological relevance on the national agenda. The past decade has seen a strong shift in federal funding

agendas from basic to “impact defined” research (e.g., the CTSA and PFI programs), and the terms “innovation” and “entrepreneurship” and “intellectual property” are now prominently conveyed on every business and economic publication, including marketing materials for research universities, in the country. BY offering a tailored, multi-disciplinary certificate program to our graduate-degree students, CWRU will assume national leadership in this emerging and highly-competitive field.

Leading Edge Research – In addition to its educational merits, Course IV intends to impart two additional outcomes to CWRU. First, as noted in the course description, the outcomes of specific topic/theses are intended to be publication-quality case studies or perspectives on important topics of innovation and economic development. As such the Program leadership is endeavoring to elucidate outlets for such publication materials in national and regional mediums; likely outlets include both peer-reviewed journals and editorials in general news outlets and national publications. Second, the requirement of faculty-involvement in Course IV is perceived as a bridge that will serve to involve faculty leading diverse programs across the University. By serving as the advisor/overseer on a given topic, the faculty member, him/herself, will be exposed to the inter-disciplinary nature of technological value assessment and development; in doing so, it is likely that CWRU’s research faculty will themselves undergo cultural growth that should lead to expanded opportunities and national recognition, while Case Western Reserve University has established national recognition in the field of entrepreneurship, additional research opportunities in the field intellectual property management and commercialization abound. By creating a research agenda that represents a true interdisciplinary view of the scientific, legal ,and business issues inherent in this field, the Program can lead and moderate a unique field of scholarship that permeates our national (and global) economy.

Convening and Publishing a National Dialogue – With a critical mass of scholarship and academic content in place, the Program would seek to engage national and international stakeholders by convening symposia, seminars and lecture series on topics that drive strategies in the field. At present, affinity and industry groups such as the Licensing Executive Society and the Association of University Technology Managers are the primary fora for these areas. While these groups deliver greater substantive value than can be found elsewhere, the dialogue is fragmented and conducted primarily by volunteer practitioners. By convening around strategically important developments, the Program can significantly elevate the level of inquiry and learning in this field.

Reengaging and Revitalizing CWRU’s Worldwide Alumni Base – Select alumni of CWRU read as a who’s who of recognized leadership and success on an international level in the realms of research, investment and capital management, industry and public service. However, little-to-no coordination of such networks has been directed toward increasing the success of CWRU’s “best and brightest,” particularly those holding aspirations in growth sector industries often accessed outside the region (i.e., Silicon

Valley and Route 128). Through immediate collaboration with CWRU's development function (as described in Section I.C, above), this Program will foster such networks. The integration and regular involvement of such leaders will serve not only its students of a given class, but will likely benefit CWRU at the University-level, providing its education, research, and business functions immense opportunities for coordination and development with its most successful alumni.



CASE WESTERN RESERVE UNIVERSITY

WEATHERHEAD SCHOOL OF MANAGEMENT

N. Mohan Reddy
Dean and Albert J. Weatherhead III
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February 25, 2011

Charles Rozek, Ph.D.
Vice Provost and Dean of Graduate Studies and Postdoctoral Affairs
Case Western Reserve University
10900 Euclid Avenue
Cleveland, Ohio 44106

Dear Dr. Rozek,

Please allow this letter to represent our strong endorsement of the interdisciplinary program in *Design, Innovation, and Intellectual Property Management*, which has received an Interdisciplinary Alliance Investment Grant. In particular, we endorse the goal of this program to provide to graduate students a nationally-distinctive academic program that blends legal, scientific, and business disciplines to drive thought leadership and guide students through the complex path of cultivating the commercial potential of complex scientific discovery.

The Weatherhead School of Management and the School of Law are able to give the program the appropriate administrative, financial, and facilities support.

Sincerely,

N. Mohan Reddy
Dean and Albert J. Weatherhead III
Professor of Management
Weatherhead School of Management

Robert H. Rawson, Jr.
Interim Dean
School of Law

Proposed Graduate Certificate Program in Wireless Health

Case School of Engineering

March 5, 2011

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GRADUATE CERTIFICATE IN WIRELESS HEALTH

Approved Graduate Program(s) Sponsoring the Certificate Program.

The *Graduate Certificate in Wireless Health* is being sponsored by the Case School of Engineering, through the Department of Electrical Engineering and Computer Science (EECS), and the Department of Biomedical Engineering (BME).

Need and Demand for the Certificate Program.

Many companies (over 300) are involved in the rapidly growing wireless health industry. Few of the engineers and others employed in this industry have graduate training in areas that are important to the success of their companies. CSE is in a unique position to provide graduate level training because of our expertise in instrumentation and biomedical engineering, and this certificate program will offer integrated base-level training that many of the employees desire.

CSE is working closely with Qualcomm (San Diego) to develop mutually beneficial research and education interactions in the area of wireless health, through a regular faculty member who is in residence in San Diego. A letter of support from Qualcomm is attached.

Recent open-house information sessions at Qualcomm were extremely well attended by potential students (a total of over 135 employees attended the two sessions). There are other large companies, e.g. AT&T, Johnson & Johnson, etc. as well as many smaller companies and start-ups that are also developing businesses in the area of wireless health, and facing the same workforce needs. San Diego is the hub of the growing wireless health industry, with over 100 of the 300 total companies, and does not yet have any graduate education programs in wireless health.

We anticipate a minimum enrollment of 20 new students per year in the certificate program.

Educational Objectives of the Certificate Program.

The *Graduate Certificate in Wireless Health* will provide an integrated foundation for understanding the fundamentals and applications of wireless technologies in health care. Individuals with a bachelor's degree, as well as professional experience in engineering or health care, or a professional or graduate degree in engineering, physical sciences, health sciences, or business will benefit from the certificate program, since it will integrate fundamental material across the spectrum of disciplines underlying the field.

Curriculum for the Certificate Program.

The program is comprised of three, 3-credit graduate courses, which will be cross-listed in EBME and EECS. Complete syllabi for these courses are still under development. We plan to deliver the first two courses in the fall semester of 2011, and the third in the spring semester of 2012. The Certificate program will be offered annually.

EBME/EECS 480A: *Introduction to Wireless Health*: Convergence of wireless communications and health care. Impact of wireless technologies on health enterprise network services, health care communications and health handsets, as well as clinical, diagnostic and therapeutic applications. Applications, technology, value chain and business models in wireless health. Technology and service platforms, and the role of pervasive technologies in wireless health.

EBME/EECS 480B: *The Human Body* Structural organization of the body. Anatomy, physiology, and pathophysiological concepts of common disease states. Emphasis on methods of diagnosis and treatment, with a focus on potential applications of wireless health technology to common disease states.

EBME/EECS 480C: *Biomedical Sensing and Instrumentation*: Physical, chemical and biological principles for biomedical measurements. Modular blocks and system integration. Sensors for displacement, force, pressure, flow, temperature, biopotentials, chemical composition of body fluids and biomaterial characterization. Analysis and design of biomedical instruments with special emphasis on transducers. Body, system, organ, tissue, cellular, molecular, and nano-level measurements.

Prerequisites: EBME/EECS 480A and 480B or equivalent

Introduction to Wireless Health is a totally new course with no parallel to existing courses at Case. It may also be of interest to other students at Case in several departments.

There is some overlap in content of *The Human Body* with EBME 451 *Molecular and Cellular Physiology*, and EBME 452 *Tissue and Organ Systems Physiology*. However, the content of *The Human Body* will concentrate on those areas with the most relevance to the field of wireless health instead of the broad foundation provided by the combination of 451 and 452 and will not be accepted in programs of study for the biomedical engineering MS or PhD programs.

Similarly, *Biomedical Sensing and Instrumentation* will derive some basic content from both the undergraduate level EBME 310 *Principles of Biomedical Instrumentation* and the graduate level EBME 403 *Biomedical Instrumentation*, but will focus on transduction and analysis of biomedical processes and events with wearable/portable instruments, and will not be accepted as substitute for EBME 403 in BME doctoral programs of study.

Justification for the number of credit hours for the certificate program.

The three courses listed above are sufficient for someone to gain a systems-level overview (*Introduction to Wireless Health*), as well as introductory graduate level understanding of scientific (*The Human Body*) and engineering (*Biomedical Sensing and Instrumentation*) disciplines that are the underpinning of the field of wireless health.

Entrance, performance, and exit standards for the certificate program.

Students will be admitted through the School of Graduate Studies as non-degree-seeking graduate students in CSE. Admissions will be based on general CSE admission standards for graduate programs, including an adequate background for the three courses and a minimum GPA of 3.2 in a bachelors of science program in science or engineering. GRE scores are not required for the certificate program. TOEFL will also be waived for students that have completed a degree program where the language of instruction is English, or who have worked in an English language based industrial organization for at least two years. Otherwise, TOEFL scores must be greater than 100 for the internet-based test (or 550 for the paper-based test). Admission decisions will be made by a special subcommittee of three CSE faculty selected by the chairs of EECS and BME.

A Certificate in Wireless Health will be awarded by the Case School of Engineering after the student completes the above three courses with grades of B or better in each course.

Faculty expertise contributing to the certificate program.

Faculty teaching in this program will have CWRU faculty appointments, typically in the EECS or BME departments of the Case School of Engineering, and all appointments will follow the normal processes and standards of review. We anticipate appointing some adjunct faculty who are based in San Diego, and who are currently employed in the wireless health care industry.

New resources, courses, etc., if any, necessary to support the certificate program.

The same courses will be offered on campus and in San Diego, by normal classroom and distance learning mechanisms (both synchronous and asynchronous). Thus, they can benefit

degree seeking graduate students as well as students in the certificate program. We currently deliver graduate courses by shared on-campus/distance learning mechanisms. We currently have one regular faculty member based in San Diego, who has developed expertise in the field of wireless health and will lead the program.

The Deans Office staff, including staff in the Division of Education and Student Programs, will work with the School of Graduate Studies and the staff supporting the academic programs in EECS and EBME to track students who are enrolled in the certificate programs as part of our overall distance learning initiatives. This includes coordinating on-campus classroom assignment and scheduling. Senior Associate Dean Denise Douglas in Graduate Studies serves as the advisor of record for all non-degree students. Faculty participating in the certificate program will serve as additional academic advisors.

CSE has video conferencing equipment in San Diego that can be used to support courses that originate from faculty in San Diego and which have students in Cleveland or elsewhere. Qualcomm facilities may also be used in San Diego, and these will support distance delivery. Courses offered at Qualcomm facilities are not restricted to Qualcomm employees. Qualcomm has a vested interest in developing a robust wireless health ecosystem in San Diego because it will help promote the use of their wireless communication products.

The Provost's office is registering the certificate program with the state of California. We must report our activities and pay 0.25% of student tuition to the CA Student Tuition Recovery Fund (STRF). The CSE Deans Office is paying the registration fee, and will take responsibility for reporting activities and paying the STRF fee.

The CSE Deans Office will market the program with the assistance of the university's Office of Marketing and Communications.

Certificate Program in Wireless Health

Answers to Faculty Senate Graduate Committee Questions

Q1. If we have a limit on the number of students who can take the course in a given year, will preference be given to Qualcomm employees?

A1. Qualcomm has assigned a premier auditorium that can seat up to 250, so the only real limit is setting a class size that achieves quality instruction. We plan to admit all who qualify and if needed, alter instruction format to maintain a top quality standard. For example, we may choose to offer additional sections, or to move to a lecture/recitation format if enrollment exceeds our expectations.

Q2. Will Qualcomm be giving some free publicity for the program?

A2. Yes, they are actually ready to start promoting the program, but have postponed starting because our (CWRU) internal approval process has not yet been completed, and we have not completed marketing materials.

Q3. Give a brief financial model for the first 3 years.

A3.

| Draft budget for Wireless Health Certificate Program | | | |
|--|------------------|------------------|------------------|
| | 2011-2012 | 2012-2013 | 2013-2014 |
| Income | | | |
| No. of students | 20 | 25 | 30 |
| Tuition per student @9 ch | \$12,870 | \$12,870 | \$12,870 |
| Total Revenue | \$257,400 | \$321,750 | \$386,100 |
| Expenses | | | |
| Faculty salary* | \$64,500 | \$64,500 | \$64,500 |
| First time course design | \$30,000 | | |
| Support staff** | \$32,250 | \$32,250 | \$32,250 |
| University overhead @30% | \$38,025 | \$29,025 | \$29,025 |
| Facilities/equip. (IT, video) | \$10,000 | \$10,000 | \$10,000 |
| Supplies | \$5,000 | \$5,000 | \$5,000 |
| Marketing | \$20,000 | \$20,000 | \$20,000 |
| Travel | \$5,000 | \$5,000 | \$5,000 |
| Total Expenses | \$204,775 | \$165,775 | \$165,775 |
| Net Surplus (deficit) | \$52,625 | \$155,975 | \$220,325 |
| Notes: annual increases in tuition and salaries are not included | | | |
| * 20% AY for MM, + 1 adjunct | | | |
| ** 25% on campus, 25% in SD | | | |

Q4. How will the program be sustained in the case that we lose our faculty representation in San Diego?

A4. We recognize the key importance to the program of maintaining a credible faculty presence in San Diego. At the moment, Professor Mehregany's official residence is in San Diego, and he is committed to continue developing the program. CSE is also committed to maintaining a faculty presence if we can achieve a sufficient net profit, on the order of a few hundred thousand dollars per year. To help stabilize our presence, we plan to expand our offering to a full masters program in wireless health and build a companion research program, which will provide a more substantial return and strengthen our involvement with the wireless health community. To enhance visibility, Professor Mehregany will teach two of the courses in the first year (*Introduction to Wireless Health* and *Biomedical Sensing and Instrumentation*).

Q5. Will the program remain competitive if the UC system recognizes the opportunity and starts its own offerings at a significantly lower price?

A5. Due to the growing importance of this new field, we do expect competition to develop, from other schools in the CA system as well as elsewhere. Our strategy is to lead the market by aligning with industry (maintaining relevance) and customizing a quality program to their needs. Our alliance with Qualcomm, which includes having our program on their campus, will help us develop and maintain our lead. Given Qualcomm's footprint in wireless health, so long as they value our partnership, our program will be distinct. We will also develop strategic relationships with others in San Diego and internationally, including India and China. The ability of CSE masters students to transfer 6 credit hours from other institutions provides flexibility to students who may want to take advantage of distinct offerings at other universities and enriches our own planned masters program.



QUALCOMM Incorporated

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San Diego, CA 92121-1714

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Don Jones

Vice-President Business Development
Wireless Health

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Founder & Chairman
Wireless Life Sciences Alliance
www.wirelesslifesciences.org

Founding & Former Board Member
West Wireless Health Institute
www.westwirelesshealth.org

Board Member
American Telemedicine Association
www.atmeda.org

Qualcomm Incorporated (Nasdaq: QCOM) is a leader in developing and delivering innovative digital wireless communications products. We believe access to advanced wireless voice and data services improves people's lives. Our Wireless Reach initiative supports programs and solutions that bring the benefits of connectivity to underserved communities globally. Today, Qualcomm technologies are powering the convergence of mobile communications and consumer electronics, making wireless devices and services more personal, affordable and accessible to people everywhere.

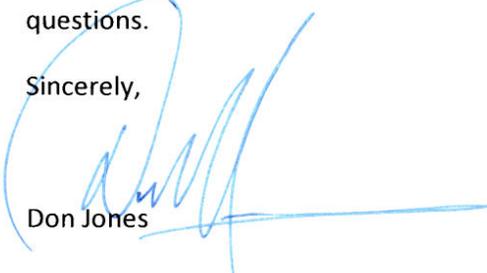
Qualcomm is committed to the application of wireless technology in the field of healthcare. We play a leadership role in making San Diego the center of wireless health innovation. A recent study by the West Wireless Health Institute and Qualcomm uncovered 300 companies active in the field of wireless health, of which 100 are in the San Diego area! My role has been to build the wireless health ecosystem on behalf of the company. As a result, I have founded and/or helped put in place a number of industry leading initiatives. By way of example, the Wireless Life Sciences Alliance (WLSA) organizes an industry forum and coordinates conferences in the field of wireless health. The West Wireless Health Institute is the first medical research organization in the field of wireless health. Qualcomm's Wireless Reach program has sponsored and continues to sponsor a number of related innovative projects, and Qualcomm Ventures has funded startups working to develop innovative products in wireless health.

Qualcomm is committed to advance education in its fields of interest and is now highly interested in a formal graduate education resource for wireless health. The Qualcomm Learning Center provides employees training through a number of short courses, as well as collaborative graduate education programs with universities such as University of Southern California (USC) and San Diego State University (SDSU) who provide onsite programs. We are excited to collaborate with Case Western Reserve University in offering the first-ever graduate education program in wireless health. As this industry is new, it needs an influx of well-trained practitioners who have an integrated education in the multi-disciplinary topics that make up wireless health. We have committed to proving Case Western the teaching space on the company's main campus and have

held two internal open houses to date to advertise the planned offering. These two open houses had over 135 employees attending; a third internal open house is under planning. Case Western and its wireless health graduate education offerings have been approved by the company for participation in the company's tuition reimbursement program. The company's Corporate Giving, which has funded projects to bring wireless technology to the classroom, is also considering an \$80,000 proposal from Case Western to help fund the development of a graduate education curriculum in wireless health, the first of its kind ever.

We look forward to working with Case Western Reserve University to create educational and research resources to support the growth of the field of wireless health. Please do not hesitate to contact me with any questions.

Sincerely,


Don Jones

Weatherhead MSM-Finance (being offered at a new, additional site)

1. What change is being proposed?

We plan to open an additional site for our existing MSM-Finance program, in Shanghai (China).

- State the specific change that is proposed.

27 out of the 39 credit hours for this program will be taught in Shanghai. The remaining 12 credit hours will be taught in a month-long residency in Cleveland. All of the courses will still be taught by Weatherhead faculty, entirely in English. The content of the program will be broadly similar (less than 50% change) to the current program offered in Cleveland.

Of the 27 credit hours being taught in Shanghai, 12 credit hours will be taught by 4 faculty members from Tongji University (our local partner institution in Shanghai), each of whom would be appointed as adjunct faculty at Weatherhead after appropriate evaluation of their credentials.

- State the expected outcomes of this proposed change (for example, enrollment growth, enhanced services, financial growth).

We expect to enroll an additional 30 students for this program in Shanghai, during the first year of the program. This revenue will be incremental to our revenues from the program in Cleveland (where we admit between 40 and 80 students per year). We expect that over the next three years enrolment in this program will increase to 60 students per year. This program does not compete with any of our offerings in the US; therefore, the revenue from this program will be a net addition to the total revenue of the school.

- Project the impact of this proposed change on the organization's current mission, the numbers and types of students to be served, and the breadth of educational offerings.

Offering our existing MSM-Finance degree at this new (international) site contributes to attaining our goal of becoming a truly global business school. While the breadth of our offerings will remain the same, this program will add a new group of students to our current student group – working executives in

China with roughly 7-10 years of work experience, seeking a masters level education in finance. This is a large and fast growing audience, which we can only tap into by offering our program in China.

- Identify from this list the Commission’s policy/policies relevant to this change:

- Change in mission or structure (policy I.C.2.a)

None

- Change in educational offering (policy I.C.2.b.)

None

- Change in educational sites (policy I.C.2.c.)

We are opening a new site (Shanghai, China) for our existing MSM-Finance degree.

- Change in relationship with the Commission (policy I.C.2.d.)

None

2. What factors led the organization to undertake the proposed change?

China has seen explosive growth over the last two decades. This has led to an enormous increase in the corporate and banking sector needs for adequately trained finance professionals. Within mainland China, the main financial center is Shanghai, which is also rapidly emerging as a dominant financial hub in Asia. Managerial “talent gap”, especially in finance, has been repeatedly cited as a major impediment in this process. Our proposal seeks to fill this void. Our offering in Shanghai would be the first masters program in finance in mainland China from a major research university in the US.

We expect this endeavor to provide us with invaluable experience of offering our programs at an international site, give us a foothold in Asia, and expand the group of students that we currently attract to our school. It’s an important step in truly becoming a global business school. In addition, it provides us with significant revenue growth opportunities in Asia.

We also expect research synergies through this venture. By giving our faculty direct exposure and experience in Asia, this move will enhance our ability to address research questions relevant to the region, unique questions that can only be addressed with

reference to that region, or apply datasets from the region in pursuit of research issues that can no longer be well addressed using data just from the US. This should help our school enhance its research reputation globally.

- Describe the relationship between the proposed change and ongoing planning.

Both the University and the School's strategic plans call for expanding the reach of our programs to global markets. Weatherhead's 2009 plan identifies as a specific goal to "expand internationally in our specialty programs." As the largest and most profitable of those programs the MSM-Finance is a logically place to begin that process.

- Describe the needs analysis related to this proposed change.

We did significant market research before deciding to move forward with the process for opening this new site for our program. We spoke to several business executives with experience in China who clearly mentioned the great demand for world class finance education in the growing Chinese marketplace. In April 2010, we conducted a focus group discussion with about 10 mid- and senior level financial managers in Shanghai, to understand the talent gaps in China in the finance sector. That survey also revealed a significant need for specialized masters level finance education in China, especially in Shanghai. This talent gap has also been mentioned in Chinese media. Our local partner in Shanghai, Tongji University, confirmed these inferences. In particular, many of their finance professors (including their department Chair Dr. Chen) have significant ties to the financial sector in Shanghai. All of them confirmed that there was a significant need for a world class university to offer masters level finance education in Shanghai.

- Describe the involvement of various constituencies in developing this proposed change.

The Finance department at Weatherhead is actively engaged in helping open this new site for our MSM-Finance program. The faculty director of this program, in association with the Associate Dean designate for International Programs, is actively engaged with our local partner, Tongji University, in developing the systems and strategies for marketing this program locally, admissions and application procedures, as well as program delivery mechanisms. All of these activities are underway with the full support of the Dean at Weatherhead School of Management, as well as the Dean at the School for Economics and Management (SEM) at Tongji University.

3. What necessary approvals have been obtained to implement the proposed change?

- Identify the internal approvals required, and provide documentation confirming these actions.

Need curriculum committee approval, then faculty assembly – presentation, and then vote 30 days later, then university faculty senate.

- Identify the external approvals required, and provide documentation confirming these actions.

Notification to RACGS.

Regents Advisory Committee on Graduate Study of the Ohio Board of Regents. Here is a link to what is required in notification documents:
http://www.outreach.ohio.edu/forms/RACGS_Notification.htm

4. What impact might the proposed change have on challenges identified by the Commission as part of or subsequent to the last comprehensive visit?

None directly related to this proposed change. The Commission has identified no concerns either at CWRU's last comprehensive visit (2005) or thereafter. CWRU was required to submit an update on university finances in 2008; the resulting report was accepted by the Commission.

- Identify challenges directly related to the proposed change.
- Describe how the organization has addressed the challenge(s).

5. What are the organization's plans to implement and sustain the proposed change?

This change is being implemented with support from a local partner university in Shanghai (Tongji University). Tongji is one of the oldest and most prestigious universities in China.

The Weatherhead School and SEM-Tongji have set up a marketing budget to take care of the promotion and marketing activities for this program in Shanghai. Our financial exposure in this venture, before we admit students, is limited to the marketing expenses as well as travel expenses for the faculty director and the Associate Dean Designate for International Program. Once the program admits students in Shanghai, we expect it to be at least revenue neutral from the first year. The approximate break-even enrolment is 20 students, which we are very hopeful of achieving in the first year itself. We have no other capital investment in this project, and have the ability to pull out of it if necessary with no additional cost, other than the marketing and travel expenses already incurred.

- Describe the involvement of appropriately credentialed faculty and experienced staff necessary to accomplish the proposed change (curriculum development and oversight, evaluation of instruction, and assessment of learning outcomes).

1. A finance faculty member has been appointed as the director of this program, to oversee all matters related to program, such as curriculum development, program delivery, evaluations and assessments, and any other academic matter. The entire finance department has expressed support for this program. It is likely that about 6 Ph.D. qualified weatherhead faculty will be teaching in this program at this new site.

2. A senior staff member (Associate Dean Designate for International Programs) is looking after all administrative, marketing and liaison issues with regard to the launch of the program. This person is also Ph.D. qualified, with academic as well as significant business experience, including in China.

- Describe the administrative structure (accountability processes, leadership roles) necessary to support this proposed change.

All academic matters related to this program at this new site will be handled by the dedicated faculty director for this site. All administrative and marketing related matters will be handled by the Associate Dean Designate for International Programs. In addition, the Dean at Weatherhead is directly engaged in overall oversight of this new program site.

- Describe how the organization will make learning resources and support services available to students (student support services, library resources, academic advising, and financial aid counseling).

All students enrolled in this program in Shanghai will have the same access to student support services, library services, academic advising, etc. as the

students enrolled in the MSM-Finance program in Cleveland. In addition, all such services will also be provided by our local partner (Tongji University) to all students registered for our program at this site.

- Provide financial data that document the organization’s capacity to implement and sustain the proposed change (projected budgets, recent audit reports, revenue streams, cost of facilities, and projected facility and equipment costs).

| | | | | |
|--|-------|-------|-------|--------|
| No of students | 20 | 30 | 40 | 60 |
| Tuition per students | 19.7 | 19.7 | 19.7 | 19.7 |
| | | | | |
| Total revenue | 394.0 | 591.0 | 788.1 | 1182.1 |
| | | | | |
| Direct faculty salary | 120 | 120 | 120 | 120 |
| Support staff salary | 80 | 80 | 80 | 80 |
| University overhead @30% | 60 | 60 | 60 | 60 |
| Marketing Costs | 60 | 60 | 60 | 60 |
| Travel expenses | 80 | 80 | 80 | 80 |
| | | | | |
| Total Expenses | 400 | 400 | 400 | 400 |
| | | | | |
| Net Surplus (Deficit) | (6.0) | 191.0 | 388.1 | 782.1 |
| <i>(all revenues and costs in \$ '000)</i> | | | | |

Based on market feedback, we expect tuition to rise at about 10% per year. However, that increase is not reflected in these numbers.

- Specify the timeline used to implement the proposed change.

Admission of Applicants into the Program – May 2011.

Start of the Program – Sept 2011.

6. What are the organization’s strategies to evaluate the proposed change?

- Describe the measures the organization will use to document the achievement of its expected outcomes.
 1. *Number and growth in applicants, enrolments, and revenue.*
 2. *Increase in higher quality applications from the region to other programs at Weatherhead.*
 3. *Student satisfaction, through student evaluations and surveys.*

4. *Employer satisfaction, through periodic surveys of employers and sponsor organizations*
 5. *Increase in faculty research productivity, especially in areas related to global financial issues.*
 6. *Enhanced reputation and visibility of Weatherhead, though higher rankings in global surveys of finance programs.*
- Describe how the assessment of student learning is integrated into the assessment of the program.
 1. *Student performance evaluation in all courses (through projects, assignments, exams, etc.).*
 2. *Student success rates in finance certification exams (CFA, FRM, etc.).*
 3. *Employer surveys about student performance on the job a few years after graduation.*

Climate Action Plan Summary

March 22, 2011

John Lawyer
John Ruhl
Steve Campbell

Climate Action Plan (CAP)

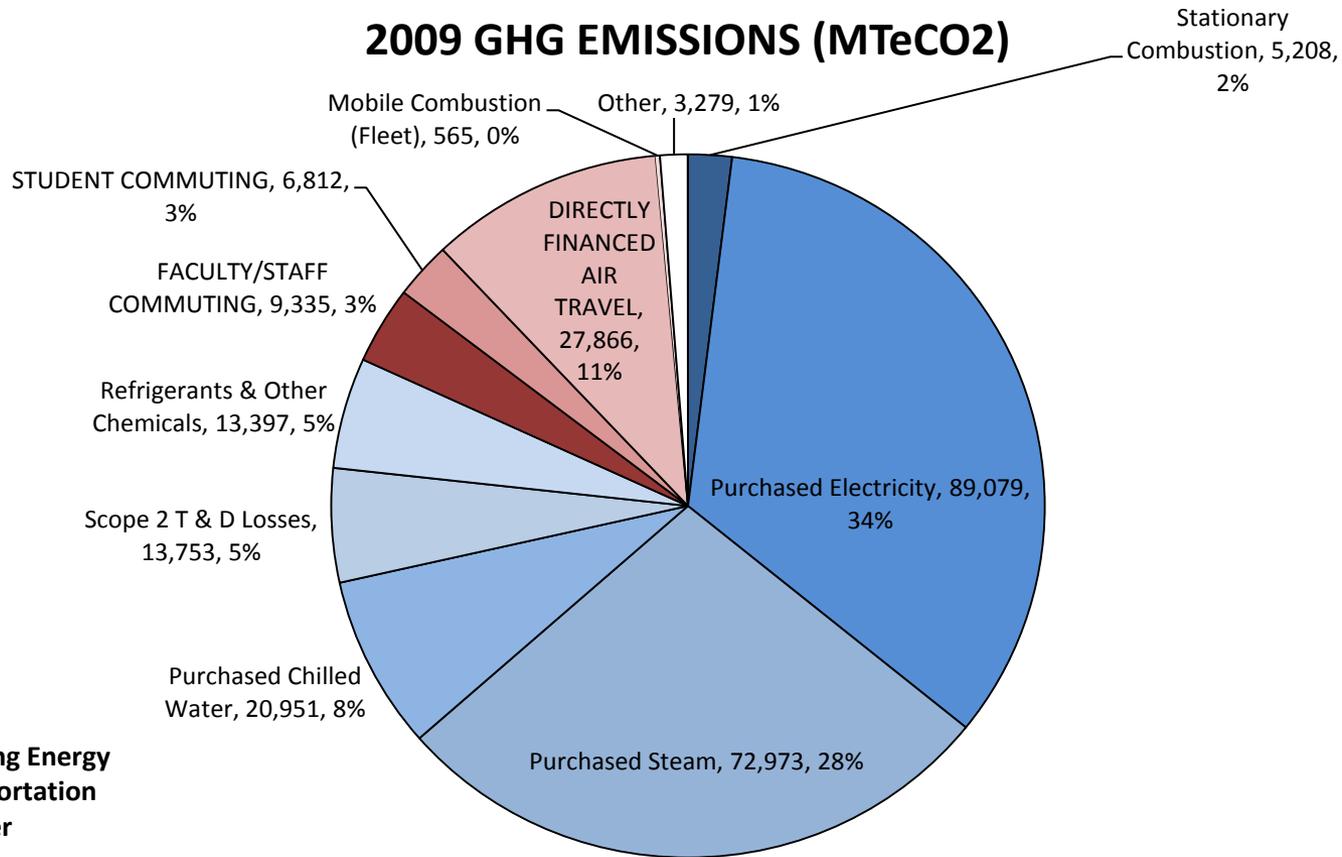
- Abstract

A comprehensive plan for an institution to become climate neutral, which includes a target date for achieving *climate neutrality** as soon as possible.

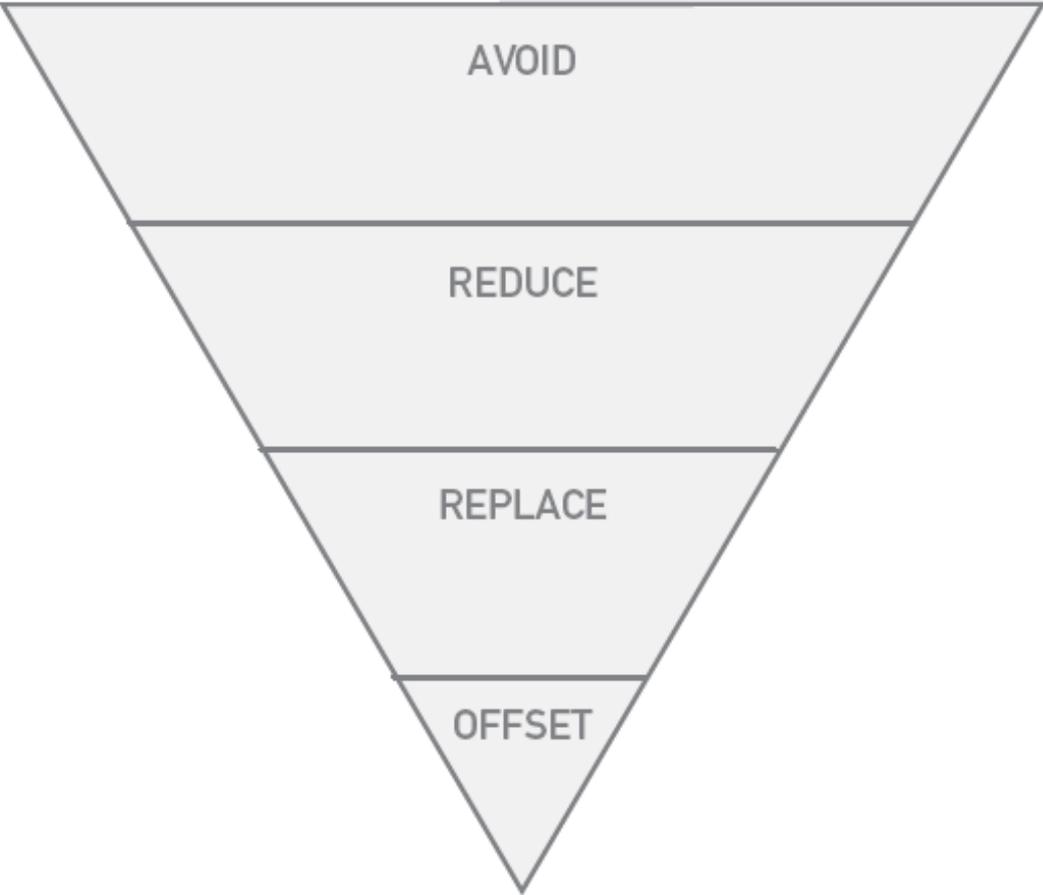
- Interim targets for goals and actions that will lead to *climate neutrality, with a mechanism for tracking progress*
- Actions to make *climate neutrality* and sustainability a part of the curriculum and other educational experience for all students
- Actions to expand research or other efforts necessary to achieve climate neutrality

**climate neutrality: net zero carbon emissions*

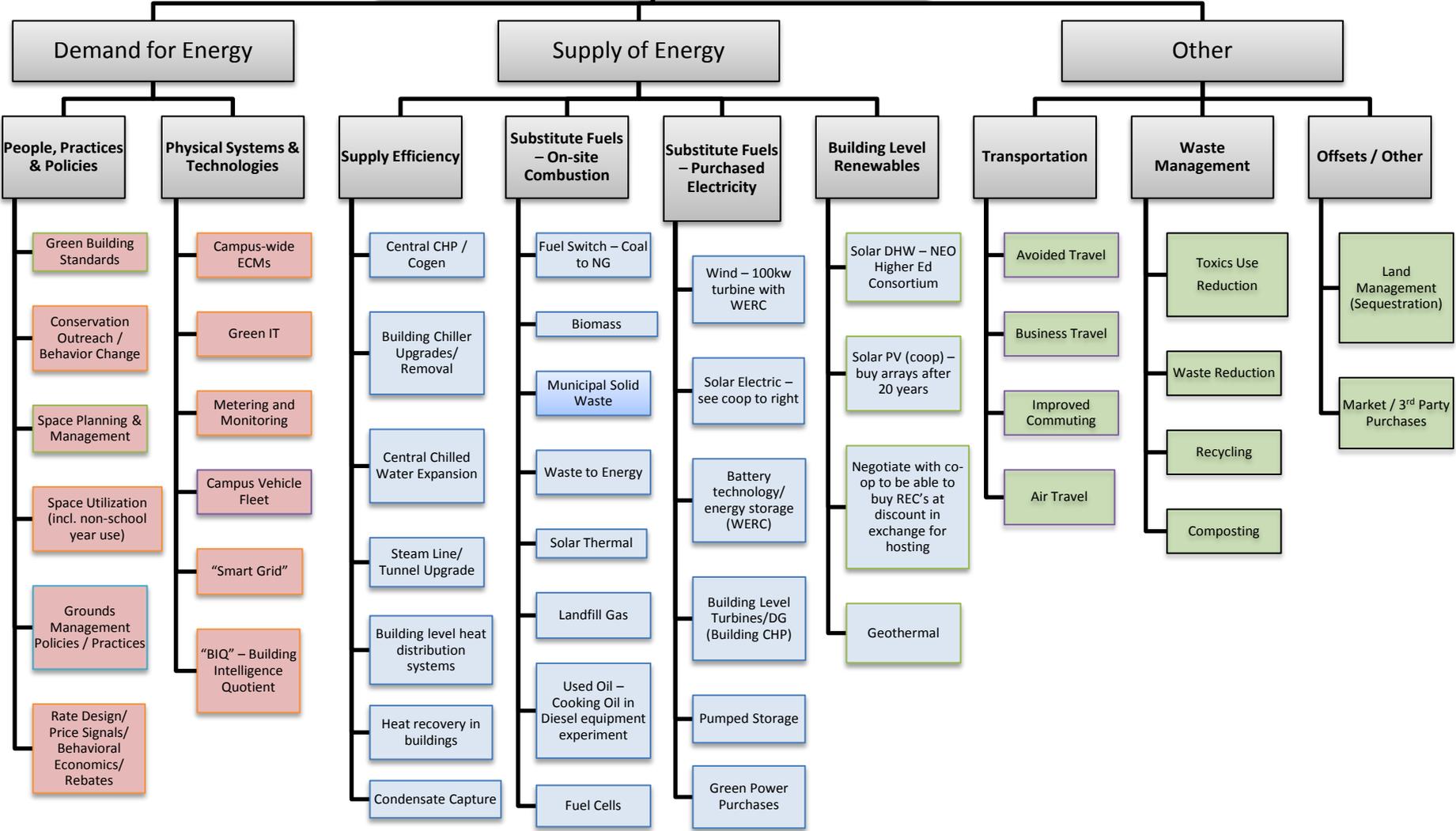
Forecast Baseline: 2009 GHG Inventory



GHG Hierarchy

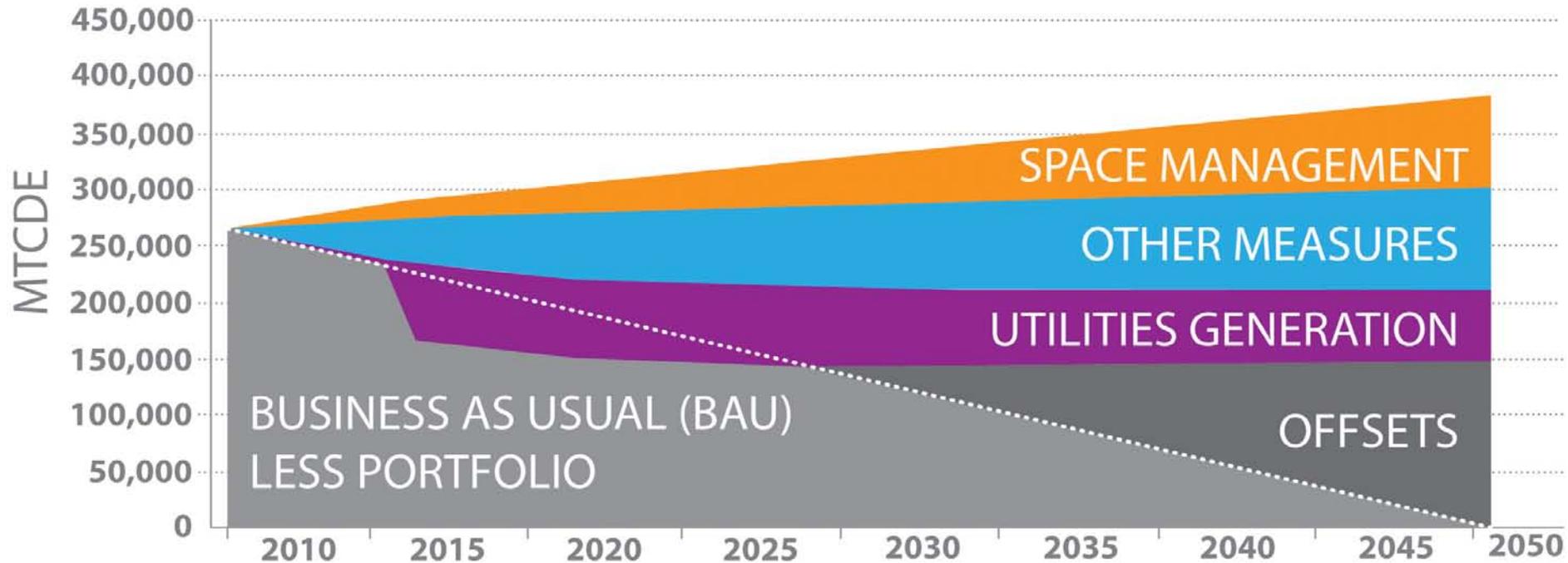


GHG Management

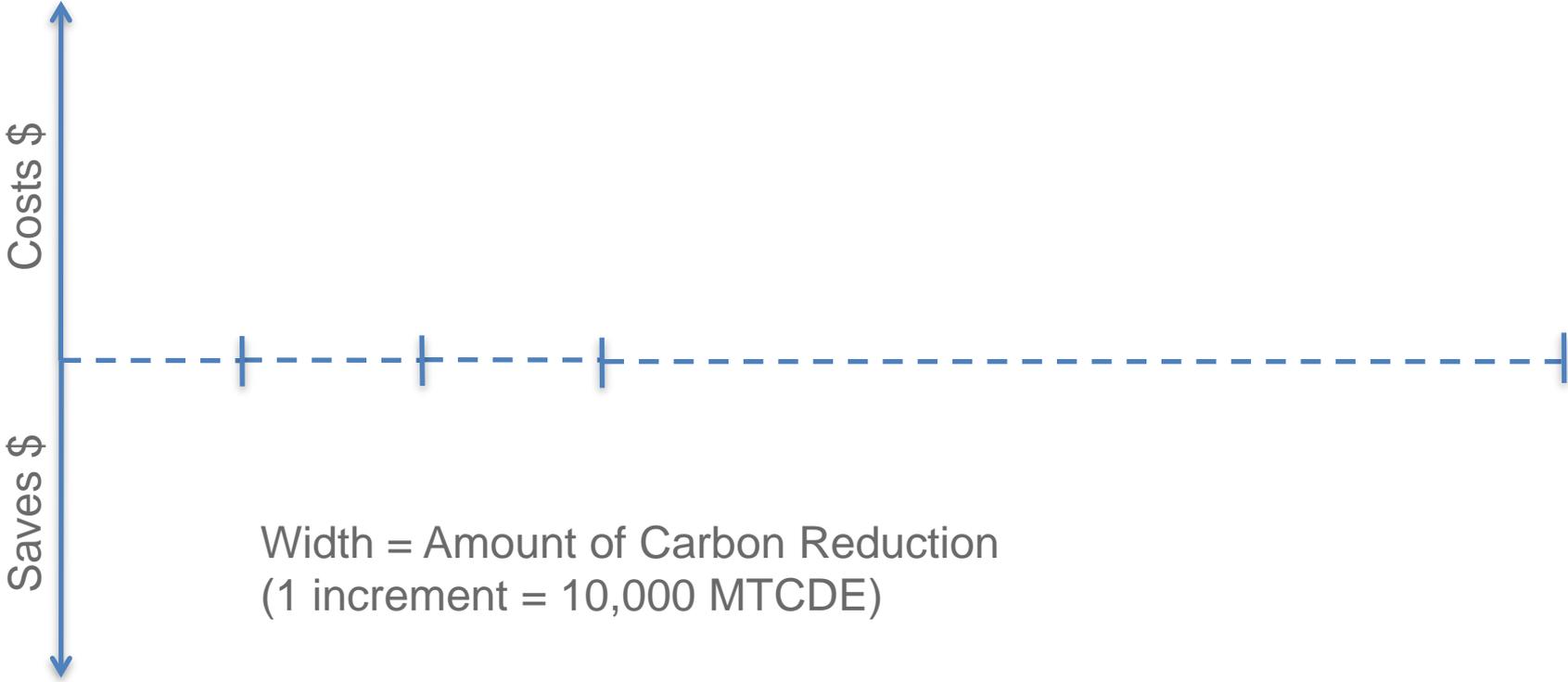


How do we get there?

- Mitigation portfolio

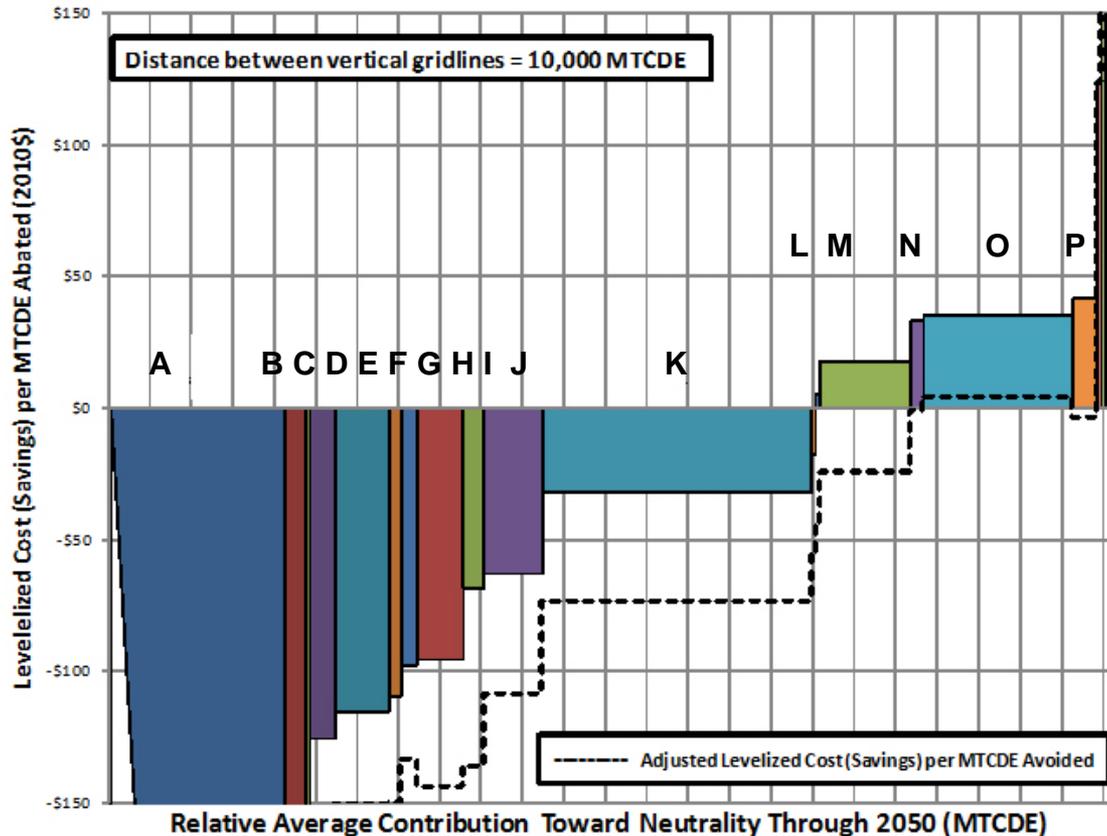


Understanding the Costs and Impact of Strategies



What's included?

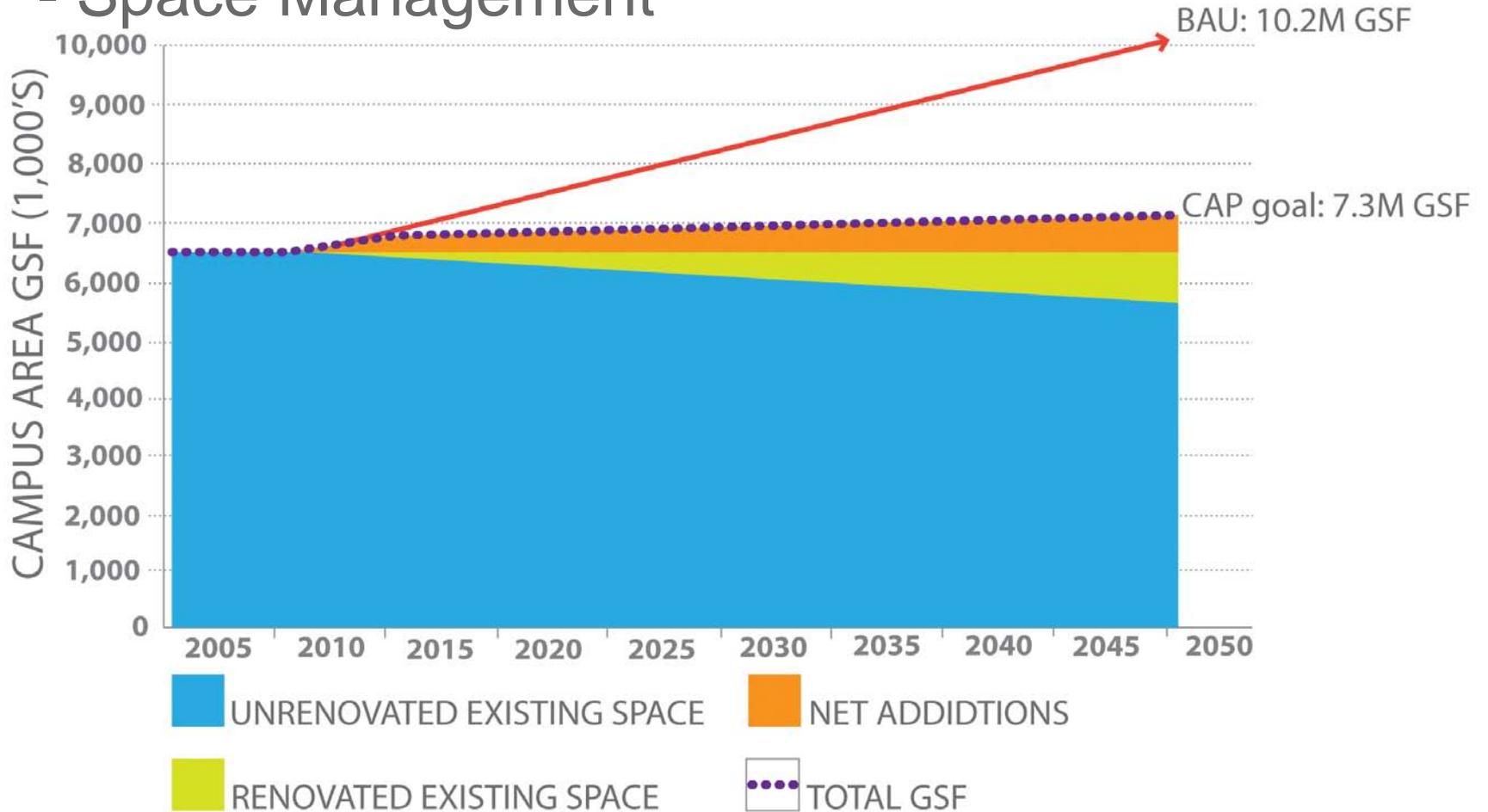
- Mitigation areas



- A: Space Management
- B: Central Chiller Expansion
- C: Reduced Air Travel
- D: Green IT
- E: Energy Conservation (short term)
- F: Behavior Change
- G: Steam Line Improvements
- H: Energy Conservation (mid term)
- I: Energy Conservation (long term)
- J: Building Standards
- K: Combined Heat & Power
- L: Waste Reduction
- M: Geothermal
- N: Solar (Hot Water)
- O: Coal to Gas Conversion
- P : Chiller Upgrades
- Q: Green Power (CWRU)
- R: Green Power (MCCo)
- S: Wind
- T: Transportation Strategies
- U: Solar (Photovoltaic)

Strategy #1

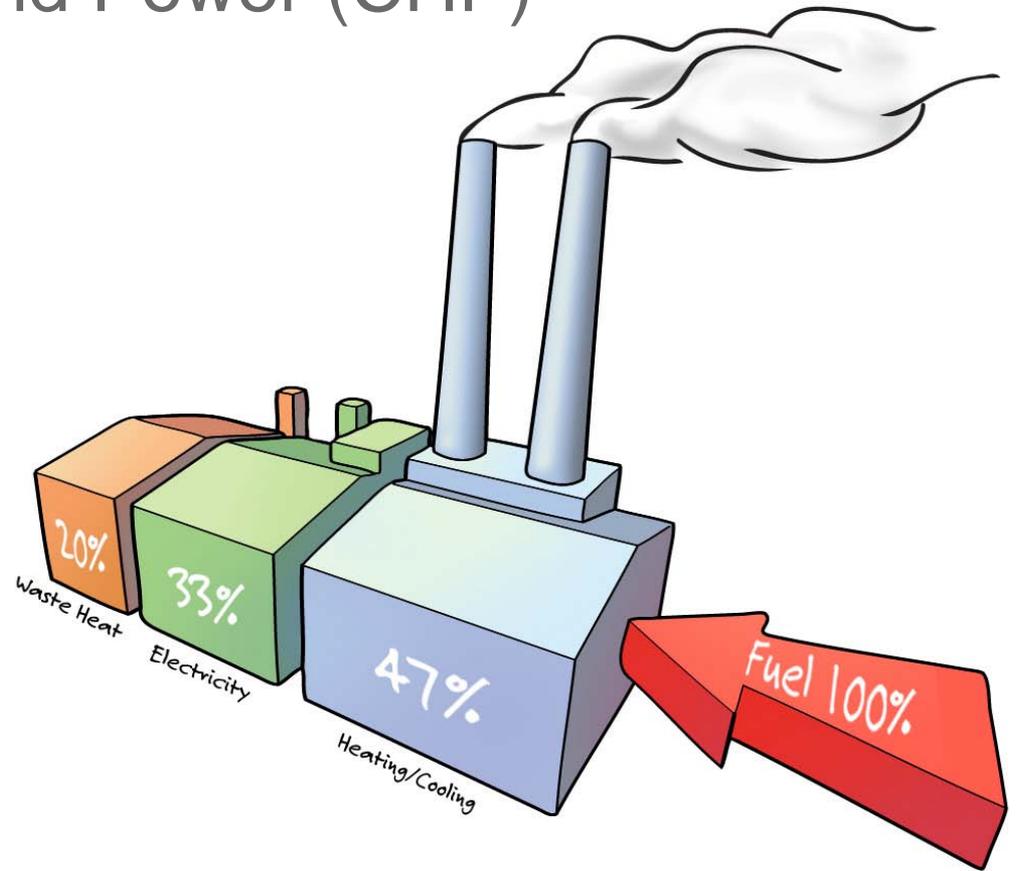
- Space Management



Strategy #2

- Combined Heat and Power (CHP)

Combined Heat and Power is defined as the simultaneous generation of heat and power from a fuel source.



Climate Action Plan (CAP)

(Excerpt)

- Actions to make *climate neutrality* and sustainability a part of the curriculum and other educational experience for all students
- Actions to expand research or other efforts necessary to achieve climate neutrality

A CAP working group consisting of 7 faculty (from CAS, CSE, and WSOM), 3 students, and 2 staff members met several times in Fall 2010 to come up with recommended initiatives.

Primary focus of discussion was education, and research as connected to students.

Research and Education Initiatives

Recommendations:

1. Focused curriculum review and planning process. Emphasis on integrating sustainability into existing curriculum rather than creating new majors/silos.
2. Incentivize curriculum development through a program similar to Glennan or Freedman fellows.
3. Develop content for New Student Orientation to initiate undergraduate engagement.
4. Expand existing “Summer Undergraduate Research in Energy and Sustainability” (SURES) program.
5. Create an “idea bank” for competed internal seed funding, with an emphasis on using the campus as a lab, and improving campus operations.
6. Create an annual competition for CWRU-funded student “externships”.
7. Sponsor an ongoing campus-wide lecture series.

Research and Education Initiatives

Status:

We have discussed these recommendations with the Provost, who is supportive.

Required level of funding depends strongly on chosen scale of implementation.

Estimate full program (no staff; for now we expect to leverage Sustainability Director, Fowler Center, and other relevant staff) at ≈\$300K/year, but there's a “menu” to choose from.

Capital costs

- sources and uses (\$ in millions)

| | FY12 | FY13 | FY14 | FY15 | FY16-25 | FY26-50 |
|---------------------------|--------------|---------------|---------------|--------------|---------------|----------------|
| Space Management | \$6.9 | \$6.9 | \$6.9 | \$6.9 | \$68.6 | \$171.5 |
| Building Standards | \$0.8 | \$2.7 | \$1.3 | \$0.8 | \$9.2 | \$19.5 |
| Energy Conservation | \$0.4 | \$0.4 | \$0.4 | \$0.4 | \$7.2 | \$7.4 |
| Green IT | | <\$0.1 | <\$0.1 | <\$0.1 | | |
| Solar | | | \$4.2 | | | |
| Central Chiller Expansion | \$0.6 | | \$1.0 | | \$0.5 | |
| Geothermal | | | | | \$1.7 | |
| Total | \$8.7 | \$10.0 | \$13.8 | \$8.1 | \$87.2 | \$198.4 |
| \$avg/yr | | | | | \$8.7 | \$7.9 |



Budgeted within FY12-15 Working Capital Model



New sources required

Operating costs

- Sources and uses

(\$ in millions)

| | FY12 | FY13 | FY14 | FY15 | FY16-25 | FY26-50 |
|--|--------------|--------------|--------------|--------------|---------------|----------------|
| Space Management | \$0.3 | | | | | |
| Building Standards | \$0.1 | | | | | |
| Behavior Change | | \$0.1 | \$0.1 | \$0.1 | \$0.6 | \$1.3 |
| Green IT | | <\$0.1 | <\$0.1 | <\$0.1 | \$0.2 | \$0.5 |
| Green Purchase Power (MCCo Reserve Fund) | \$0.6 | \$0.6 | \$0.6 | \$0.6 | \$7.4 | \$20.0 |
| Reduced Auto Reliance Strategies | | \$0.1 | \$0.1 | \$0.1 | \$1.6 | \$4.4 |
| Waste Reduction | | <\$0.1 | <\$0.1 | <\$0.1 | <\$0.1 | \$0.1 |
| Combined Heat & Power | | | | | \$30.7 | \$69.0 |
| Sustainability Driven-Master Plan | \$0.1 | | | | | |
| Research and Curriculum | \$0.3 | \$0.3 | \$0.3 | \$0.3 | \$3.2 | \$7.9 |
| Total | \$1.4 | \$1.1 | \$1.1 | \$1.1 | \$43.7 | \$103.2 |
| \$avg/yr | | | | | \$4.4 | \$4.1 |

 Within CPM operating budget

 New operating sources required

 Within IT operating budget

 New academic sources required

 Within MCCo's capital budget

Next Steps

Internal reviews

Bud Baeslack, Provost 2/25/2011

Faculty Senate Executive Committee 3/15/2011

Faculty Senate 3/22/2011

Administration

CAP submittal deadline 5/15/2011

Questions and comments?

KSL Strategic Plan: Working Draft 1.0 (3.4.2011)

Mission

KSL is the knowledge and creativity commons of CWRU.

CWRU Mission:

Case Western Reserve University improves and enriches people's lives through research that capitalizes on the power of collaboration, and education that dramatically engages our students.

Vision

KSL will be the information laboratory for knowledge collection, connection, creation, and curation.

CWRU Vision:

We aim to be recognized nationally as an institution that imagines and influences the future.

Values

In addition to the values of the University, KSL values:

- openness
- collaboration
- personalized service
- agility and innovation through experimentation

CWRU Values:

1. Academic excellence & impact
2. Inclusiveness & diversity
3. Integrity & transparency
4. Effective stewardship

Goals and Objectives

KSL Objectives: Impact

- **1.1 Understand CWRU Community Interests and Needs.** Transform the design and delivery of KSL services by systematically engaging in research to understand the changing needs and scholarly behaviors of faculty, undergraduates, and graduate students, and by customizing services to accommodate differences among these groups.
- **1.2 - Expand the Availability of Scholarly Content.** Ensure that KSL is the trusted campus source for procuring, preserving, and delivering scholarly information by:
 - identifying future research needs and developing a multi-year plan to provide the books, journals and other information resources to ensure that KSL's support of research is commensurate with that of the best practices of academic research libraries (including in support of University international and interdisciplinary initiatives);
 - expanding the core of information housed or fully accessible on campus as CWRU is particularly vulnerable to the likely reduced ability of OhioLINK to provide CWRU with the level of research collections required for excellence;
 - implementing the principles established by the "Acquisition and Retention of Library Materials Task Force" regarding preferred formats of information resources relative to periodicity and disciplinarity;
 - expanding Special Collections with a focus upon University areas of strength that support the curriculum and research of CWRU faculty and students; and,

CWRU Goal 1: Impact. Seeking to strengthen our reach in education, research, scholarship and other forms of discovery, CWRU will advance our academic programs to increase impact.

1. Enhance Research and Discovery.
2. Align Educational Programs to Prepare Students for the 21st Century.
3. Enhance international character of university.

- exploring opportunities to grow the Archives, and increasing its use by faculty and students by increasing the marketing of available collections, and by expanding access and preservation through digitization of both born-digital and printed materials (e.g., in science, technology, and medicine, as well as industrial, urban, ethnic, cultural and immigration history).
- **1.3 – Define and Deploy a Digital Learning and Research Strategy.** Engage in campus partnerships to define and deploy a strategy that integrates KSL services for digital learning and scholarship that is built upon a strong technological infrastructure and embedded personal support for faculty and students, with an emphasis on integration of the Freedman Center, the Center for Statistics and Geospatial Data, and Digital Case to provide a unified information chain for faculty and students beginning with topic identification, and advancing through digital investigation methodology, content creation, and communication.
- **1.4 - Increase Student Depth and Fluency in Knowledge Discovery and Processing.** Revolutionize the information literacy program and its assessment by engaging with faculty to create a scalable, innovative and relevance-based model that enhances the ability of undergraduate and graduate students to visualize and comprehend the scope of available information resources in all media, engage in effective information discovery and evaluation, contribute to the formation of new knowledge, and engage in lifelong habits of the mind.
- **1.5 - Become the Campus Destination for Intellectual Pursuits.** Advance student and faculty recruitment and retention by:
 - creating a comprehensive and flexible strategic program to meet the specialized needs of each key client constituency;
 - engaging with faculty to create programs and platforms to foster scholarly exchange among diverse members of the university community;
 - reinvigorating KSL as the campus destination (both physical and virtual) through the creation of collaborative and individual learning and research spaces; and,
 - creating new service delivery models.

KSL Objectives: Diversity

- **D.1. – Define Services to Support Global Diversity.** Advance the international initiatives of the University by providing robust support both for international activities of CWRU faculty and students, and for international students who are studying at CWRU.
- **D.2. - Promote Collaborative International Content Development.** Position CWRU to influence the economic models affecting trade publications and scholarly content by participating in collaborative global information developments that cultivate contributions from global partners (from both developed and developing countries) to expand the global availability of information.

CWRU Goal 2: Diversity. Through the promotion of cultural understanding, recognition of excellence and attraction of an outstanding student, faculty and staff base, CWRU will develop a strong, vibrant, diverse university community

1. Recruit, retain, and develop outstanding students.
2. Promote diversity.
3. Recognize & reward excellence among faculty & staff.
4. Make the campus more vibrant.

KSL Objectives: Community

- **C.1 – Strengthen Content Partnerships.** Strengthen OhioLINK, UCI and other library partners to ensure the strong availability of digital and print information resources that are of benefit the Case community.
- **C.2 – Alumni and Community Engagement.** Undertake a comprehensive strategic review and articulate a plan as to how KSL will support alumni, and the extent to which KSL can and should support the larger Cleveland community.

CWRU Goal 3: Community. Expand and deepen relationships with the larger community

1. Better engage alumni.
2. Partnerships with and for the University Circle, Cleveland, and Northeast Ohio.
3. Strengthen relationships with state and federal stakeholders.

KSL Objectives: Integrity and Transparency

- **T.1 – Service Assessment and Accountability to the CWRU community.** Continually assess and report upon KSL’s progress to implement best management practices, including the identification and reporting of measures of success of importance to the university community.
- **T.2. - Create a KSL Development Program.** Ensure the financial sustainability of KSL by establishing a development program, including articulation of major gift priorities and goals, the development of persuasive case statements worthy of prominent participation within the University Capital Campaign, and the initiation of a systematic program to cultivate potential donors.
- **T.3. – Develop a New Library Materials Allocation Formula.** Create a new, fair and transparent allocation formula for KSL library materials that recognizes changes in scholarly publishing and the use of these materials at CWRU.

CWRU Goal 4: Integrity and Transparency.

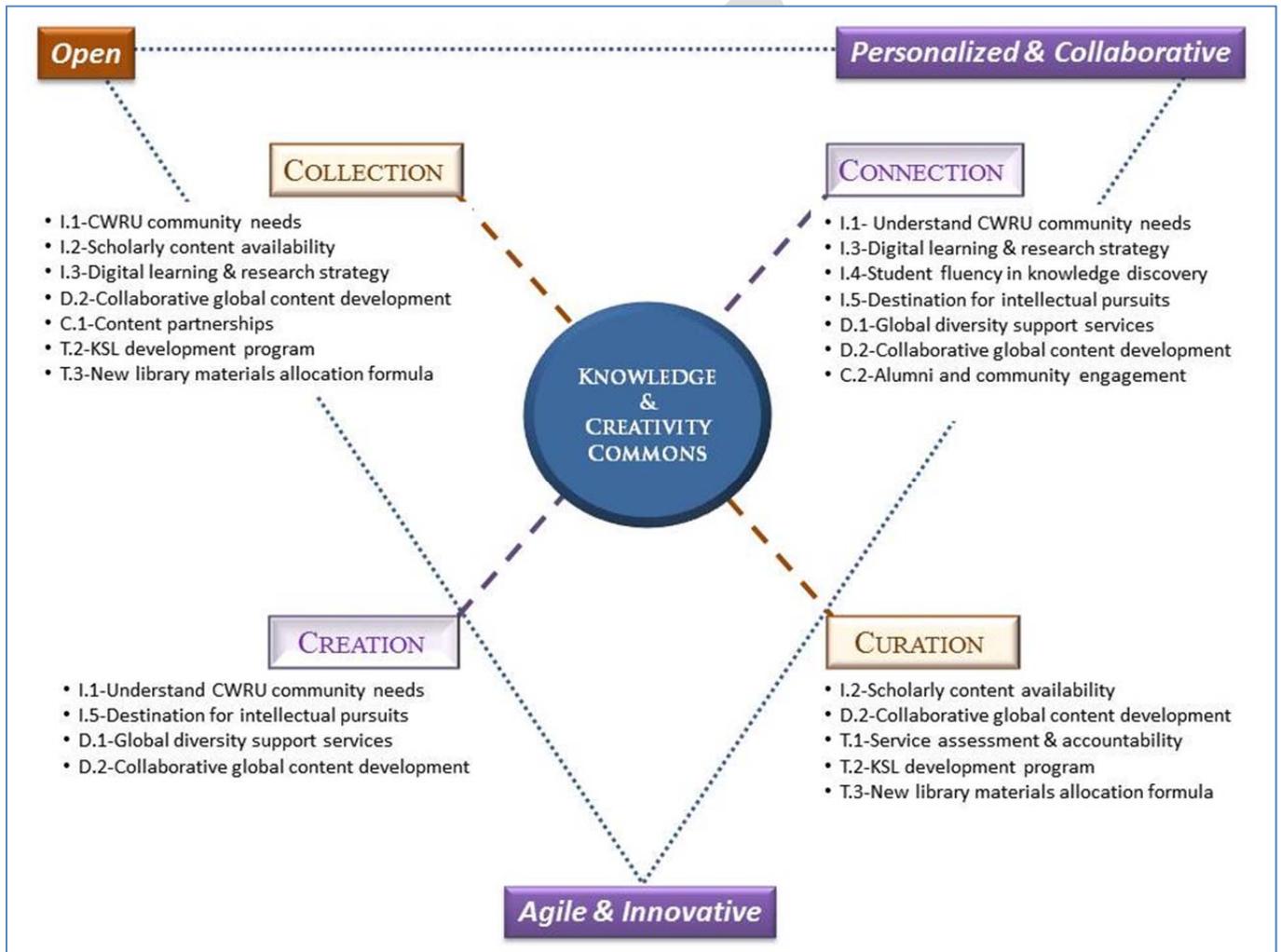
Realizing our goals requires significant improvements in our ability to assess our academic programs, track our finances and provide high-quality service to students, staff, faculty and alumni.

1. Define performance indicators, and strengthen systems for monitoring and evaluating learning outcomes.
2. Improve internal customer satisfaction with administrative services.
3. Improve resource allocation and ensure accountability.
4. Identify innovative sources of revenue.
5. Implement best operational practices.
6. Initiate a major capital campaign

Appendix: Visualization of KSL Strategic Plan

This visualization is provided to show the relationship of the mission, vision, values and objectives contained in the plan. It is not intended as either a summary nor as a replacement for the full plan.

- **Mission:** The KSL mission statement is at the center
- **Vision:** The four key words of the vision emanate from the center
- **Objectives:** Objectives are shown under the four key words of the vision. (Note: some objectives are relevant to more than one key word, and therefore are repeated under each appropriate objective)
- **Values:** The KSL values are in the outer edges



To: The University Community

From: Arnold Hirshon, Associate Provost and University Librarian
Mary Quinn Griffin, Chair, Faculty Senate Committee on University Libraries

Subject: KSL Strategic Plan: Working Draft for Campus Comment

The Kelvin Smith Library is pleased to announce the availability of the first working draft for comment of a new strategic plan. Please share this draft widely with your faculty and staff. It is openly available at <http://library.case.edu/ksl/plan/ksl-plan-draft-3-4-11-distrib.pdf>

As Associate Provost and University Librarian and as Chair of the Faculty Senate Committee on University Libraries (FSCUL), we are seeking campus feedback before the FSCUL considers the plan for adoption. We are providing at least three ways to do so:

1. We will hold three open campus forums to discuss this draft:
 - Wednesday, March 16: 3:30-5pm (Thwing Center, Spartan Room, 3rd Floor)
 - Tuesday, March 22: 9:00-10:30am (Allen Memorial Library, Herrick Room)
 - Friday, March 25: 11:00am-12:30pm (Nord, Room 310)
2. As schedules permit, we also would welcome an opportunity for the two of us to meet briefly with departmental faculty to discuss the attached working draft of KSL strategic plan.
3. You may also send comments by email to Arnold Hirshon (axh374@case.edu) or to me (mtq2@case.edu)

The feedback we receive through departmental meetings and open campus forums will inform us in the preparation of a revised version that will be reviewed again by both the internal and external strategic planning teams prior to a review for approval by the FSCUL.

These efforts are part of a larger process that was designed to be very inclusive and transparent. The names of the many members of the campus community who participated in the formulation of this plan are listed below. This first working draft incorporates significant faculty input that was provided by the External Strategic Planning Team that is composed largely of faculty.

This strategic plan identifies the unique contributions of the Kelvin Smith Library to advance the strategic directions of Case Western Reserve University, and to contribute to institutional success and competitiveness. To reinforce the centrality of the University strategic directions in this plan, it is organized under the University goals and objectives rather than articulating a new or unique set of library goals.

PLANNING ASSUMPTIONS. This plan is intended to be visionary but practical. To accomplish this, there are four key funding assumptions:

1. **Budget.** Given the financial climate, KSL's budget over the next three years is likely to be relatively flat, with any growth in University funding largely being offset by inflationary cost increases.
2. **OhioLink.** OhioLINK will continue for the next 3-5 years, but its funding or support may see such significant change that CWRU will likely need to become less reliant upon it to meet our basic information needs.
3. **Development.** KSL must articulate persuasive case statements to fund Improvements in library programs and services through external development funding.
4. **Resource Reallocation.** KSL must stop doing some things so we can reallocate resources and do new things.

In addition, the plan prioritizes the KSL clientele into three groups. The primary clientele are CWRU faculty, students, and staff. Alumni are important but secondary clientele. Services to tertiary constituency (e.g., the Cleveland community) are provided as resources may permit.

CONTEXT OF THE PLAN. The KSL objectives have been organized under the goals of the University. The new KSL objectives are within the context of KSL continuing its dedication to:

- build and maintain strong scholarly information resources;
- foster the engagement and productivity of our faculty and students in their intellectual pursuits;
- maintain a strong commitment to provide high quality services for our faculty and students; and,
- work collaboratively on campus and with other institutions to maximize the availability of information.

FORMAT OF THE PLAN. Please note that the goals are in the order in which they appear in the University Strategic Plan. The KSL objectives under those goals are numbered for ease of reference, and do not imply a priority order.

STEPS FOR MOVING THE PLAN FORWARD. KSL intends to engage in extensive dialog with campus constituencies prior to formal adoption of the plan. Once adopted, effective implementation of the plan will require: significant partnerships (on-campus and beyond); redeployment of current human, financial and capital resources; expansion of our capital resources through internal and external development; and, strong accountability and continuous communication of our progress against the metrics for success in this plan.

Campus Participants in the Strategic Planning Process

Environmental Scanning Teams [KSL Staff]

| Teaching & Learning | Society | Information Technology | Scholarly Research & Publishing | Education |
|---------------------|-----------------------|------------------------|---------------------------------|------------------|
| William Claspy * | Brian Gray * | Earnestine Adeyemon * | Karen Oye * | Tina Oesterich * |
| Sharon Gravius | Marel Corredor-Hyland | Virginia Dressler | Stephen Toombs | Richard Wisneski |
| Jennine Vlach | Ann. Holstein | Thomas Hayes | Stephanie Church | Danica Schroeder |
| Jared Bendis | Angela Sloan | Roger Zender | Suzhen Chen | Jill Tatem |
| Catherine Wells | Patrick McCafferty | Nathan Lambert | Gail Reese | Tim Robson |

* - Team convenor

KSL Internal Planning Team

External Strategic Planning Team

| Staff Member | Department | Name | College / Department |
|-----------------------|----------------------------------|-------------------------|---------------------------------|
| Jared Bendis | Freedman Center | James Burgess | Arts & Sciences: Chemistry |
| Brian Gray | Head, Reference Services | Julia Grant | Weatherhead: Accountancy |
| Sharon Gravius | Collection Management | Sonia Minnes | MSASS |
| Thomas Hayes | Head, Digital Services | Carol Musil | Nursing: Gero/Mental Health |
| Arlene Sievers-Hill | Head, Acquisitions | Suchitra Shirley Nelson | Dentistry |
| Arnold Hirshon | Assoc. Provost & Univ. Librarian | Catherine Scallen | Arts & Sciences: Art History |
| Marel Corredor-Hyland | Support Staff | David Schwam | Engineering: Materials Science |
| Nathan Lambert | Asst. Director, Info. Technology | Peter Shulman | Arts & Sciences: History |
| Gina Midlik | Special Projects Manager | Wojbor Woyczynski | Arts & Sciences: Statistics |
| Timothy Robson | Deputy Director | Laura Kruse | Undergrad. Student Govt. |
| Jill Tatem | Head, Archives | John Shelley | Univ. Relations: Planned Giving |
| Stephen Toombs | Head, Music Library | Arnold Hirshon | KSL (ex-officio) |
| Catherine Wells | Asst. Director, Public Services | | |