

**AGREEMENT
FOR
GLOBAL CLIMATE AND ENERGY PROJECT
(GCEP)**

Effective September 1, 2010

The Board of Trustees of the Leland Stanford Junior University

Exxon Mobil Corporation

General Electric Company

Schlumberger Technology Corporation

Toyota Motor Corporation

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AGREEMENT

This Agreement, effective September 1, 2010, is between The Board of Trustees of The Leland Stanford Junior University, an educational institution with its principal place of business at Building 310, Main Quadrangle, Stanford University, Stanford, California 94305-2110, U.S.A. ("University"), and the following businesses (collectively, "Sponsors" and individually, "Sponsor"):

Exxon Mobil Corporation, a New Jersey corporation with its principal place of business at 5959 Las Colinas Boulevard, Irving, Texas 75039-2298, U.S.A. ("ExxonMobil");

General Electric Company, a New York corporation, acting through its Global Research Center at 1 Research Circle, Niskayuna, New York 12309, U.S.A. ("GE");

Schlumberger Technology Corporation, a Texas corporation with its principal place of business at 300 Schlumberger Drive, Sugar Land, Texas 77478, U.S.A. ("STC"); and

Toyota Motor Corporation, a corporation of Japan with its principal place of business at 1, Toyota-Cho, Toyota, Aichi, 471-8572, Japan ("TMC").

This Agreement concerns the cooperative research project ("Project") that is the subject of the Agreement effective December 16, 2002, between the University and the Sponsors ("2002 Agreement") and the Agreement effective September 1, 2008, between the University and the Sponsors ("2008 Agreement"). The primary purpose of this Agreement is to continue the Project under the basic provisions of the 2008 Agreement, while adding mechanisms to enable the admission of new Sponsors and provide for the withdrawal of existing Sponsors. The 2002 Agreement, as it was amended from time to time, will continue to define the rights and obligations of the University and Sponsors with respect to events occurring before September 1, 2008 and the 2008 Agreement, as it was amended from time to time, will continue to define the rights and obligations of the University and Sponsors with respect to events

occurring from September 1, 2008 until September 1, 2010, but this Agreement replaces the 2002 Agreement and 2008 Agreement in the sense that this Agreement defines the rights and obligations of the University and Sponsors with respect to events occurring on or after September 1, 2010.

Greenhouse gas emissions and other emissions that may contribute to global climate change (collectively, “greenhouse emissions”) arise worldwide from various sources, including everyday human activities, especially human energy use. Trends and projections indicate that such energy use will continue to grow, particularly in developing countries, to meet economic and social needs and aspirations, and therefore that greenhouse emissions from such energy use will continue to grow. Managing the long-term risks of climate change may necessitate curtailing global greenhouse emissions dramatically, preferably in ways that preserve opportunities for continued economic growth.

To that end, there is need for extensive, fundamental, pre-commercial research to identify technological options for growth in energy use with reduced greenhouse emissions, and thus to accelerate the ultimate development and implementation of innovative systems for energy supply and use with net greenhouse emissions substantially reduced from current levels. Such systems will need not only to reduce greenhouse emissions, but also to be technically, commercially, and socially practical, and to meet society’s objectives for higher energy efficiency, cleaner air, and reduced environmental impacts. In particular, the systems will need to be cost-effective if they are to achieve widespread, global use.

The complexity of that needed research creates an opportunity for long-term collaboration between academic and private concerns to perform the research, research which necessarily will involve numerous academic disciplines, such as engineering, biosciences, chemistry, physics, geology, economics, and sociology, and will involve also the commercial insights, interests, and experiences of businesses from various industries.

The University has expertise in those and other academic disciplines and in project administration, and is willing to continue the Project, commenced in 2002, with a select, manageable group of Sponsors with diverse commercial insights, interests, and experiences, and to work with selected third parties, all on the basis described in this Agreement. The Sponsors are businesses in various industries and are willing to continue to participate in the Project, to share the costs of the Project, and to work with selected third parties, all on the basis described in this Agreement.

The Project will continue to be referred to as the “Global Climate and Energy Project” or simply the “Project.” The Project may also be referred to as “GCEP”. The primary objectives of the Project are (a) to identify options for commercially viable, technological systems for energy supply and use with substantially reduced net greenhouse emissions; (b) to identify presently existing barriers to commercializing those options (barriers such as cost, performance, safety, regulation, and consumer acceptance); (c) to identify potential solutions to those barriers; (d) to conduct pre-commercial research to explore those options, barriers, and potential solutions; and (e) to publicize such options, barriers, solutions, and research.

Core Project activities will continue to be Project research and central management of the Project by the University. Project research consists of (a) portfolio development and maintenance; and (b) the conduct of full-scale research programs.

The purpose of portfolio development and maintenance is to identify research programs that merit consideration by the Sponsors. To that end, the University develops and maintains a portfolio of potential research programs that would further the objectives of the Project. In developing and maintaining that portfolio, the University emphasizes fundamental science and pre-commercial research that can be addressed through academic research and considers at a minimum the following technical areas: (a) renewable energy sources (wind, solar, and biomass); (b) advanced coal utilization; (c) advanced nuclear power technologies; (d) hydrogen production, distribution, and use; (e) electric power generation, storage, and distribution; (f) energy distribution systems enabling infrastructures; (g) advanced combustion science and engineering;

(h) advanced transportation systems; (i) CO₂ separation, capture, and storage; (j) geoengineering; and (k) advanced materials and catalysts.

Portfolio development and maintenance is divided into the following categories: (a) technical area assessments to evaluate the status and prospects of various technical areas with respect to the Project's goal of enabling a low-greenhouse-gas future; (b) energy systems analysis to develop models and methodologies for measuring the impact of energy technologies in an integrated framework and to build quantitative metrics for research programs; (c) scoping research to determine the feasibility of potential full-scale research programs; and (d) cost-shared research programs to assist third parties, including government agencies, in research related to full-scale research programs.

Central Management is administration, supervision, and similar activities of the University.

At any point in time, the then-current Exhibit A, "Core Project Description," identifies Project research that has been authorized by the Sponsors, sets forth basic financial parameters associated with that authorized Project research and related central management, and identifies the then-current agreed termination date of the Project.

The Project is not intended to encompass the actual development or implementation of specific commercial solutions, and the Project is not structured to generate net cash flow to the Sponsors.

The parties recognize the difficulty of defining the content and duration of a long-term, pioneering research project. The parties also recognize that, while their individual interests in specific elements of the Project will vary, the ultimate success of the Project will depend on the continued cooperation of the parties, the willingness of each of them to support the entire Project, and their ability to achieve consensus, so that the Project progresses in a cohesive, constructive manner. Accordingly, this Agreement provides mechanisms for the periodic review of the Project and its potential extension year-by-year. The parties will continue to evaluate the Project as it progresses for the purpose

of identifying by consensus possible amendments and extensions that all parties could support to redefine and extend it year-by-year. However, at any given point in time, the parties will be legally committed only to the Project as formally defined by Exhibit A, as it may have been amended, and by the rest of this Agreement.

Therefore, the University and the Sponsors agree as follows:

ARTICLE 1 THE PROJECT

1.01 The University and the Sponsors are the parties to this Agreement and are considered members of the Project. Other entities may be added as Sponsors (“New Sponsors”) with unanimous consent of all parties to this Agreement, other than any withdrawing Sponsor as defined in paragraph 11.01, evidenced either by written amendment of this Agreement or by a superseding Agreement signed by a representative of each such party, except that no consent or signature will be required from any Sponsor who has given notice pursuant to paragraph 11.01 of its intent to withdraw from the Project. Such amendment or superseding Agreement will define the rights and obligations of the University and the Sponsors, including the New Sponsor or Sponsors, and the continuing Sponsors (“Continuing Sponsors”), with respect to events occurring on and after the effective date thereof. For avoidance of doubt, a New Sponsor will gain rights only to Project Technology and Project Patent Rights (as defined in Article 6) that result from research programs listed in Exhibit A, as amended from time to time, for which it has participated in funding the costs thereof. The University will administer, supervise, and conduct the Project, and will provide limited financial support to the Project, as described in paragraph 5.06. The Sponsors will provide review and funding, and may, under certain circumstances, perform Project research, all as described more fully in this Agreement.

1.02 The Project commenced on December 16, 2002. Unless sooner terminated pursuant to Article 11, or unless extended by agreement of the parties, the Project will terminate on the date specified in the then-current Exhibit A. The Project will run on the University’s fiscal year: September 1 to August 31 (“Fiscal Year”); for

example, Fiscal Year 2010-11 is the period September 1, 2010, to August 31, 2011. The University will develop and maintain a portfolio of potential research programs and will conduct authorized research programs, all as described in Exhibit A.

1.03 Because the Project involves long-term pioneering research that cannot be defined precisely in advance, the University and the Sponsors will conduct a formal review of the Project on or before July 1 of each year (“Annual Summer Review”) for the purpose of considering before the end of the then-current Fiscal Year possible revisions to Exhibit A, including a possible one-year extension of the term of the Project. In preparation for those reviews, the University will provide the Sponsors on or before June 1 of each year with written summaries and assessments of the results of the Project to date, including detailed progress reports on each current, authorized activity for portfolio development and maintenance, and each current, authorized research program. The University will also propose to the Sponsors on or before June 1 of each year a detailed, written execution plan and budget for the next three-year period, as described in paragraph 5.07, and a corresponding new Exhibit A, in draft form to be effective September 1, covering that three-year period and incorporating all recommended revisions to make the new Exhibit A consistent with that proposed execution plan and budget. The Management Committee described in Article 3 will be the ultimate forum for such reviews, but any revisions to Exhibit A, including any extension of the Project term, will become binding only when the new Exhibit A has been signed by an authorized representative of each party, except that no agreement or signature will be required from any Sponsor who has given notice pursuant to paragraph 11.01 of its intent to withdraw from the Project. When and if the parties fail to extend the Project term following the Annual Year-End Review, the Project will run until the end of its then-current term, unless the Project terminates earlier pursuant to Article 11 or the parties make other arrangements. .

On or before November 1 of each year, the University will provide the Sponsors with (a) written summaries and assessments of the scope and adequacy of current technical area assessments, energy systems analysis, and full-scale research programs, (b) overall progress achieved to date toward identifying and exploring

commercially viable solutions; and (c) external developments in science and technology that may affect the viability of options and solutions considered to date. The parties in their discretion may amend Exhibit A to become effective during a Fiscal Year, provided that any such intra-year Exhibit A will become binding only when it has been signed by an authorized representative of each party, excepting any Sponsor who has given notice pursuant to paragraph 11.01 of its intent to withdraw from the Project. A new or amended Exhibit A signed by a representative of each party will not be required for intra-year adjustments reflecting unanimous Management Committee approval of expenditures that do not change the Total Sponsors Cap.

1.04 The University will use its own employees to administer the Project and to conduct Project research. With respect to Project research conducted by the University, the University will use only its own employees and its own students, some of whom may also be University employees and some of whom may not be University employees, to conduct Project research, provided that any compensation to those employees and students for Project research will flow directly from the University to those employees and students, not from any third party. Additionally, the University, with the prior approval of the Management Committee described in Article 3, will engage and supervise third parties ("Project Subcontractors") to perform selected portions of the research.

1.05 In keeping with the worldwide scope of the problems to be addressed by the Project, the University will use its best efforts to engage as Project Subcontractors distinguished universities and research institutions throughout the world; and the University will actively seek to develop constructive roles for such universities and research institutions as Project Subcontractors. No Sponsor will serve as a Project Subcontractor. The identity and scope of engagement of each Project Subcontractor will be subject to unanimous, written approval of the Management Committee pursuant to Article 3 below. The University will be responsible for negotiating and entering into written subcontracts between the University and the Project Subcontractors that are consistent with this Agreement. The University will notify the Sponsors specifically and in writing of any significant inconsistencies between any such subcontracts and this

Agreement; any such inconsistencies will be subject to unanimous, written approval by the Management Committee, such approval to be consistent with the intent of the parties, expressed in paragraph 10.01, that this Agreement not create an agency, partnership, joint venture, or any other form of association.

1.06 In order to advance the purposes of the Project, the parties anticipate that, in addition to the research performed by the University and by Project Subcontractors, the parties may wish to authorize one or more of the Sponsors, and various of their affiliates acting on behalf of the respective Sponsors and meeting the definition of “affiliate” in paragraph 6.06, to perform at their own expense portions of the Project research in collaboration variously with each other, the University, and Project Subcontractors. Such Project research will take place only after review and unanimous approval by the Management Committee and incorporation into a new Exhibit A signed by an authorized representative of each party, excepting any withdrawing Sponsor as defined in paragraph 11.01. In reviewing proposed Project research to be performed by Sponsors and affiliates on behalf of Sponsors, the Management Committee will take into account (a) the nature of the proposed research and its relationship to other Project research; (b) the location or locations of the proposed research; (c) the qualifications of the persons proposed to perform the research; (d) any pertinent antitrust considerations; (e) any special measures proposed to deal with possible commingling with respect to Project Technology and Project Patent Rights described in Article 6; and (f) any issues with respect to Non-Project Patent Rights described in Article 8. Sponsors’ affiliates performing Project research will be considered third parties. Their legal status and the conditions under which they will perform Project research are described more fully in Article 16.

1.07 Pursuant to the provisions in this Agreement for the University’s coordination of all Project research, the University will coordinate all Project research performed under paragraph 1.06 by the Sponsors and their affiliates. Such Project research and its results will be subject to the terms of this Agreement, and the parties intend to publish the results of such Project research in the same manner as the results of other Project research, as described in paragraph 7.05. Consistent with paragraph

5.20, each Sponsor will be responsible for its own expenses, and for its affiliates' expenses, incurred in the course of their Project research, and such expenses will not be charged to the Project Account described in Article 5. Consistent with Article 16, Sponsors' affiliates performing Project research will not be parties to this Agreement and will not be members of the Project.

1.08 The University will provide office space, laboratories, research facilities, supplies, and equipment for Project work conducted at the University.

1.09 The University will commit adequate resources to the Project, will conduct its activities in a professional manner, in good faith, and in compliance with applicable laws and regulations, but will not have any fiduciary obligations to any Sponsor pursuant to this Agreement. Similarly, the Sponsors will conduct their activities in a professional manner, in good faith, and in compliance with applicable laws and regulations, but will not have any fiduciary obligations to each other or to the University pursuant to this Agreement.

ARTICLE 2 PROJECT ADMINISTRATION

2.01 The University's duties in administering, supervising, and conducting the Project will include without limitation (a) organizing and supervising all work by University employees and students; (b) developing and applying systematic procedures to facilitate the work (c) proposing Project Subcontractors; (d) negotiating, entering into, and administering subcontracts with Project Subcontractors; (e) coordinating communications with Project Subcontractors; (f) receiving work product from Project Subcontractors; (g) coordinating Project research by Sponsors and their affiliates; (h) establishing and administering written understandings with members of the Advisory Committee and peer review committees referred to in Article 4; (i) coordinating communications with the Advisory Committee and peer review committees; (j) formally reviewing the Project with the Sponsors as described in Article 1; (k) proposing to the Sponsors possible amendments to Exhibit A; (l) conducting the community outreach

referred to in Article 4; and (m) all other activities necessary or appropriate for satisfactory completion of the Project in compliance with this Agreement.

2.02 A faculty member of the University (“Project Director”) will lead and supervise the Project, will serve as the University’s primary representative with respect to the Project, and will receive for the University formal correspondence relating to the Project. The current Project Director is Dr. S.M. Benson. The Project Director will work on the Project full-time, except while on University-approved sabbatical leave, when the Project Director will not be required to work on the Project. In addition to the Project Director, the University will provide a full-time employee of the University to serve as Managing Director, and two regular employees of the University (not necessarily full-time) to serve as Administrative Manager and Communications Manager, respectively. The Managing Director’s primary job will be to assist the Project Director with the overall administration of the Project. The Managing Director will work on the Project essentially full-time. The primary job of the Administrative Manager will be to assist with administration of the Project, especially with reference to financial and contractual matters. At least one of the Project Director, Managing Director, and Administrative Manager will possess formal credentials and demonstrated experience in contract negotiation and administration. The Communications Manager will coordinate the outreach activities referred to in Article 4. From time to time the University may change the persons serving as Project Director, Managing Director, Administrative Manager, and Communications Manager, in consultation with the Management Committee described in Article 3.

2.03 The four Project executives referred to in paragraph 2.02 will be supported by a staff of other University employees and students. Depending on the needs of the Project, that staff may include postdoctoral fellows, web IT managers, administrative assistants, students, and others as appropriate. The proposed composition, general duties, and time commitments of that support staff will be subject to annual approval by the Management Committee during the annual budget review process described in paragraph 5.06. Additionally, the University may change the composition, general duties, and time commitments of that support staff during any Fiscal Year, but if the total

cost of the support staff would exceed the approved budget for that Fiscal Year, such changes will require the approval of the Management Committee.

ARTICLE 3 THE MANAGEMENT COMMITTEE

3.01 The Sponsors and the University will maintain a “Management Committee” whose members will be one designated representative of the University and each Sponsor. The primary purposes of the Management Committee, will be to provide a formal mechanism for (a) communications between the Sponsors and the University on matters relating to the Project, including without limitation the summaries and assessments, the annual consideration of a possible one-year extension of the term of the Project, and other possible revisions to the Core Project Description of Exhibit A, all described in Article 1; (b) receipt of advice from the Advisory Committee, peer review committees, and other sources referred to in Article 4; and (c) resolution of major administrative matters regarding the conduct of the Project, for example, the specified matters concerning Project Subcontractors (paragraph 1.05); Project research performed by Sponsors or their affiliates (paragraphs 1.06 and 1.07 and Article 16); the full-time Project support staff (paragraph 2.03); the Advisory Committee (paragraph 4.01); the peer review committees (paragraph 4.02); charges for off-campus facilities (Exhibit B, Part I.C), charges for renovation of University facilities (Exhibit B, Part I.D), charges for materials, supplies, and equipment (Exhibit B, Part I.E.2), and charges for other designated expenditures (Exhibit B, Part I.H); the detailed execution plans and budgets (paragraphs 1.03 and 5.07); Project Technology (paragraphs 5.03, 6.01, and 7.05); and Project Patent Rights (paragraphs 5.03, 6.02, and 6.07).

3.02 The Project Director will be the designated representative of the University on the Management Committee. The Managing Director will be the University’s designated alternate representative to attend Management Committee meetings, but will not be a member of the Management Committee.

3.03 Each Sponsor will maintain a full-time employee of the Sponsor or an affiliate to serve as that Sponsor’s designated representative on the Management

Committee. That designated representative will be a member of the Management Committee and will receive for that Sponsor written reports and other formal correspondence relating to the Project. Additionally, each Sponsor will maintain another full-time employee as its designated alternate representative to attend Management Committee meetings and, in the case of a voting Sponsor, cast votes for that Sponsor in the absence of that Sponsor's designated representative. Designated alternate representatives will not be members of the Management Committee. Each Sponsor may change its designated representative and alternate from time to time by written notice to the Management Committee.

3.04 Each Sponsor, other than a withdrawing Sponsor as defined in paragraph 11.01, will have one vote on the Management Committee, and any action under this Agreement requiring the consent or approval of the Management Committee shall mean consent or approval only by representatives of the voting Sponsors unless otherwise specified. Such Sponsors' votes may be cast by their designated representatives or in their absences by their designated alternate representatives. The Project Director and any withdrawing Sponsor will be non-voting members of the Management Committee. The designated representatives of the voting Sponsors will serve in rotation as chair of the Management Committee in alphabetical order by company name, provided that designated representatives of New Sponsors shall rotate in only after the designated representatives of all Continuing Sponsors have served. The chair will rotate at the end of each Fiscal Year.

3.05 A quorum of the Management Committee is a majority of the voting members of the Management Committee, either present in person, by telephone, or by video, or represented by designated alternate representatives who are present in person, by telephone, or by video. The members of the Management Committee will seek to make decisions by consensus where possible. At meetings of the Management Committee at which a quorum is present, all decisions of the Management Committee on the administrative matters referred to in paragraph 3.01, and any similar formal matters, will be by majority vote of the voting members present, except where a unanimous vote of the voting members is required, with the vote of the chair serving to

break any tie votes. Additionally, the Management Committee may take action without holding a meeting by unanimous written consent of the voting Sponsors' designated representatives or designated alternate representatives.

3.06 Meetings of the Management Committee will be at the University's facilities in Stanford, California, U.S.A., unless otherwise agreed by majority vote of the voting members of the Management Committee at the time the meeting is scheduled. The chair will call regular meetings. Additionally, the Project Director may call emergency meetings to deal with administrative matters that cannot wait until the next regularly scheduled meeting. The person calling the meeting will give reasonable advance written notice of each meeting to each member of the Management Committee, which notice will be deemed waived by participation of a party's designated representative or alternate, and will prepare in advance a written agenda for the meeting. The Project Director will cause the agenda to be reviewed by antitrust counsel, such antitrust counsel to be retained by the University to advise the University (for the benefit of the University and Sponsors); and the Project Director will distribute the agenda before the meeting to each party's designated representative. Such antitrust counsel may attend the meetings, as may others needed to address agenda items. The Project Director will cause minutes of the meetings to be taken and distributed to the designated representatives no later than two weeks after each meeting. Sponsors will provide their written approval or written comments on such minutes to the University within two weeks after receipt.

3.07 The chair of the Management Committee will call regular meetings at least twice every Fiscal Year and will preside over those meetings. Consistent with paragraph 3.01, the primary purposes of those meetings will be to review the progress of the Project, expenditures to date with reference to the approved budget, and other matters relating to the Project, including possible one-year term extensions and other revisions to the Core Project Description of Exhibit A; receive advice from the Advisory Committee, peer review committees, and other sources; and resolve the major administrative matters referred to in paragraph 3.01. While the Management Committee has the authority to resolve those administrative matters, term extensions

and other revisions to the Core Project Description may be accomplished only by formal amendments to Exhibit A signed by representatives of each party, as described in paragraphs 1.03 and 1.05 and subject to the exception described in paragraph 11.02.

ARTICLE 4
ADVISORY COMMITTEE, OTHER COMMITTEES,
CONSULTATION, AND OUTREACH

4.01 The University will maintain a formal advisory committee (“Advisory Committee”) composed of individual persons who are knowledgeable in climate and energy issues and who are unaffiliated with the University and Sponsors. The primary purpose of the Advisory Committee will be to provide constructive, informed, broad-based advice to the University and Sponsors on the content, direction, quality, and progress of the Project. The University selects the members of the Advisory Committee in consultation with the Management Committee. Each member of the Advisory Committee will serve at the pleasure of the University, and the University will be responsible for establishing written understandings between the University and each member of the Advisory Committee regarding the role and tenure of each member, payment of expenses, fees, nonconfidentiality, intellectual property rights, and similar issues. The University will be responsible for ensuring that such written understandings are consistent with the terms of this Agreement; any significant inconsistencies between any such written understandings and this Agreement will be subject to unanimous, written approval by the Management Committee, such approval to be consistent with the intent of the parties, expressed in paragraph 10.01, that this Agreement not create any agency, partnership, joint venture, or any other form of association. The University will charge to the Project Account referred to in Article 5 the agreed, reasonable expenses and fees of each member of the Advisory Committee. The members of the Advisory Committee will serve in their individual capacities, not as representatives of their employers, if they have employers. The members of the Advisory Committee will not be considered members of the Project or participants in the Project, will not be obligated to support the Project financially, and will not receive by virtue of their participation on the Advisory Committee any licenses to any results of the Project.

4.02 At the request of the Management Committee, the Project Director from time to time will continue to constitute and maintain peer review committees to provide to the University and Sponsors independent technical peer review of selected aspects of the Project, for example, proposed research programs. No member of a peer review committee will be an employee of the University, any related entity, any Sponsor, or any affiliate of any Sponsor. Each member of each peer review committee will serve at the pleasure of the University, and the University will be responsible for establishing written understandings between the University and each peer review committee member regarding the role and tenure of the member, payment of expenses, fees, nonconfidentiality, intellectual property rights, and similar issues. The University will be responsible for ensuring that such written understandings are consistent with the terms of this Agreement; any inconsistencies between any such written understandings and this Agreement will be subject to unanimous, written approval by the Management Committee, such approval to be consistent with the intent of the parties, expressed in paragraph 10.01, that this Agreement not create any agency, partnership, joint venture, or any other form of association. The University will charge to the Project Account referred to in Article 5 the agreed, reasonable expenses and fees of each member. The members of each peer review committee will serve in their individual capacities, not as representatives of their employers, if they have employers. The members of the peer review committees will not be considered members of or participants in the Project, will not be obligated to support the Project financially, and will not receive by virtue of their participation on a peer review committee any licenses to any results of the Project.

4.03 In order to facilitate the Project, the Project Director or Management Committee from time to time may constitute other committees composed variously of University employees, or Sponsor employees, or employees of affiliates of Sponsors, but all such other committees will be subordinate to the decision-making powers of the Project Director and the Management Committee.

4.04 University employees and students and Sponsor employees will remain free to engage informally in appropriate communications regarding the Project with each other, with employees of affiliates of Sponsors, with members of the Advisory

Committee, with members of the peer review committees, and with employees of Project Subcontractors, with such informal communications being outside of the formal structures of the committees describe in this Article 4. All such communications will be subject to the limited confidentiality provisions of paragraph 7.03 and to the other provisions of this Agreement, and will not create any agency, partnership, joint venture, or any other form of association.

4.05 In addition to the informal communications referred to in paragraph 4.04, the parties anticipate that University employees and students working on the Project, in accordance with normal academic custom and practice, will communicate informally from time to time with colleagues at other universities and with other third-party members of the scientific and academic communities about Project issues. All such informal third-party communications will be explicitly on an unpaid, nonconfidential basis. In order to prevent the parties from becoming encumbered by information received in confidence from others in the course of such informal third-party communications, or by related claims for compensation, the University will maintain during the course of the Project a formal system for ensuring that its employees and students working on the Project are aware that all such informal consultations must be on an unpaid, nonconfidential basis. When such third-party consultations are to be on a paid or confidential basis, the University will first engage the third party in question as a Project Subcontractor pursuant to Article 1.

4.06 Since the Project is intended to promote open exchange of ideas regarding its subject matter, as part of the Project the University will conduct formal seminars, workshops, and other outreach activities to present results from the Project to selected members of the academic and scientific communities and others, as appropriate. All such formal seminars, workshops, and other outreach activities will be subject to the limited confidentiality provisions of paragraph 7.03 and to the other provisions of this Agreement, and will not create any agency, partnership, joint venture, or any other form of association.

ARTICLE 5
PROJECT FINANCES

5.01 The University will establish and maintain unique accounting subaccounts to capture Project revenue, costs, and expenditures. Those subaccounts are described in paragraph 5.08 and may be collectively referred to as the “Project Account.” The University will credit the Project Account with all revenue it receives for the Project from all sources, including the fixed payments received from withdrawing Sponsors pursuant to paragraph 11.02 (a), continuing payments for Project Patent Rights made by withdrawing Sponsors pursuant to the third -to-last sentence of paragraph 11.02, and revenue received by the University from third parties pursuant to paragraph 5.03. Any revenue that the University realizes pursuant to Article 6 from granting to third parties rights with respect to Project Technology or Project Patent Rights will not be considered revenue for the Project and will not be credited to the Project Account. The University will charge to the Project Account all direct and indirect costs and expenditures that are properly chargeable to the Project as Direct Charges or Indirect Charges pursuant to Exhibit B. Those Direct Charges and Indirect Charges may be collectively referred to as “Project Charges.” The University will use its best efforts to administer, supervise, and conduct the Project so that the cumulative Project Charges over the life of the Project do not exceed the Total Project Cap specified in Exhibit A, as it may be amended from time to time. Whenever rates in Exhibit B change, the University will promptly notify the Management Committee and will provide the Management Committee with applicable replacement pages to Exhibit B specifying the new rates.

5.02 Subject to the agreed Subaccount Caps, Fiscal Year Sponsors Cap and Total Sponsors Cap specified in Exhibit A, as it may be amended from time to time, as complete compensation to the University under this Agreement, the Sponsors will pay to the University the participation fees described in paragraph 5.04, plus any applicable wind-down expenses specified in paragraph 5.05. The Sponsors will never be obligated to pay the University collectively more than the agreed Total Sponsors Cap specified in Exhibit A, as it may be amended from time to time. Any shortfall will be covered by the

University or by agreed third-party payments, if any, that the University accepts pursuant to paragraph 5.03.

5.03 The University may accept third-party funding for the Project, but only with the unanimous, written consent of all Sponsors, other than any withdrawing Sponsor as defined in paragraph 11.01. The University will be responsible for ensuring that any conditions attached to the acceptance of third-party funding are consistent with all the terms of this Agreement. The third party in question will not be a party to this Agreement and will not be considered a member of or participant in the Project. Unless the Management Committee unanimously votes otherwise, such third party will receive rights to the results of the Project only to the extent unilaterally granted by the University or a Sponsor pursuant to and subject to the limitations of Article 6.

5.04 For a given Fiscal Year, the total participation fee to be paid by each Sponsor who is not withdrawing will be that Sponsor's cost share times the net cost of the Project, where that Sponsor's cost share is the applicable percentage listed in Exhibit C, and where the net cost of the Project is the sum of all Project Charges properly charged to the Project under Exhibit B, less all revenue it receives for the Project from all sources, including the fixed payments received from withdrawing Sponsors pursuant to paragraph 11.02 (a) and revenue received by the University from third parties pursuant to paragraph 5.03, provided that the net cost of the Project for purposes of calculating the participation fee of each Sponsor will never exceed the Total Sponsors Cap, and each Sponsor's participation fee will never exceed its Fiscal Year Sponsors Cap unless the Total Sponsors Cap or such Sponsor's cost share changes by amendment or operation of this Agreement., The obligations of the Sponsors to pay the participation fees will be several, not joint, meaning that no Sponsor will be responsible to anyone for the participation fee of any other Sponsor.

5.05 If the Sponsors terminate the Project early without cause pursuant to paragraph 11.04, in addition to paying the agreed participation fees relating to the Project up to its termination, the Sponsors, excepting only Sponsors who have given notice of intent to withdraw pursuant to paragraph 11.01, will reimburse the University

for the reasonable expenses the University actually incurs in winding down the Project after the Project's termination, with such wind-down expenses to be calculated according to Exhibit B, to the extent applicable, and to be shared by the Sponsors according to the cost shares of the Sponsors in effect at the time of such early termination. The obligations of the Sponsors to pay wind-down expenses will be several, not joint, meaning that no Sponsor will be responsible to anyone for any other Sponsor's share of the wind-down expenses. The University will be entitled to such wind-down expenses only if the Sponsors terminate the Project early and without cause pursuant to paragraph 11.04. If the Project terminates under paragraph 11.06 (a) through (f), this paragraph 5.05 will not apply.

5.06 The University may provide limited financial support to the Project by contributing to the Project the work of some, but not necessarily all, University students who perform Project research or other work for the Project. The University will select those students and will not charge the Project Account for such work. Any compensation to those students for Project research or other Project work will flow directly from the University to them. The University will provide documentation of such financial support to the Project every Fiscal Year that Project research is conducted.

5.07 As stated in paragraph 1.03. on or before June 1 of each calendar year, the University will prepare and submit to the Management Committee in writing for comment and approval a detailed execution plan and budget for the next three-year period, namely for the upcoming Fiscal Year, that is, from September 1 of the current calendar year to August 31 of the next calendar year, and for the two Fiscal Years immediately following. That plan and budget will cover for each Fiscal Year proposed costs and expenditures for authorized portfolio development and maintenance, authorized full-scale research programs, and central management. The plan and budget will detail for each Fiscal Year proposed costs and expenditures associated with the five Project executives referred to in paragraph 2.02 and the composition, costs, and expenditures associated with the full-time Project support staff referred to in paragraph 2.03. All proposed costs and expenditures will be allocated either to authorized portfolio development and maintenance, or to authorized full-scale research programs, or to

central management. The plan and budget will also detail proposed total costs and expenditures by Fiscal Year quarter (September-October-November; December-January-February; March-April-May; June-July-August) for each of the quarters in the upcoming Fiscal Year and for the first two quarters of the next Fiscal Year. Additionally, the plan and budget will estimate by calendar year proposed total costs and expenditures. The plan and budget will be consistent with and subject to Exhibits A, B, and C, and will take into account proposed revisions to Exhibit A, including revisions to the Total Sponsors Cap, Fiscal Year Sponsors Cap, Subaccount Caps, any changes in applicable rates in Exhibit B, and any changes to the Sponsors percentage shares in Exhibit C. The plan and budget will identify for technical area assessments, energy systems analysis, and each full-scale research program the following information: principal investigators, completion dates, and budget by Fiscal Year. The plan and budget will be subject to unanimous, written Management Committee approval. Once the Management Committee approves the plan and budget, amended as appropriate, the applicable portion will become the agreed plan and budget for the Project for the upcoming Fiscal Year, and the remaining portions will provide an agreed planning basis for the following two Fiscal Years, subject to the provisions of Article 11 that govern withdrawing Sponsors.

5.08 In support of the Project Account, the University will keep and maintain in accordance with generally accepted accounting principles and practices true and correct accounting records of all revenue, costs, and expenditures for the Project, as well as all other information necessary or proper for the settlement of accounts between the University and the Sponsors and for their compliance with applicable income tax and other laws. As stated in paragraph 5.01, the University will keep and maintain unique accounting subaccounts to capture Project revenue, costs, and expenditures. Those subaccounts will include, without limitation, separate subaccounts for technical area assessments, energy systems analysis, scoping research programs, each full-scale research program, cost-shared research programs, and central management. The University will maintain those accounting records in U.S. Dollars and will show any conversion of currencies into or from U.S. Dollars at the rates actually experienced in

the conversions. The University will separately identify any currency exchange gains or losses as such and credit or charge such gains or losses to the Project Account.

5.09 During the first quarter of a Fiscal Year, the University will submit to the Sponsors invoices for amounts to be referred to as "Advance Cash Calls". Those Advance Cash Calls will be equal in total to one-fourth of each Sponsor's current Fiscal Year Sponsors Cap established pursuant to paragraph 5.07 or, for a withdrawing Sponsor, pursuant to paragraph 11.02(a). Any Sponsor may advance any portion of an Advance Cash Call or any other invoice before payment is required pursuant to this Agreement.

5.10 During the third month immediately following the end of each quarter of each Fiscal Year (that is, during each February, May, August, and November), the University will submit invoices to: (a) each withdrawing Sponsor for the fixed amount due pursuant to paragraph 11.02(a), and (b) each Sponsor who is not withdrawing for that Sponsor's pro rata share of the Project costs and expenditures actually paid by the University during the preceding quarter, calculated in accordance with Exhibits B and C, less any fixed amounts due from withdrawing Sponsors. The last of those four invoices to each Sponsor who is not withdrawing will reflect credit for the Advance Cash Call payments made at the beginning of the Fiscal Year in question, the objective being to balance the Project Account with respect to each Fiscal Year at the end of each Fiscal Year and to repeat the process for each subsequent Fiscal Year.

5.11 If the Sponsors terminate the Project early pursuant to paragraph 11.04, the University's invoices following that termination will include wind-down expenses pursuant to paragraph 5.05, if applicable.

5.12 Except for invoices to Sponsors for Advance Cash Calls pursuant to paragraph 5.09 and for fixed amounts pursuant to paragraph 11.02 (a), The University's invoices, and settlements between the University and Sponsors, will be on a cash basis, meaning that the Direct Charges will be based only on costs and expenditures actually paid and revenue actually received by the University. Except for Advance Cash Calls, invoices to Sponsors who are not withdrawing will be supported by certified, quarterly,

expenditure statements of revenue received and costs and expenditures actually incurred by the University during the prior quarter, indicating the portion of such costs and expenditures charged to each of the Sponsors, all as is described more fully in Exhibit D. Upon request, the University will provide the Sponsors with detailed descriptions of the University's accounting classifications. The University may also invoice, and the Sponsors shall pay, as Direct Charges, amounts incurred during the Fiscal Year but paid within ninety days thereafter, together with the Indirect Charges thereon: such amounts will not be included as Direct or Indirect Charges for the following Fiscal Year.

5.13 The University will mail all invoices to the Sponsors at the addresses provided pursuant to paragraph 14.02. Invoices will be due and payable in U.S. Dollars forty-five days after a Sponsor's receipt thereof, except that no payment of an Advance Cash Call will be due before the beginning of the Fiscal Year to which it relates. Each Sponsor will reference the invoice number on all payments and will mail the payments to the University at such address as the University specifies, or will wire the payments to the University's account at such bank in the United States as the University may specify. Any related fees for wire transfers and similar charges will be borne by the Sponsor and will not be directly or indirectly passed on to the University. Unpaid amounts more than thirty days overdue will accrue daily interest at the rate of 1.00% per month. Any such interest will be separately invoiced by the University to the Sponsor, will be payable to the University, and will not be charged or credited to the Project Account.

5.14 The University will separately account for all Project Account funds and will hold them commingled with other University funds held in the Stanford Expendable Funds Pool (EFP), which is an interest-earning pool. Quarterly interest will be credited to the GCEP fund and calculated based on a Money Funds Rate, as periodically selected by the Stanford Management Company. As of September 1, 2010, the Money Funds Rate is based on the Dreyfus Institutional Preferred Money Market Fund. Stanford reserves the right to base the Money Funds Rate on a different institutional money market fund using substantially similar investment guidelines. Interest on such funds

will be for the benefit of and credited to the Project Account, and credited to the Sponsors as paid participation fees. That interest will be the interest actually earned in those accounts, but will be no less than, for each day, the federal funds rate, as quoted by the U.S. Federal Reserve on page H.15 of its Daily Statistical Release, less 10 basis points. That interest will be prorated if Project Account funds are commingled with other funds. The University will bear the risk of loss of Project Account funds and will compensate the Sponsors for any such loss (including the minimum interest that should have been earned on such funds). The University will withdraw Project Account funds from those interest-bearing accounts only when the University actually pays corresponding amounts to University employees, University students or third parties for Project goods or services, or when the University recovers Indirect Charges following each quarter pursuant to Exhibit B, Part II.E. The University will maintain a detailed monthly record of Project Account funds and will report Project Account balances and interest earned and credited, together with supporting calculations, to the Sponsors with each quarterly invoice to the Sponsors. The University will not charge interest to the Project Account, and will be entitled to charge interest to individual Sponsors only pursuant to paragraph 5.13.

5.15 Subject to any applicable government regulations, the University will have the right to convert Project Account funds to non-U.S. currencies to the extent such currencies are required for Project activities. The costs of such conversions will be charged to the Project Account.

5.16 All of the University's invoices, financial reports, accounting records, and other financial records relating to the Project will reflect accurately the facts about all activities and transactions, and each Sponsor may rely on all such records as being complete and accurate in any further recordings and reportings made by any Sponsor for any purpose. If the University becomes aware that any such records are inaccurate or incomplete, the University will promptly notify the Sponsors in writing and provide accurate and complete information.

5.17 For each Fiscal Year, the University will preserve all Project financial records until at least thirty-six months following the end of that Fiscal Year. At all times from the effective date of this Agreement to the end of thirty-six months after the end of the Project, on at least sixty days notice to the University and all Sponsors, the University will make the Project financial records that it has retained available for audit by any Sponsor or any independent accounting firm hired by one or more Sponsors for the purpose of verifying compliance with this Agreement and for other reasonable purposes. The cost of each such audit will be borne by the Sponsors requesting the audit. Sponsors will make reasonable efforts to conduct joint or simultaneous audits to reduce the inconvenience to the University. If the University employs a public accounting firm to audit the Project Account, the University may charge the cost of the audit to the Project Account, and will furnish a copy of the audit report to each Sponsor.

5.18 The University will facilitate audits by or for Sponsors by furnishing to the auditors in advance of the audit information normally used in pre-audit work, such as trial balance, general ledger, and sub-ledger data. The University will give the auditors reasonable access to the University's employees, facilities, and offices. At the conclusion of each audit, the parties to this Agreement will endeavor to settle outstanding matters expeditiously. To this end, any Sponsor making a claim will make the claim promptly, in writing, with supporting documentation. The University will respond to each such claim promptly and in any event no later than ninety days after receipt of each claim.

5.19 Payment of an invoice will not prejudice the right of any Sponsor to protest or question its accuracy, provided that no Sponsor will have the right to question the correctness or accuracy of an invoice after thirty-six months following the end of the Project. The University will promptly reflect in the Project Account all adjustments to invoices or to the Project Account, and the University will promptly report all such adjustments to the affected Sponsors.

5.20 Each Sponsor will be responsible for its own expenses, and for its affiliates' expenses, of participating in the Project, for example, for the expenses of

attending meetings of the Management Committee, the expenses of engaging in Project research under paragraph 1.06, and the expenses of publishing in peer-reviewed professional journals and other appropriate publications pursuant to paragraph 7.05.

5.21 If any Sponsor or affiliate of a Sponsor contributes any technology or other information to the Project, such information will be free of charge. In that event, the Sponsor in question will send a written summary of the information being contributed to each member of the Management Committee. The contribution will not be a transfer of ownership, but a license to use the information in the Project and include it with Project Technology pursuant to Article 6.

ARTICLE 6 PROJECT TECHNOLOGY AND PROJECT PATENT RIGHTS

6.01 Subject to any exceptions approved in advance in writing by the University and the Management Committee respecting technology developed by third parties in the course of working on the Project, and except as provided in any subcontract following a template approved by the Management Committee, the University will hold formal legal title to all technology, including without limitation all research results, raw and reduced data, technical information, inventions, discoveries, improvements, know-how, trade secrets, software, and other technical information, whether copyrightable or not, whether patentable or not, that is and are conceived, developed, reduced to practice, or acquired in or for the Project from any source, including without limitation any such technology conceived, developed, or reduced to practice by any University student or by any employee of the University, of any Sponsor, of any affiliate of any Sponsor, of any Project Subcontractor, or any member of the Advisory Committee, a peer review committee, or other formal committee, alone or jointly with one or more others, in the course of working on the Project (collectively, "Project Technology"). Additionally, the University will hold formal legal title to all copyrights in and to written and other tangible expressions of Project Technology, provided such expressions were developed in the course of the Project, and subject to exceptions approved in writing by the University and Management Committee respecting publications developed by third

parties, and except as provided in any subcontract following a template approved by the Management Committee.

6.02 Primarily in order to promote freedom of operation by the parties and to establish a platform for licensing Project Technology to third parties, the University will seek patent coverage in the United States of America on all significant Project Technology that is patentable. Subject to any exceptions approved in advance in writing by the University and the Management Committee respecting inventions, discoveries, and improvements of third parties working on the Project, and except as provided in any subcontract following a template approved by the Management Committee, the University will hold formal legal title to all patent applications and patents, United States and non-United States, on any inventions, discoveries, and improvements conceived, developed, or reduced to practice by any University student or by any employee of the University, of any Sponsor, of any affiliate of any Sponsor, of any Project Subcontractor, or any member of the Advisory Committee, a peer review committee, or other formal committee, alone or jointly with one or more others, in the course of working on the Project (collectively, "Project Patent Rights"). The University will consult with the Management Committee regarding which inventions, discoveries, and improvements are significant and in which jurisdictions other than the United States, if any, patent coverage should be sought; in the absence of consensus, the Management Committee will decide such issues. The Management Committee will notify the University of its desire for one or more patent applications within sixty days after the University first discloses the subject Project Technology in tangible form to the Management Committee.

6.03 All costs that the University incurs in filing, obtaining, and maintaining Project Patent Rights will be charged to the Project Account until the end of the Project; and during the Project, the University will not abandon or permit to lapse a substantive Project Patent Right without the unanimous, prior, written consent of the Sponsors. From and after the end of the Project, such costs will be shared equally by the Sponsors who continue to be licensed under Project Patent Rights, and the University will not abandon or permit to lapse any such Project Patent Rights without the unanimous, prior,

written consent of such Sponsors. A Sponsor not wishing to share in such post-Project costs may terminate its licenses under such Project Patent Rights. Except as provided in paragraphs 6.01 and 6.02, the University will not transfer legal title to any Project Patent Rights without the unanimous consent of the Sponsors, and any such transfers will be subject to the rights of the Sponsors and their licensees, sublicensees, and recipients of immunities from suit, if any.

6.04 The University may enforce any Project Patent Right at its own expense; and at the request of any Sponsor, the University will enforce a Project Patent Right on such terms as the University and that Sponsor may separately agree regarding sharing expenses of enforcement and any net recoveries. Any such separate agreement will be outside this Agreement, and any payments made pursuant to such separate agreement will not affect the financial obligations of the parties pursuant to this Agreement.

6.05 Subject to paragraphs 6.07, 7.03, and 8.04, the University and each Sponsor will have, without restriction and in its sole discretion and without conferring with or accounting to anyone, a perpetual, nonexclusive, worldwide, irrevocable, royalty-free right and license to use, disclose, publish, republish, distribute, copy, prepare derivative works, sell, or otherwise transfer without limitation to any third party, whether affiliated or not, all or any part of the Project Technology, with or without extending to that third party the right to sublicense, sell, or otherwise transfer the Project Technology to other third parties.

6.06 Subject to paragraph 8.04, the University and each Sponsor will have a perpetual, nonexclusive, worldwide, irrevocable, royalty-free right and license under all Project Patent Rights to make, have made, use, have used, offer for sale, sell and import apparatus and compositions, and to practice and have practiced methods covered by such Project Patent Rights. Also subject to paragraph 8.04, the University at any time may extend to any entities controlled by the University the right and license described in the preceding sentence and each Sponsor at any time may extend to any of its affiliates the right and license described in the preceding sentence, and each such affiliate may in turn extend such right and license to any other affiliates of that Sponsor.

In this context, “affiliate” means any corporation, partnership, or other legal entity which, directly or indirectly, at the time in question controls, is controlled by, or is under common control with the Sponsor. In this context, “control” means direct or indirect ownership of fifty percent or more of the voting interest, economic interest, or equity interest of the entity in question (or the maximum interest permitted under local law in countries where fifty percent ownership by a foreign entity is not permitted), or the right to determine the membership of the board of directors or equivalent governing body of the entity in question.

6.07 Subject to paragraph 8.04, the University and each Sponsor may grant to nonaffiliated third parties licenses, sublicenses and immunities from suit with respect to all Project Patent Rights. The University and each Sponsor may grant such licenses, sublicenses, and immunities without restriction, in its sole discretion, and without conferring with or accounting to anyone. However, as a courtesy in each such case, within thirty days after the day the license, sublicense, or immunity is executed, the University or Sponsor in question will give written notice to all the other parties to this Agreement. Such notice will identify each Project Patent Right that is the subject of the license, sublicense, or immunity; the signatory entities and beneficiaries of the license, sublicense or immunity; the duration of the license, sublicense, or immunity; and any geographic or field-of-use limitations in the license, sublicense, or immunity. Additionally, each Sponsor may extend to any of its affiliates, as defined in paragraph 6.06, the right to grant to third parties sublicenses and immunities with respect to Project Patent Rights, as described in this paragraph 6.07, provided that each such Sponsor will be obligated to give the notices described in the immediately preceding two sentences for all such sublicenses and immunities granted by its affiliates to nonaffiliated third parties.

6.08 At the request of any Sponsor, the University will transfer specific Project Technology to that Sponsor in written or other tangible form, such transfer to be non-exclusive, meaning that the University may use that Project Technology and transfer other copies to others. Each Sponsor will hold legal title to the specific copies of all reports, papers, computer programs, and other tangible works that it receives from the

University or any Project Subcontractor. Individual Sponsors will pay the expenses of reproduction for extensive or costly transfers. Consistent with the rights and licenses described above in this Article 6, subject to paragraph 8.04, each Sponsor will have the right and license to use, disclose, publish, republish, distribute, copy, sell, and otherwise transfer all such tangible works, and prepare derivative works based on such works, without restriction and without accounting to anyone.

ARTICLE 7 PUBLICITY AND LIMITED CONFIDENTIALITY

7.01 The existence of the Project; its general character, scope, and duration; the identities of the University and the Sponsors; and the terms and text of this Agreement, will all be nonconfidential. However, no party is authorized to use such information to characterize any positions or policies of any other party.

7.02 Consistent with the basic purposes of the Project, the parties anticipate that they will discuss the Project in many venues and will publicize the Project and ideas flowing from the Project. During the life of the Project, the University in cooperation with the Sponsors will take the lead in publicizing the Project. To that end the University will make appropriate University employees available for media training, will lead a communications team that will include representatives from the Sponsors, will provide spokespersons, will participate in media interviews, and will issue press releases, press response statements, and similar materials on behalf of the University and the Sponsors. During the life of the Project, the University will obtain from the Management Committee prior approval (including the representative of any withdrawing Sponsor as defined in paragraph 11.01) of such press releases, press response statements, and similar materials before issuing those materials publicly. Each Sponsor is entitled to issue in its own name (and not on behalf of the University or other Sponsors) its own press releases, press response statements, and similar materials directed to the Project, but during the life of the Project each Sponsor will obtain prior approval from the Management Committee (including the representative of any withdrawing Sponsor as defined in paragraph 11.01) of such materials before issuing those materials publicly.

However, no party need obtain from any other party prior approval of press releases, press response statements, or similar materials that mention the Project in a summary or incidental fashion, or that describe the Project consistently with previously approved materials. No party is authorized in its press releases, press response statements and similar materials to assume or create any legal obligations for, or make any legal representation or warranty on behalf of, or legally bind any other party, or characterize any positions or policies of any other party.

7.03 Neither the University nor any Sponsor will be obligated to hold the Project Technology in confidence, except that the University and each Sponsor will hold Project Technology in confidence as a trade secret until sixty days after the University first distributes the Project Technology in question in tangible form to the Management Committee. The purpose of that limited period of confidentiality is to allow time for discussions between the members of the Management Committee about filing patent applications on the Project Technology. If a decision to file is made, at the University's request the Sponsors will hold the Project Technology in question in confidence for such additional, reasonable time periods as may be necessary to enable the University to get patent applications on file before nonconfidential disclosure of such Project Technology. If a patent application on the Project Technology in question is filed before the end of the sixty-day period referred to above, the confidentiality obligation will end when the patent application is filed.

7.04 Any information disclosed by the Sponsors or their affiliates in the course of the Project and any information, including technical data, contributed by the Sponsors or their affiliates to the Project will be nonconfidential and may be freely used and disclosed by the other parties, subject only to paragraph 7.03 and to valid claims regarding patents derived from independent work conducted outside the Project before, during, or after the Project, with such patent claims being subject to the provisions of Article 8.

7.05 Publication of Project Technology in appropriate professional journals will further the objectives of the Project. Accordingly, the University and each Sponsor is

specifically authorized and encouraged to publish Project Technology in peer-reviewed professional journals and other appropriate publications, subject only to the limitations in paragraph 7.03. Related costs and expenditures incurred by the University (but not Sponsors) may be charged to the Project Account to the extent provided in Article 5 and Exhibit B. Additionally, the University is specifically authorized and encouraged to use Project Technology to educate and train students, post-doctoral research scientists, faculty, and other members of the University community; however, such use of Project Technology will not be considered part of the Project, and related costs and expenditures will not be charged to the Project Account, unless specifically approved in writing by the Management Committee. Subject to paragraph 5.06, the University may compensate University students and employees for their work on the Project, provided that such compensation will be charged to the Project Account only to the extent provided in Article 5 and Exhibit B.

ARTICLE 8

INDEPENDENT RESEARCH AND NON-PROJECT PATENT RIGHTS

8.01 The University and each Sponsor reserve and retain their rights to carry out their own independent research, individually or cooperatively with others, apart from the Project, even if directed towards the objectives of the Project and even if similar to or overlapping with the Project.

8.02 The University and the Sponsors recognize the desirability of being able to conduct the Project without infringing each other's independently developed patents or patent applications. The University and Sponsors also recognize the desirability of being able to design the Project with a knowledge of patents owned or controlled by each other that might dominate and perhaps limit the usefulness of the results of the Project. The University and Sponsors also recognize the difficulty of monitoring the Project and the Project Technology with respect to their own independently developed patents and patent applications, and those of entities related to the University and those of affiliates of the Sponsors (collectively, "Non-Project Patent Rights"), especially in light

of the broad scope of the Project and the large sizes of the University and the Sponsors. Accordingly, the University and Sponsors agree as follows:

- (a) The University hereby grants persons and entities acting in the course of the Project an immunity from suit and indemnity for such activities with respect to all Non-Project Patent Rights owned or controlled by the University or any related entity. That immunity and indemnity do not extend to activities outside the Project, including without limitation the practice of Project Technology outside of the Project.
- (b) Each Sponsor hereby grants persons and entities acting in the course of the Project an immunity from suit and indemnity for such activities with respect to all Non-Project Patent Rights owned or controlled by that Sponsor or any affiliate. That immunity and indemnity do not extend to activities outside the Project, including without limitation the practice of Project Technology outside of the Project.
- (c) If the Project Director, Managing Director, Administrative Manager, or Communications Manager becomes personally aware that any Non-Project Patent Right owned or controlled by the University or a related entity covers any Project Technology, the Project Director will advise the Management Committee promptly in writing, so that all parties will be aware of that Non-Project Patent Right.
- (d) If a Sponsor's designated representative on the Management Committee or designated alternate representative becomes personally aware that any Non-Project Patent Right owned or controlled by the Sponsor or an affiliate covers any Project Technology, the designated representative will advise the Management Committee promptly in writing, so that all parties will be aware of that Non-Project Patent Right.

8.03 The Project Director, Managing Director, Administrative Manager, Communications Manager, designated representatives, and designated alternate

representatives of the Sponsors will be under no affirmative obligation to inform themselves of the contents of the patent portfolios of their employers, related entities, and affiliates. However, if one of them knowingly and intentionally fails promptly to disclose a Non-Project Patent Right personally known to him or her, as required by paragraph 8.02, each other party to this Agreement will have a perpetual, nonexclusive, worldwide, irrevocable, royalty-free right and license under such Non-Project Patent Right, and all foreign counterparts, to make, have made, use, have used, offer for sale, sell, and import apparatus and compositions, and to practice and have practiced methods covered by such Non-Project Patent Right, and counterparts, along with the right to sublicense any or all such rights to any third party, without restriction and without accounting to anyone, except that if the Non-Project Patent Right cannot be so licensed the affected parties will negotiate another equitable resolution. That right and license is for the sole purpose of allowing the parties to this Agreement and their licensees and sublicensees to practice the rights granted under this Agreement with respect to Project Technology and Project Patent Rights. No right or license to a Non-Project Patent Right will be extended to other, independent activities of any entity.

8.04 Except for the patent licenses granted in paragraphs 8.02 and 8.03, no party to this Agreement will have by virtue of this Agreement any rights, express or implied, to the results of the independent research or to independently developed patents or patent applications of any other party or related entity or affiliate.

ARTICLE 9 WARRANTIES AND LIABILITIES

9.01 The research to be carried out in the Project is pioneering, and neither the University nor the Sponsors guarantee the results. However, the University does warrant that it will use its best efforts to commit adequate resources to the Project, to the extent that sufficient funding has been provided by the Sponsors and any third parties supporting the Project pursuant to paragraph 5.03, that it will administer, supervise, and conduct the Project in a professional manner in good faith, and in compliance with applicable laws and regulations, that it has the right to grant to

Sponsors the rights it is granting in this Agreement, and that its arrangements with its employees and students are consistent with this Agreement. With respect to University students who perform Project work and are not University employees, the University will be responsible for those students under this Agreement as if they were employees of the University, and the University will allow those students to perform Project work only after those students have entered into separate contracts with the University enabling the University fully to comply with this Agreement with respect to those students and their work on the Project. ALL OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION ALL WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE ACCURACY, RELIABILITY, OR UTILITY OF THE PROJECT TECHNOLOGY AND THE MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USAGE OF TRADE, AND FREEDOM FROM INFRINGEMENT OF THIRD-PARTY PATENTS OF THE PROJECT TECHNOLOGY ARE HEREBY EXPRESSLY DISCLAIMED. THE UNIVERSITY, SPONSORS, AND AFFILIATES OF SPONSORS WILL PROVIDE PROJECT TECHNOLOGY, REGARDLESS OF SOURCE, ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND.

9.02 EXCEPT FOR CLAIMS BASED ON WILFULL MISCONDUCT, NO PARTY WILL BE LIABLE TO ANY OTHER PARTY OR ANY OTHER PERSON FOR ANY SPECIAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY, OR INCIDENTAL DAMAGES, INCLUDING WITHOUT LIMITATION LOSS OF ANTICIPATED REVENUES OR PROFITS, ARISING FROM ANY CLAIM RELATING TO THIS AGREEMENT, THE PROJECT, OR ANY PROJECT TECHNOLOGY, WHETHER SUCH CLAIM IS BASED ON CONTRACT, TORT, STATUTE, OR OTHER LEGAL THEORY, EVEN IF A REPRESENTATIVE OF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OR LIKELIHOOD OF SAME.

9.03 Each Sponsor hereby agrees to defend, indemnify, and hold harmless the University and all other Sponsors against all claims, demands, losses, damages, causes of action, and other liabilities of every kind (whether based on contract, tort, statute, or other legal theory) by any and all third parties for personal injury, death, property damage, or other loss or damages arising out of or resulting from (a) any use

of any Project Technology or Project Patent Rights by that Sponsor or any third party to whom that Sponsor has extended the right to use any Project Technology or Project Patent Rights; or (b) any breach of that Sponsor's warranties set forth in this Agreement.

9.04 The University hereby agrees to defend, indemnify, and hold harmless the Sponsors and their affiliates against all claims, demands, losses, damages, causes of action, and other liabilities of every kind (whether based on contract, tort, statute, or other legal theory) by any and all third parties for personal injury, death, property damage, or other loss or damages arising out of or resulting from (a) any use of any Project Technology or Project Patent Rights by the University or any third party to whom the University has extended the right to use any Project Technology or Project Patent Rights; or (b) any breach of the University's warranties set forth in this Agreement.

ARTICLE 10

RELATIONSHIPS OF PARTIES AND OTHERS, AND TAX ELECTION

10.01 The relationships of the parties respecting the Project are defined by this Agreement. This Agreement is not intended to create an agency, partnership, joint venture, or any other form of association, for tax purposes or otherwise, between and among the Sponsors, their affiliates, the University, Project Subcontractors, the members of the Advisory Committee, the members of any peer review committee, or any other persons or entities connected with the Project in any way, and all such persons and entities will be independent contractors in relation to each other, except to the limited extent described in paragraph 10.02 and Article 13. Further, none of such persons and entities connected with the Project will have any authority, express or implied, to assume or create any legal obligation of any kind for, or to make any legal representation or warranty on behalf of, or to legally bind any other such person or entity, except to the limited extent described in paragraph 10.02 and Article 13. The University is authorized in Article 7 to issue press releases, press response statements, and similar materials on behalf of the Sponsors, but not in a way that would assume or create any legal obligation for, or make any legal representation or warranty on behalf

of, or legally bind any Sponsor, or characterize any positions or policies of any Sponsor. The University's employees will at all times be employees of the University, not any Sponsor, and the University will determine and be responsible for their compensation, benefits, and other terms of employment. The Project is not structured to generate net cash flow to the Sponsors.

10.02 As recited in paragraph 10.01, the University and Sponsors intend that the Project not be treated as a partnership for income tax purposes. However, if the United States Internal Revenue Service ("IRS") determines that the Project is a partnership for federal income tax purposes, the University and each Sponsor hereby elect to be excluded from the provisions of Chapter 1, Subchapter K of the Internal Revenue Code of 1986, as amended, such election being intended to meet the requirements of Section 1.761-2(b)(2)(ii)(a) of the Treasury Regulations. The University is hereby authorized and agrees to submit to the IRS or any related federal agency all appropriate evidence of this election. If any present or future applicable state income tax laws or any future United States income tax law contains provisions similar to Chapter 1, Subchapter K of the Internal Revenue Code of 1986, the University and each Sponsor agree to make a similar election to be excluded, and the University will submit similar evidence of that election.

ARTICLE 11

EARLY WITHDRAWAL AND PROJECT TERMINATION

11.01 Any Sponsor may withdraw individually from the Project without cause, even if the other parties elect to continue the Project, by failing to agree in writing to an extension of the Project term. The Sponsor who is withdrawing will give the other parties notice within sixty days of receiving from the University an execution copy of a new Exhibit A that accurately and clearly reflects the decisions of the Management Committee at the Annual Summer Review described in paragraph 1.03. Such notice will be in writing and preferably will give reasons for the withdrawal. If a Sponsor knows before the sixty-day deadline that it will withdraw at the end of the term to which it currently is committed, that Sponsor is encouraged to give the other parties earlier

notice, so that they may plan accordingly. Such withdrawal will be effective at the end of the Project term to which the withdrawing Sponsor is then committed, or when the Project terminates, if it terminates earlier. For example, if a Sponsor gave notice in July 2010 of its intent to withdraw and in September 2010 that Sponsor was committed to the Project until August 31, 2012, such withdrawal will be effective August 31, 2012, unless the Project terminates earlier. In the event a Sponsor fails within the sixty-day deadline either to sign a new Exhibit A extending the Project term or to give written notice of withdrawal, that Sponsor will be deemed to have provided notice that it is withdrawing from the Project, and the University will promptly send written notification to that effect to each of the Sponsors, with such notification to serve as formal, written record of notice of withdrawal from the withdrawing Sponsor. A Sponsor so withdrawing is referred to in this Agreement as a “withdrawing Sponsor” with respect to events occurring on and after the first day of the Fiscal Year following the notice of withdrawal.

11.02 Until the effective date of the withdrawal (August 31, 2012, in the example), the withdrawing Sponsor will have all rights and obligations of any other current Sponsor, except that (a) the withdrawing Sponsor, instead of paying participation fees pursuant to paragraph 5.04, will pay a fixed amount equal to the Fiscal Year Sponsors Cap for the withdrawing Sponsor established pursuant to paragraph 5.07 for the following two Fiscal Years (in the example the Fiscal Year Sponsors Cap for the Fiscal Years beginning September 1, 2010 and September 1, 2011), such fixed amount to be paid for each Fiscal Year in question in equal quarterly installments until the effective date of withdrawal; (b) the withdrawing Sponsor may attend Management Committee meetings, but will lose its voting membership on the Management Committee, and the rotation specified in paragraph 3.04 will be accelerated to fill the gap, with regular rotation at the end of each Fiscal Year continuing as described in paragraph 3.04; and (c) on and after the first day of the Fiscal Year following the notice of withdrawal, the withdrawing Sponsor’s agreement or consent with amendments to the Core Program Description in Exhibit A and other actions requiring approval or consent of the Sponsors will no longer be required. After the effective date of the withdrawal, the withdrawing Sponsor’s rights and obligations under paragraphs 5.16-5.18, Articles 6-10, paragraph 11.08, and Articles 12-19 will continue, except that the

withdrawing Sponsor's rights to Project Technology and Project Patent Rights will be limited to such Project Technology and Project Patent Rights that result from research programs listed in Exhibit A, as amended from time to time, for which it has participated in funding the costs thereof. The withdrawing Sponsor, after it withdraws, will continue to be required to bear its share (as set forth in the last version of Exhibit C which was in effect prior to attaining the status of a withdrawing Sponsor) of Project Charges that the University subsequently makes for filing, obtaining, and maintaining Project Patent Rights under which the former Sponsor continues to be licensed, however the consent of the former Sponsor will not be required for the University to abandon or permit to lapse such Project Patent Rights pursuant to paragraph 6.03. If the former Sponsor does not wish to share such Project Charges, it may terminate its licenses under such Project Patent Rights upon written notice thereof; and if the former Sponsor does not paid its share within ninety days following receipt of a written request for payment, such licenses will automatically terminate. On the effective date of the withdrawal, any participation in the Project, including without limitation any Project research conducted under paragraph 1.05, by affiliates of the withdrawing Sponsor will end automatically.

11.03 When and if a Sponsor withdraws pursuant to paragraph 11.01, after the effective date of the withdrawal, unless the remaining Sponsors decide to terminate the Project, the Project will continue with the remaining Sponsors, with automatic pro rata adjustments to their Exhibit C cost shares, or with such other cost shares as the continuing Sponsors may agree to.

11.04 At any time, the Sponsors (excluding any withdrawing Sponsor as defined in paragraph 11.01) may terminate the Project unanimously without cause, meaning not based on a material breach of this Agreement by any party, by giving the University at least ninety days written notice signed by each Sponsor who is still in the Project and has not previously given notice of its intent to withdraw. In that event, the parties will work together for the orderly wind-down of the Project well before the end of the then-current term of the Project, and the Sponsors will pay the University pursuant to paragraph 5.04 the applicable participation fees and additionally will reimburse the University for its wind-down expenses described in paragraph 5.05. In event of such

early termination, the University will consult and cooperate with the Sponsors in order to mitigate and keep to a minimum all wind-down expenses.

11.05 If a Sponsor materially fails to meet its financial obligations to the University under Article 5, the University may terminate the Project for cause, but only if (a) the University first gives all the Sponsors at least ninety days written notice of the breach and the University's intention to terminate the Project; and (b) the University works with the non-defaulting Sponsors during those ninety days to try to make alternate arrangements with them to continue the Project or to wind it down in an orderly fashion; and (c) the University gives all the Sponsors a second written notice after the end of the ninety days terminating the Project, with such termination to be effective ten days after the date such second notice is delivered.

11.06 The Project will terminate when the first-to-occur of the following events occurs, unless the parties agree otherwise: (a) when the Project reaches the end of its term, as described in paragraph 1.03; or (b) when the Project research is finished; or (c) when the cumulative Project Charges over the life of the Project reach the Total Project Cap referred to in Article 5; or (d) when the aggregate participation fees of the Sponsors over the life of the Project reach the Total Sponsors Cap referred to in Article 5; or (e) when the University and the voting Sponsors terminate the Project by unanimous agreement; or (f) when the University terminates the Project for cause pursuant to paragraph 11.05; or (g) when the voting Sponsors terminate the Project without cause pursuant to paragraph 11.04. When the Project terminates, the University will provide to each Sponsor within ninety days of termination a final report summarizing any Project Technology not previously disclosed to the Sponsors. The Management Committee, the Advisory Committee, any peer review committees, and all other committees will automatically dissolve when the Project is terminated.

11.07 After the University charges to the Project Account all Project costs and expenditures authorized by Article 5, the University will refund any remaining Project Account funds to all Sponsors who are in the Project when the Project terminates, with the amounts of such refunds being pro rata based on the cost shares of those Sponsors

in effect at the time of termination, with appropriate adjustments for any amounts that a Sponsor has advanced pursuant to paragraph 5.09.

11.08 After the Project terminates, the University and the Sponsors, both current and former, who continue to be licensed under Project Patent Rights will negotiate a separate agreement consistent with Articles 5 and 6 covering the sharing of charges related to filing, obtaining, and maintaining Project Patent Rights, accounting for such charges, and similar matters.

ARTICLE 12 EXPORT CONTROL

12.01 The University and each Sponsor will comply with any applicable provisions of the Export Administration Regulations of the United States Department of Commerce and any other applicable United States Government laws or regulations governing the export or reexport of U.S.-origin technical data and the direct products thereof, as those laws and regulations may from time to time be amended.

ARTICLE 13 NATIONAL COOPERATIVE RESEARCH AND PRODUCTION ACT

13.01 Each Sponsor hereby authorizes the Project Director to make, on behalf of the University and each Sponsor, all appropriate filings and disclosures regarding the Project with the United States Department of Justice ("Justice Department") and the United States Federal Trade Commission ("FTC") under the National Cooperative Research and Production Act of 1993 ("NCRPA"), 15 U. S. Code Sections 4301-4306. Given the requirements of the NCRPA, the University should receive in the normal course of the Project all information necessary for such filings and disclosures. However, if the University needs for that purpose additional information about the Sponsors, the Sponsors will provide that information to the University.

13.02 The University will timely file, or cause to be filed, on behalf of itself and the Sponsors, appropriate written notifications under the NCRPA with the Justice Department and the FTC regarding: (a) any change to the parties to this Agreement, (b)

any change to the termination date of the Project, and (c) any change to the nature and objectives of the Project as described in previous notifications, should there be any such changes. Also, the University will timely file, or cause to be filed, such additional notifications under the NCRPA regarding the Project as the Management Committee may reasonably request in writing to the University, provided that such additional notifications are consistent with established custom and practice under the NCRPA. The University will provide each Sponsor with copies of all notifications filed pursuant to this Article 13 and all related correspondence with the Justice Department or FTC.

ARTICLE 14 ADDRESSES AND FORMAL COMMUNICATIONS

14.01 The University will provide all other parties with the facsimile numbers and office and e-mail addresses of the Project Director and Managing Director, and will promptly notify all other parties of any changes in those numbers or addresses. Formal communications to the University will be effective when delivered to the Project Director at the current facsimile number or office or e-mail address of the Project Director, except during periods when the Project Director is attending a University-approved sabbatical program. During those periods, formal communications to the University will be effective when delivered to the Managing Director at the current facsimile number or office or e-mail address of the Managing Director.

14.02 Each Sponsor will provide all other parties with the names, facsimile numbers, and office and e-mail addresses of its designated representative and designated alternate representative on the Management Committee, and will promptly notify all other parties of any changes in its representatives or their facsimile numbers or addresses. Formal communications to a Sponsor will be effective when delivered its designated representative at that representative's current facsimile number or office or e-mail address.

14.03 Written notices, consents, approvals, signature pages, and other formal communications may be delivered by hand, mail, courier, facsimile transmission, or e-mail. Consents, approvals, and required signatures may be delivered in multiple

counterparts. If delivered by e-mail, signed signature pages (for example, for a new Exhibit A) must be delivered as scanned e-mail attachments.

ARTICLE 15 ENGLISH LANGUAGE

15.01 The English language will be used in the Project Account, invoices, notices, and other formal communications between the parties.

ARTICLE 16 AFFILIATES OF SPONSORS

16.01 Consistent with paragraphs 1.01, 1.06, and 1.07, affiliates of Sponsors are not parties to this Agreement and are not members of the Project. Affiliates of Sponsors are third parties. Any Sponsor's affiliate that conducts Project research under paragraph 1.06 will do so on behalf of and as an agent of that Sponsor, and only following unanimous consent by the Management Committee and execution of a revised Exhibit A authorizing such research. Each Sponsor will be responsible to the University and other Sponsors for the actions of its affiliates performing Project research.

16.02 Each Sponsor will enter into written contracts with each of its affiliates that conducts Project research on its behalf. Each such contract will be consistent with this Agreement and will cover the affiliate's obligations with respect to Project Technology, Project Patent Rights, Non-Project Patent Rights, publicity, confidentiality, and other appropriate topics. Each such affiliate will be held to the same or stricter obligations as its Sponsor with respect to Project Technology, Project Patent Rights, Non-Project Patent Rights, publicity, and confidentiality. Consistent with paragraphs 6.01 and 6.02, the University will hold formal legal title to all Project Technology, related copyrights, and Project Patent Rights that such affiliates develop in whole or in part. Such affiliates will hold Project Technology in confidence for the time periods specified in paragraph 7.03. Such affiliates will receive rights to Project Technology, Project Patent Rights, and Non-Project Patent Rights only if granted to such affiliates pursuant to paragraphs 6.05, 6.06, 6.08, 8.02, 8.03.

ARTICLE 17
SUCCESSORS AND ASSIGNS

17.01 This Agreement will bind and inure to the benefit of the parties and their successors and permitted assigns. The University may assign this Agreement only with the prior written consent of all the Sponsors, excepting only Sponsors who have given notice of intent to withdraw pursuant to paragraph 11.01. Any corporate Sponsor may assign this Agreement to any wholly owned affiliate, but any other assignment without the written consent of all the other parties (withdrawing Sponsors excepted) will be void. No assignment will relieve any party of its previously accrued obligations under this Agreement.

ARTICLE 18
CHOICE OF LAW

18.01 This Agreement and the legal relationships between the parties will be governed by the applicable laws of the United States of America and the laws of the State of California, U.S.A., without reference to California's choice of law rules.

ARTICLE 19
ARBITRATION

19.01 The parties agree that all disputes between them arising out of or relating to this Agreement will be arbitrated before a sole arbitrator under the International Arbitration Rules of the American Arbitration Association ("AAA"). If an arbitration is commenced, the parties to the arbitration will attempt to agree on the selection of the arbitrator. If they have failed to select the arbitrator within thirty days of commencement of the arbitration, the AAA will make the selection. The arbitration will take place in the County of Santa Clara, California, U.S.A. The language of the arbitration will be English. The arbitrator will apply the substantive law specified in Article 18. The Federal Arbitration Act of the United States of America will apply to the arbitration. The arbitrator will not have the power to award special, consequential, punitive, exemplary, or incidental damages that the parties have waived in paragraph 9.02. Any monetary

portion of the arbitrator's award will be in U.S. Dollars. Judgment on the award may be entered in any court of competent jurisdiction.

ARTICLE 20
ENTIRE AGREEMENT

20.01 Effective September 1, 2010, this Agreement replaces the prior, similar 2002 Agreement and 2008 Agreement between the parties. That 2002 Agreement, as it was amended from time to time, will continue to define the rights and obligations of the parties with respect to events occurring before September 1, 2008, and that 2008 Agreement, as it was amended from time to time, will continue to define the rights and obligations of the parties with respect to events occurring from September 1, 2008 until September 1, 2010. However, this Agreement defines the rights and obligations of the parties and constitutes the entire understanding of the parties concerning the Project with respect to events occurring on or after September 1, 2010 . No prior draft of this Agreement, summary of this Agreement, or similar documentation or information relating to this Agreement in being before it is signed by all parties will be used in construing this Agreement.

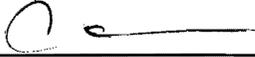
IN WITNESS WHEREOF, the University and Sponsors have signed this Agreement in multiple originals to be effective on the date indicated at the beginning of this Agreement. For convenience, the University and Sponsors may bind themselves to this Agreement by signing and exchanging by facsimile or as scanned e-mail attachments separate signature pages, and each signature transmitted by facsimile or as a scanned e-mail attachment will be deemed an original signature.

Agreement for Global Climate and Energy Project

(Effective September 1, 2010, with five signatory parties)

Signature page for The Board of Trustees of the Leland Stanford Junior University

The Board of Trustees of the Leland Stanford Junior University

By 
Ann Arvin

Vice Provost and Dean of Research

Date: 11/21/11

Agreement for Global Climate and Energy Project

(Effective September 1, 2010, with five signatory parties)

Signature page for Exxon Mobil Corporation

Exxon Mobil Corporation

By 
S. K. Stuewer

Vice President - Environmental Policy and Planning

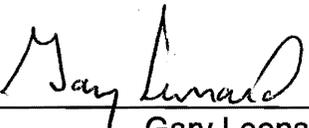
Date: 12/21/2010

Agreement for Global Climate and Energy Project

(Effective September 1, 2010, with five signatory parties)

Signature page for General Electric Company

General Electric Company

By 
Gary Leonard

Global Technology Leader for Energy and Propulsion Technologies

Date: 1/19/11

FTC
1/14/2011

Agreement for Global Climate and Energy Project

(Effective September 1, 2010, with five signatory parties)

Signature page for Schlumberger Technology Corporation

Schlumberger Technology Corporation

By  _____
Rodney Nelson

Vice President , Schlumberger Technology Corporation

Date: 12/14/10

Agreement for Global Climate and Energy Project

(Effective September 1, 2010, with five signatory parties)

Signature page for Toyota Motor Corporation

Toyota Motor Corporation

By  _____
Takeshi Uchiyamada

Executive Vice President

Date: 1 / 7 / 2011

EXHIBIT A

CORE PROJECT DESCRIPTION

Effective September 1, 2010

PART I: AUTHORIZED PORTFOLIO DEVELOPMENT AND MAINTENANCE

To date, the Sponsors have authorized the following portfolio development and maintenance:

1. Technical area assessments

Estimated Duration: 9/1/04 - 8/31/13

Principal Investigator: Sally Benson

2. Energy systems analysis

Estimated Duration: 9/1/04 - 8/31/13

Principal Investigator: Sally Benson

3. Scoping research programs

Estimated Duration: 1/1/05 - 8/31/11

Principal Investigators: Various

The Project Director has discretion to initiate separate scoping research programs, provided that (a) the costs and expenditures of each scoping research program are equal to or less than \$100,000; (b) the total costs and expenditures of all scoping research programs are less than the cumulative cap ("Subaccount Cap") specified for scoping research programs in Part III.A below; (c) the duration of each scoping research program is less than or equal to 12 months; (d) each scoping research program conducted by a third party is conducted under an appropriate subcontract between the University and the third party; and (e) all scoping research programs are concluded by the Project termination date specified in Part IV below.

4. Cost-shared research programs

Estimated Duration: 9/1/10 - 8/31/13

Principal Investigators: Various

With the approval of the GCEP Management Committee, the Project Director may initiate separate cost-shared research programs that meet the following criteria: (a) funding for each program is fully treated as cost-sharing for an outside research effort funded by two or more third parties, including government agencies; (b) the scope of the cost-shared research program furthers the objectives of the Project; (c) there is active interest or participation by at least one GCEP Sponsor company in the outside research effort for which cost sharing is being provided; (d) the total costs and expenditures of all cost-shared research programs are less than the cumulative cap ("Subaccount Cap") specified for cost-shared research programs in Part III.A below; (e) each cost-shared research program is funded under an appropriate agreement between the University and the third party leading the outside research effort; and (f) contributions to all cost-shared research programs are completed by the Project termination date specified in Part IV below.

PART II: AUTHORIZED FULL-SCALE RESEARCH PROGRAMS

To date, the Sponsors have authorized 80 full-scale research programs. The titles, technical areas, durations, and principal investigators of those programs are listed in the Appendix to this Exhibit A.

PART III: FINANCIAL CAPS

A. Caps for Authorized Portfolio Development and Maintenance

The following cumulative caps ("Subaccount Caps") apply to authorized portfolio development and maintenance:

	<u>Subaccount Cap (\$)</u>
1. Technical area assessments	11,914,350
2. Energy systems analysis	2,399,709
3. Scoping research program	3,000,000
4. Cost-shared research program	<u>500,000</u>
Total Subaccount Caps	17,814,059

B. Caps for Authorized Full-Scale Programs

The following cumulative caps ("Subaccount Caps") apply to full-scale research programs:

<u>Program/Principal Investigators</u>	<u>Subaccount Cap (\$)</u>	<u>Program/Principal Investigators</u>	<u>Subaccount Cap (\$)</u>
1. Sweeney, et al.	1,498,680	18. Green, et al.	2,377,843
2. Prinz, et al.	5,244,990	19. Fujioka, et al.	3,055,966
3. Bowman, et al.	2,460,641	20. Bowman, et al.	2,423,940
4. Harris, et al.	2,566,239	20A. Malhotra	412,650
5. Clemens, et al.	2,206,498	21. Bao, et al.	2,101,631
6. Jacobson, et al.	797,748	22. Edwards	1,767,782
7. Stebbins, et al.	1,133,964	23. Swartz	1,435,034
8. McGehee	897,607	24. Harris, et al.	2,994,378
9. Prinz	2,462,951	25. Field	93,830
9A. Grossman	300,301	26. Khosla	872,298
10. Sherlock	780,820	27. Mitchell	2,151,528
10A. Rosenzweig	360,930	28. Peumans	905,169
11. Somerville	280,090	29. Cui, et al.	1,587,689
12. Tchelepi, et al.	903,766	30. McIntyre	676,551
12A. Jenny	228,077	30A. Ramanathan	330,390
13. Pinsky, et al.	526,550	31. Goodwin, et al.	1,600,011
14. Chidsey, et al.	1,218,797	32. Lewis, et al.	3,007,500
15. Bent, et al.	1,355,000	33. Thomas	1,909,720
16. Brongersma, et al.	1,384,651	34. Wong, et al.	1,930,000
17. Jansen, et al.	1,512,319	35. Brongersma	450,000
17A. Shoonman, et al.	821,999	35A. Atwater	607,500

Program/Principal Investigators	Subaccount Cap (\$)	Program/Principal Investigators	Subaccount Cap (\$)
35B. Polman	549,835	50. Ralph et al.	1,376,668
36. Conibeer, et al.	698,094	51. Zhang	907,500
36A. Luque, et al.	339,898	51A. Cai	563,972
36B. Guillemoles, et al.	430,395	51B. Li	500,549
36C. Schmidt	301,424	52. Tomsovic	885,000
37. Benson	1,879,975	52A. Overbye	655,500
38. Nilsson, et al.	1,876,665	52B. Stankovic	587,999
39. Field, et al	820,890	52C. Chow	588,000
39A. Asner	420,407	53. Edwards	1,053,021
40. Salleo, et al.	1,560,000	54. Jaramillo	1,112,411
41. Waymouth, et al.	1,407,695	55. Mavko	929,184
42. Chapple, et al.	1,938,103	<i>55A. Luttge</i>	<i>485,661</i>
43. Boerjan	1,648,426	<i>56. Benson</i>	<i>1,137,000</i>
44. Halpin, et al.	2,107,313	57. Bao	1,105,000
45. Bao	943,911	<i>57A. Aspuru-Guzik</i>	<i>645,000</i>
46. Melosh, et al.	1,266,361	<i>58. Maher</i>	<i>1,260,258</i>
47. Fan, et al.	899,500	<i>59. McGehee</i>	<i>1,255,150</i>
47A. Braun	450,500	<i>60. Spormann</i>	<i>1,314,342</i>
48. Tarascon	1,387,213	Total Subaccount Caps	100,437,162
49. Fujioka et al.	1,514,315		

Completed programs are indicated in bold. Subaccount caps for those programs are actual costs and expenditures incurred on those programs while they were active.

Programs added or changed since the last version of Exhibit A are indicated in italics.

C. Cap for Central Management

The following cumulative cap ("Subaccount Cap") applies to central management:

\$21,110,670

That Subaccount Cap applies to costs and expenditures for central Project staff and operations, outreach staff and activities, symposia, space renovation, furniture, computers, and other equipment and supplies.

D. Total Project Cap

Total Subaccount Caps for authorized portfolio development and maintenance	\$17,814,059
Total Subaccount Caps for authorized full-scale research programs	\$100,437,162
Subaccount Cap for central management	<u>\$21,110,670</u>
Total Project Cap	\$139,361,891

E. Total Sponsors Cap and Participation Fees

Total Project Cap	\$139,361,891
Authorized Third-Party Funding	(\$0)
Total Sponsors Cap	\$139,361,891
Total Participation Fees Paid by Sponsors to Date 8/31/10*	<u>(\$97,032,920)</u>
Total Sponsors Cap less total participation fees paid to date	\$42,328,971

* Includes Advance Cash Calls and Interest on Project Account funds

F. Increases in Total Sponsors Cap

New Total Sponsors Cap	\$139,361,891
Last Total Sponsors Cap (Exhibit A Effective 3/1/10)	(\$130,725,862)
Increase in Total Sponsors Cap	\$8,636,029

G. Fiscal Year Sponsors Caps

Fiscal Year	Exxon Mobil (K\$)	General Electric (K\$)	Schlumberger (K\$)	Toyota (K\$)	Total (K\$)
Prior to FY10-11	45,612	22,469	11,413	22,469	101,964
FY10-11 Caps	8,713	4,357	2,180	2,743	17,992
FY11-12 Caps	6,724	3,362	1,681	1,315	13,082
FY12-13 Caps	5,907	2,954	1,477	0	10,338
TOTAL	66,956	33,142	16,751	26,527	143,376

PART IV: TERMINATION DATE

Subject to Article 11 of this Agreement, the Project will terminate no later than August 31, 2013, unless extended by amendment of this Agreement.

EXHIBIT A, Effective September 1, 2010 – APPENDIX

DETAILS ON AUTHORIZED FULL-SCALE RESEARCH PROGRAMS

The titles, durations, and principal investigators of full-scale research programs authorized to date by the Sponsors are as follows:

1. Integrated Assessment of Technology Options

Technical Area: Integrated Assessment

Actual Duration: 1/1/03-12/31/06

Principal Investigators: James L. Sweeney and John P. Weyant

2. Hydrogen Production and Utilization

Technical Area: Hydrogen Production, Distribution and Use

Actual Duration: 1/1/03-12/31/06

Principal Investigators: Fritz Prinz, James R. Swartz, and Alfred M. Spormann

3. Advanced Combustion Systems

Technical Area: Advanced Combustion Science and Engineering

Actual Duration: 1/1/03-12/31/06

Principal Investigators: Craig T. Bowman, Christopher F. Edwards, David M. Golden, Ronald K. Hanson, and Reginald E. Mitchell

4. Geologic Sequestration of CO₂

Technical Area: CO₂ Separation, Capture and Storage

Actual Duration: 1/1/03-8/31/06

Principal Investigators: Jerry M. Harris, Anthony R. Kavscek, Franklin M. Orr, Jr., and Mark D. Zoback

5. Nanoengineering of Hybrid Carbon Nanotube-Metal Nanocluster Composite Materials for Hydrogen Storage

Technical Area: Hydrogen Production, Distribution and Use

Actual Duration: 1/1/04-12/31/07

Principal Investigators: Bruce Clemens, Hongjie Dai, and Anders Nilsson

6. Hydrogen Effects on Climate, Stratospheric Ozone, and Air Pollution

Technical Area: Hydrogen Production, Distribution and Use

Actual Duration: 1/1/04-8/31/07

Principal Investigators: Mark Z. Jacobson and David M. Golden

7. Solid-State NMR Studies of Oxide-Ion-Conducting Ceramics for Enhanced Fuel Cell Performance

Technical Area: Hydrogen Production, Distribution and Use

Actual Duration: 1/1/04-2/29/08

Principal Investigators: Jonathan Stebbins and Fritz Prinz

8. Nanostructured Photovoltaic Cells

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 1/1/04-8/31/07

Principal Investigator: Michael McGehee

9. Monitoring and Accessing Cellular Photosynthesis Electrical Energy for Bioelectricity

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 4/1/05-8/31/09

Principal Investigator: Fritz Prinz

9A. Cell Culturing for Bioelectricity

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 4/1/05-8/31/09

Principal Investigator: Arthur Grossman, Carnegie Institution of Washington

10. Directed Evolution and Genomic Analysis of Novel Yeast Species for More Efficient Biomass Conversion

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 1/1/05-8/31/08

Principal Investigator: Gavin Sherlock

10A. Selection of Yeast Strains

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 1/1/05-8/31/08

Principal Investigator: Frank Rosenzweig, University of Montana

11. Genetic Engineering of Cellulose Accumulation

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 4/1/05-3/31/08

Principal Investigator: Chris Somerville

12. A Numerical Simulation Framework for the Design, Management and Optimization of CO₂ Sequestration in Subsurface Formations

Technical Area: CO₂ Separation, Capture and Storage

Actual Duration 1/1/05-8/31/08

Principal Investigators: Hamdi Tchelepi, Louis J. Durlofsky, and Khalid Aziz

12A. Multiscale Finite-Volume Formulation

Technical Area: CO₂ Separation, Capture and Storage

Actual Duration: 1/1/05-8/31/08

Principal Investigator: Patrick Jenny, Swiss Federal Institute of Technology, Zurich (ETH Zurich)

13. Modeling, Simulation and Characterization of Atomic Force Microscopy Measurements for Ionic Transport and Impedance in PEMFCs

Technical Area: Hydrogen Production, Distribution and Use

Actual Duration: 1/1/05-12/31/07

Principal Investigators: Peter Pinsky and David Barnett

14. Efficient Interconversion of Chemical and Electrical Energy: Electrocatalysis with Discrete Transition Metal Complexes

Technical Area: Advanced Materials and Catalysts

Actual Duration: 1/1/05-8/31/08

Principal Investigators: Chris Chidsey, Dan Stack, and Robert Waymouth

15. Inorganic Nanocomposite Solar Cells by Atomic Layer Deposition

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration 9/1/05-2/28/09

Principal Investigators: Stacey Bent, James Harris, and Michael McGehee

16. Nanostructured Metal-Organic Solar Cells

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 9/1/05-8/31/08

Principal Investigators: Mark Brongersma, Peter Peumans, and Shanhui Fan

17. Advanced Membrane Reactions - Hydrotalcite CO₂ Membranes and Reaction Design

Technical Area: CO₂ Separation, Capture and Storage

Actual Duration: 6/1/05-5/31/09

Principal Investigators: Daniel Jansen, Wim Haije, Ruud van den Brink, and Jan Wilco Dijkstra, Energy Research Centre of the Netherlands (ECN)

17A. Advanced Membrane Reactors - Hydrogen and Ionic Liquid CO₂ Membranes

Technical Area: CO₂ Separation, Capture and Storage

Actual Duration: 6/1/05-5/31/09

Principal Investigators: Joop Schoonman and Cor Peters, Technical University of Delft (TU-Delft), The Netherlands

18. Nanostructured Silicon-Based Tandem Solar Cells

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 9/1/05-2/28/09

Principal Investigators: Martin A. Green and Gavin Conibeer, University of New South Wales (UNSW), Australia

19. Sub-Nanostructured, Controlled Materials - Development of Innovative Gas Separation Membranes

Technical Area: CO₂ Separation, Capture and Storage

Actual Duration: 9/1/05-8/31/08

Principal Investigators: Yuichi Fujioka, Shingo Kazama, and Katsunori Yogo, Research Institute of Innovative Technology for the Earth (RITE), Japan

20. Optimization of the Molecular Structure of Low-Greenhouse-Gas Emission Synthetic Oxygenated Fuels for Improved Combustion and Pollutant Emission Characteristics of Diesel Engines

Technical Area: Advanced Combustion Science and Engineering

Actual Duration 9/1/05-2/28/09

Principal Investigators: Craig T. Bowman, Ronald K. Hanson, Heinz G. Pitsch, and David M. Golden

20A. Formulation of Clean Burning Diesel Fuels

Technical Area: Advanced Combustion Science and Engineering

Actual Duration: 9/1/05-2/28/09

Principal Investigator: Ripudaman Malhotra, SRI International

21. Advanced Materials and Devices for Low Cost and High Performance Organic Photovoltaic Cells

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 1/1/06-8/31/09

Principal Investigators: Zhenan Bao and Michael McGehee

22. Development of Low-Exergy-Loss, High-Efficiency Chemical Engines

Technical Area: Advanced Combustion Science and Engineering

Actual Duration: 1/1/06-8/31/09

Principal Investigator: Christopher F. Edwards

23. Direct Solar Biohydrogen: Part II

Technical Area: Hydrogen Production, Distribution and Use

Actual Duration: 1/1/06-12/31/08

Principal Investigator: James R. Swartz

24. Geologic Storage of CO₂

Technical Area: Advanced Combustion Science and Engineering

Actual Duration: 1/1/06-8/31/09

Principal Investigators: Jerry M. Harris, Anthony R. Kavscek, Franklin M. Orr, Jr.,
and Mark D. Zoback

25. Technology Potential of Biofuels: Feasibility Study

Technical Area: Integrated Assessment of Technology Options

Actual Duration: 9/1/06-8/31/08

Principal Investigator: Christopher Field

26. Microbial Synthesis of Biodiesel

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 9/1/06-2/28/10

Principal Investigator: Chaitan Khosla

27. Coal Energy Conversion with Aquifer-Based Carbon Sequestration: An Approach to Electric Power Generation with Zero Matter Release to the Atmosphere

Technical Area: Advanced Coal Utilization

Estimated Duration: 1/1/07-12/31/10

Principal Investigator: Reginald Mitchell

28. Molecular Solar Cells

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 1/1/07-12/31/09

Principal Investigator: Peter Peumans

29. Nanowire Lithium-Ion Batteries as Electrochemical Energy Storage for Electric Vehicles

Technical Area: Advanced Transportation Systems

Estimated Duration: 3/1/07-2/28/11

Principal Investigators: Yi Cui and Fritz Prinz

30. Metal Oxide Nanotubes and Photo-Excitation Effects: New Approaches for Low-to-Intermediate Temperature Solid Oxide Fuel Cells to Enable Low GWG-Emission Transportation

Technical Area: Advanced Materials and Catalysts

Actual Duration: 3/1/07-8/31/10

Principal Investigator: Paul C. McIntyre

30A. Metal Oxide Nanotubes and Photo-Excitation Effects: New Approaches for Low-to-Intermediate Temperature Solid Oxide Fuel Cells to Enable Low GWG-Emission Transportation

Technical Area: Advanced Materials and Catalysts

Actual Duration: 7/31/07-8/31/10

Principal Investigator: Shriram Ramanathan, Harvard University

31. Nanoscale Architectural Engineering for High-Performance Solid Oxide Fuel Cells

Technical Area: Advanced Materials and Catalysts

Estimated Duration: 8/3/07-2/28/11

Principal Investigators: Sossina Haile and David Goodwin, California Institute of Technology

32. Artificial Photosynthesis: Membrane-Supported Assemblies that Use Sunlight to Split Water

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration 6/1/07-5/31/11

Principal Investigators: Nate Lewis, Harry Gray, and Harry Atwater, California Institute of Technology

33. A Quantum Leap Forward for Li-Ion Battery Cathodes

Technical Area: Advanced Transportation Systems

Actual Duration: 8/3/07-8/2/10

Principal Investigator: Josh Thomas, Uppsala University, Sweden

34. Lateral Nanoconcentrator Nanowire Multijunction Photovoltaic Cells

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 9/1/07-3/31/11

Principal Investigators: Philip Wong, Peter Peumans, Mark Brongersma, and Yoshio Nishi

35. Plasmonic Photovoltaics

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Actual Duration: 9/1/07-8/31/10

Principal Investigator: Mark Brongersma

35A. Plasmonic Photovoltaics (Caltech)

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 2/27/08-2/26/11

Principal Investigator: Harry Atwater, California Institute of Technology

35B. Plasmonic Photovoltaics (FOM)

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 8/29/08-8/28/11

Principal Investigator: Albert Polman, Utrecht University, The Netherlands

36. Hot Carrier Solar Cell: Implementation of the Ultimate PV Converter (UNSW)

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 8/29/08-8/28/11

Principal Investigators: Gavin Conibeer and Martin Green, University of New South Wales, Australia

36A. Hot Carrier Solar Cell: Implementation of the Ultimate PV Converter (UPM)

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 2/27/08-2/26/11

Principal Investigators: Antonio Luque and Antonio Marti, Instituto de Energia Solar - Universidad Politecnica de Madrid, Spain

36B. Hot Carrier Solar Cell: Implementation of the Ultimate PV Converter (CNRS)

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 8/29/08-8/28/11

Principal Investigator: Jean-François Guillemoles, the Centre National de la Recherche Scientifique (CNRS), France

36C. Hot Carrier Solar Cell: Implementation of the Ultimate PV Converter (U Sydney)

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 12/15/08-12/14/11

Principal Investigator: Tim Schmidt, University of Sydney, Australia

37. Residual Trapping of Carbon Dioxide

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: 9/1/07-8/31/11

Principal Investigator: Sally M. Benson

38. C-H Bonds in Carbon Nanotubes as an Energy Carrier

Technical Area: Hydrogen Production, Distribution and Use

Estimated Duration: 1/1/08-12/31/11

Principal Investigators: Anders Nilsson, Bruce Clemens and Hongjie Dai

39. Biomass Energy: the Climate-Protective Domain

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 3/1/08-2/28/12

Principal Investigators: Chris Field, Rosamond Naylor and David Lobell

39A. Biomass Energy: The Climate-Protective Domain (Carnegie)

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 8/29/08-2/28/12

Principal Investigator: Gregory Asner, the Carnegie Institution of Washington

40. Nanostructured Materials for High-Efficiency Thin Film Solar Cells

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 3/1/08-2/28/11

Principal Investigators: Alberto Salleo, Yi Cui and Peter Peumans

41. The Electron Economy: Oxidation Catalysis for Energy Management

Technical Area: Advanced Materials and Catalysts

Estimated Duration: 3/1/08-2/28/11

Principal Investigators: Robert Waymouth, Christopher Chidsey and Daniel Stack

42. Assembly of a Lignin Modification Toolbox

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 7/14/08-7/13/11

Principal Investigators: Clint Chapple and Alan Friedman, Purdue University

43. Towards New Degradable Lignin Types

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 8/29/08-8/28/11

Principal Investigator: Wout Boerjan, Flanders Institute for Biotechnology (VIB), Belgium

44. Novel Plants Optimized for Lignin, Growth and Biofuel Production via Re-mutagenesis

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 8/29/08-8/28/11

Principal Investigators: Claire Halpin and Gordon Simpson, University of Dundee, UK

45. Self-sorting of Metallic Carbon Nanotubes for High Performance Large Area Low Cost Transparent Electrodes

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 9/1/08-8/31/11

Principal Investigator: Zhenan Bao

46. Photo-electric Enhancement of Thermionic Emission

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 9/1/08-8/31/11

Principal Investigators: Nick Melosh and ZX Shen

47. Ultra-High Efficiency Thermo-Photovoltaic Cells Using Metallic Photonic Crystals as Intermediate Absorber and Emitter

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 9/1/08-3/24/12

Principal Investigators: Shanhui Fan and Peter Peumans

47A. Ultra-High Efficiency Thermo-Photovoltaic Cells Using Metallic Photonic Crystals as Intermediate Absorber and Emitter (U Illinois)

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 3/25/09-3/24/12

Principal Investigators: Paul Braun, University of Illinois, Urbana-Champaign

48. Advanced Li-Ion Batteries Based on the Use of Renewable ORGANIC Electrodes (ALIBORG)

Technical Area: Advanced Transportation Systems

Estimated Duration: 8/29/08-8/28/11

Principal Investigator: Jean-Marie Tarascon, Universite de Picardie Jules Verne, France

49. Advanced CO₂/H₂ Separation and Storage Nano-Porus Materials Incorporating Active Functional Agents

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: 9/1/08-8/31/11

Principal Investigators: Yuichi Fujioka, Shingo Kazama, and Katsunori Yogo, Research Institute of Innovative Technology for the Earth (RITE), Japan

50. Efficient Biomass Conversion: Delineating the Best Lignin Monomer-Substitutes

Technical Area: Renewable Energy Sources (Wind, Solar and Biomass)

Estimated Duration: 12/15/08-12/14/11

Principal Investigators: John Ralph, Xuejun Pan, and Sara Patterson, University of Wisconsin-Madison

**51. Collaborative Research on Carbon Sequestration in Saline Aquifers in China
(University of South California)**

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: 7/15/09-7/14/12

Principal Investigators: Dongxiao Zhang and Kristian Jessen, University of South California

**51A. Collaborative Research on Carbon Sequestration in Saline Aquifers in China
(Peking University)**

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: 7/15/09-7/14/12

Principal Investigators: Qingdong Cai, Bin Gong, and Yi Zheng, Peking University, China

**51B. Collaborative Research on Carbon Sequestration in Saline Aquifers in China
(China University of Geosciences)**

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: 7/15/09-7/14/12

Principal Investigators: Yilian Li, Yanxin Wang, and Jianmei Cheng, China University of Geosciences, China

**52. Scalable and Flat Controls for Reliable Power Grid Operation with High
Renewable Penetration (UT)**

Technical Area: Advanced Electric Infrastructure

Estimated Duration: 6/22/10-6/21/13

Principal Investigators: Kevin Tomsovic, University of Tennessee

**52A. Scalable and Flat Controls for Reliable Power Grid Operation with High
Renewable Penetration (UIUC)**

Technical Area: Advanced Electric Infrastructure

Estimated Duration: 7/8/10-7/7/13

Principal Investigators: Thomas Overbye, Peter Sauer, George Gross, Philip Krein, and Alejandro Dominguez-Garcia, University of Illinois at Urbana-Champaign

52B. Scalable and Flat Controls for Reliable Power Grid Operation with High Renewable Penetration (Northeastern U)

Technical Area: Advanced Electric Infrastructure

Estimated Duration: 7/1/10-6/30/13

Principal Investigators: Hanoch Lev-Ari and Ali Abur, Northeastern University

52C. Scalable and Flat Controls for Reliable Power Grid Operation with High Renewable Penetration (RPI)

Technical Area: Advanced Electric Infrastructure

Estimated Duration: 8/4/10-8/3/13

Principal Investigators: Joe Chow, Jian Sun, and Daniel Shawhan, Rensselaer Polytechnic Institute

53. Combustion Testing and Analysis of an Extreme-States Approach to Low-Irreversibility Engines

Technical Area: Advanced Combustion Science and Engineering

Estimated Duration: 9/1/09-8/31/11

Principal Investigators: Christopher F. Edwards

54. Developing Solid-State Electrocatalysts Based on Design Principles From Nature: The Oxidation of Water and the Reduction of CO₂ to Fuels

Technical Area: Advanced Materials and Catalysts

Estimated Duration: 1/1/10-12/31/12

Principal Investigators: Thomas Jaramillo, Jens Norskov

55. Linking Chemical and Physical Effects of CO₂ Injection to Geophysical Parameters

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: 1/1/10-12/31/12

Principal Investigators: Gary Mavko

55A. Linking Chemical and Physical Effects of CO₂ Injection to Geophysical Parameters

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: TBD-12/31/12

Principal Investigators: Arvidson Luttge, Rice University

56. Multiphase Flow of CO₂ and Brine in Rocks

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: 9/1/11-8/31/13

Principal Investigator: Sally M. Benson

57. Rational Organic Semiconductor Material Design: A Pathway Towards Breakthrough Performance in Solar Cells

Technical Area: Renewables

Estimated Duration: 3/1/10-2/28/13

Principal Investigator: Zhenan Bao

57A. Rational Organic Semiconductor Material Design: A Pathway Towards Breakthrough Performance in Solar Cells

Technical Area: Renewables

Estimated Duration: TBD-2/28/13

Principal Investigator: Alan Aspuru-Guzik, Harvard University

58. Reactivity of CO₂ in the Subsurface

Technical Area: CO₂ Separation, Capture and Storage

Estimated Duration: 9/1/10-8/31/13

Principal Investigator: Katharine Maher, Dennis Bird, Gordon Brown

59. Advanced Electron Transport Materials for Application in Organic Photovoltaics (OPV)

Technical Area: Renewables

Estimated Duration: 9/1/10-8/31/13

Principal Investigator: Michael McGehee, Alan Sellinger

60. Synthesis of Biofuels on Bioelectrodes

Technical Area: Renewables

Estimated Duration: 9/1/10-8/31/13

Principal Investigator: Alfred Spormann

EXHIBIT B

PROJECT CHARGES

Effective September 1, 2010

INTRODUCTION

The Direct Charges and Indirect Charges (collectively, "Project Charges") defined in this Exhibit B represent an agreed application to the Project of the University's general system for billing for research. The Project Charges are the vehicles for compensating the University for its agreed costs and expenditures under this Agreement. The Project Charges will be interpreted and applied so that no cost or expenditure is covered more than once. Only charges expressly set forth in Part I (Direct Charges) or Part II (Indirect Charges) will be charged to the Project Account and thus to the Sponsors. If during the life of the Project the University materially changes its general system for billing non-University entities for research, for example, if the University changes its basic financial and accounting arrangement with the United States Office of Naval Research, the University and the Sponsors will endeavor to renegotiate the financial and accounting provisions of this Agreement to take such changes into account on an equitable basis.

PART I: DIRECT CHARGES

Direct Charges to the Project Account will consist exclusively of the following out-of-pocket costs and expenditures actually paid by the University explicitly for the Project:

A. Selected Activities of University Employees and University Students

Actual, net, out-of-pocket expenditures for salaries, wages, and related costs of University employees and University students performing the activities listed in A.1 below, to the extent and only to the extent such salaries, wages, and related costs are properly allocated to the activities listed in A.1., and subject to paragraph 5.06. Related costs are the costs to the University of such employees'

and students' earned vacations; holidays and sick leave; tuition remission; living and housing allowances; other customary allowances; and fringe benefits.

A.1 Subject to paragraph 5.06, the exclusive list of activities for which salaries, wages, and related costs may be charged to the Project Account is:

1. The activities of the Project Director, Managing Director, Administrative Manager, and Communications Manager, while they are working on the Project and only on the Project;
2. The activities of the Project support staff referred to in paragraph 2.03, while they are working on the Project and only on the Project;
3. The activities of other University employees and University students while they are performing research for the Project and only for the Project;
4. The activities of University employees and University students while they are performing non-routine administrative tasks for authorized portfolio development and maintenance described in Exhibit A, Part I, or for authorized research programs described in Exhibit A Part II, and only for those activities and programs.
5. The activities of University employees and University students while they are conducting seminars, workshops, and other outreach activities pursuant to paragraph 4.06 for the Project and only for the Project;
6. The activities of University employees and University students while they are filing, obtaining, and maintaining Project Patent Rights pursuant to paragraph 6.02;
7. The activities of University employees and University students while they are preparing articles or the equivalent on Project Technology for publication in peer-reviewed professional journals and other

appropriate publications pursuant to paragraph 7.05, or using Project Technology to educate or train the University community, but only to the extent specifically approved in writing by the Management Committee pursuant to paragraph 7.05.

The salaries, wages, and related costs of other employees and students who may contribute to the Project (for example, by providing audit, accounting, procurement, media relations, or other support) will be covered by the Indirect Charges described in Part II of this Exhibit B.

- A.2 The University will charge the salaries, wages, and related costs described in A.1 to the Project Account on an actual basis in accordance with the University's usual practices.
- A.3 Fringe benefits will include retirement, insurance, tuition grant and other miscellaneous fringe benefit costs such as, but not limited to, sabbatical programs, staff development, and benefits counseling for the University's regular employees, contingent employees, post-doctoral affiliates, and graduate students with research assistantships, teaching assistantships, or fellowships. Annually, the University will determine a fringe benefit rate for each of those four categories of employees and will apply those rates to the direct salaries and wages, including earned vacations, holidays, and sick leave, properly charged to the Project. Regular employees are those faculty and staff who are eligible for the University's retirement and health and welfare benefits programs. Contingent employees are those whose appointments are so brief that they are ineligible for the University's retirement and health and welfare benefits programs. Post-doctoral affiliates are nonmatriculating students employed by the University to perform services related primarily to the University's research projects. Graduate students are matriculated students who are pursuing post-bachelor's degrees. Undergraduate students are not entitled to fringe

benefits. Some University students who perform Project work may not be University employees.

A.4 To the extent the employees and students identified in A.1.1 - A.1.7 are engaged in other activities in addition to Project activities, the University will allocate the costs of such employees and students on an equitable basis. Such allocations will be subject to audit under Article 5.

B. Employee Travel

Actual, net, out-of-pocket expenditures for employee and student travel for the Project, to the extent such travel is specifically identifiable to Project activities and such expenditures are reimbursed to the employees and students under the University's usual practices.

C. Off-Campus Facilities

Actual, net, out-of-pocket expenditures for leasing and maintaining non-University space explicitly for Project activities, provided that the University will not charge to the Project any expenditures for leasing and maintaining non-University space without the prior approval of the Management Committee. If such facilities serve activities in addition to Project activities, the University will allocate the expenditures on an equitable basis, subject to audit. Compensation for use of University space for Project activities is covered by the Indirect Charges described in Part II of this Exhibit B; there will be no Direct Charges for use of University space.

D. Renovation of University Facilities

Actual, net, out-of-pocket expenditures for renovating University facilities explicitly for Project activities, provided that the University will not charge more than \$50,000 to the Project Account for any construction or remodeling of office space, laboratories, or research facilities without prior unanimous, written approval of the Management Committee. If such renovated facilities serve

activities in addition to Project activities, the University will allocate the expenditures on an equitable basis, subject to audit.

E. Materials, Supplies, and Equipment

Actual, net, out-of-pocket costs and expenditures, net of discounts received by the University, for materials, supplies, and equipment purchased or furnished by the University for the Project. Such expenditures will include the expenditures for materials, supplies, and equipment, plus related export brokers' fees, transportation charges, loading and unloading fees, export and import duties, taxes, and license fees, and in-transit losses, if any, not covered by insurance. So far as is reasonably practical and consistent with efficient and economical operation, the University will purchase and charge to the Project Account materials, supplies, and equipment only when they are required for use on the Project.

- E.1 The University may furnish materials, supplies, and equipment from its stock, provided they are charged to the Project Account at acquisition cost or average inventory cost, as appropriate to cost records maintained by the charging facility.
- E.2 Each capital or expense item in excess of \$50,000 net unit cost for materials, supplies, and equipment must be approved by the Management Committee before it may be charged to the Project Account.
- E.3 If the University purchases any equipment for the Project, it will own such equipment and be entitled to keep it after the Project terminates.

F. Contract Services

Actual, net, out-of-pocket expenditures for services provided by third parties which have contracted with the University to perform services with respect to the Project. Those expenditures include, but are not limited to, direct, out-of-pocket monies paid by the University to Project Subcontractors; to antitrust counsel,

counsel assisting with filing, obtaining, and maintaining Project Patent Rights pursuant to Article 6, counsel advising on the NCRPA pursuant to Article 13, and other counsel providing legal advice with respect to the Project for the joint benefit of the University and the Sponsors; and to members of the Advisory Committee, peer review committees, and any other formal committees for their authorized expenses and fees.

G. Peer-Reviewed Publication Costs

Actual, net, out-of-pocket expenditures that the University incurs in publishing Project Technology in peer-reviewed professional journals and other appropriate publications, as described in paragraph 7.05.

H. Other Expenditures

Any other actual, net, out-of-pocket expenditures by the University that are explicitly approved unanimously and in writing by the Management Committee as Direct Charges. The purpose of this Part 1.H is to provide a vehicle for covering unforeseen Project expenditures that should be repaid to the University as Direct Charges at the discretion of the Management Committee.

PART II: INDIRECT CHARGES

A. Purpose of Indirect Charges

Indirect Charges under this Part II are for all costs and expenditures incurred by the University for the Project that are not explicitly covered by Part I of this Exhibit B, including without limitation pro rata costs of and expenditures for general assistance and support services provided by the University that are not specifically identified with the Project or any other specific research activities. No cost or expenditure included as a Direct Charge under Part I will be included or duplicated under this Part II. Indirect Charges under this Part II are based on the application of specified rates to selected Direct Costs, all as described in Part II.B. Indirect Charges are not subject to audit under this Agreement, other than

to verify that the correct rates have been applied correctly to the correct Direct Charges. Indirect costs covered by Indirect Charges fall in one of the following categories:

- Depreciation: depreciation of the University's buildings, land improvements, and equipment.
- Operation & Maintenance: the University's costs incurred for the administration, supervision, operation, maintenance, preservation, and protection of the University's physical plant. This category includes the costs of utilities, repair and maintenance, insurance, public safety, and environmental health and safety.
- General & Administrative: the University's costs incurred for the general executive and administrative offices of the University, and similar expenses of a general nature. This category includes costs of Faculty & Staff Services, Controller's Office, President's Office, and Provost's Office.
- Sponsored Projects Administration: the University's costs incurred by separate University organizations primarily to administer Sponsored Projects, including this Project. This category includes costs incurred by the University's Office of Research Administration.
- Departmental Administration: the University's costs incurred for administrative and support services that benefit common or joint departmental activities or objectives in the University's deans' offices, academic departments and divisions, organized research institutes, study center, and research centers.
- Student Administration and Services: the University's costs incurred for the administration of student affairs and for services to students, including expenses of the Dean of Students, Admissions, the Registrar, Counseling and Placement Services, Student Advisors, and Student Health Services.

- Library: the University's costs incurred for the operation of the University's library system, including the cost of books and materials.

B. Calculation of Indirect Charges

The University will calculate Indirect Charges for a given Fiscal Year by applying the Facilities and Administrative Rates ("F&A Rates", also known as "Indirect Cost Rates") for that year to certified Modified Total Direct Costs ("MTDC") in that year as follows:

$$\text{Indirect Charges} = \text{Indirect Cost Rates} \times \text{MTDC}$$

where

Indirect Cost Rates are **either** (a) the applicable rates for the Fiscal Year in question established by negotiations between the University and the United States Office of Naval Research (ONR), **or** (b) any applicable lower rates for that Fiscal Year that have been approved for one or more for-profit entities not affiliated with the University by the University's Vice Provost and Dean of Research and Graduate Policy (or equivalent or higher level of authority within the University) for any research project other than clinical trials, provided that the budgeted Direct Charges for such other research project in that Fiscal Year exceed \$1 million, **whichever rate is lower**

and

Modified Total Direct Costs (MTDC) consist of all Direct Charges properly charged to the Project Account pursuant to Part I above, except (a) any and all charges for contract services under Part I.F in excess of \$25,000 for each individual contract or subcontract or legal matter referred to in Part I.F (from its inception, in whatever Fiscal Year), and (b) any and all charges for capital equipment, capital expenditures, patient care, tuition remission, rental costs, scholarships, and fellowships referred to in other sections of Part I of this Exhibit B.

The University will communicate to the Management Committee quarterly and in writing any lower rates approved by the University for for-profit entities not affiliated with the University for any research project other than clinical trials with budgeted Direct Charges in that Fiscal Year in excess of \$1 million.

C. Indirect Cost Rates

Subject to Part II.B of this Exhibit B, the following Indirect Cost Rates apply to applicable Direct Charges under Part I of this Exhibit B:

Fiscal Year 2002-3	58.0% (on campus)	30.0% (off campus)
Fiscal Year 2003-4	60.0% (on campus)	30.0% (off campus)
Fiscal Year 2004-5	57.0% (on campus)	28.0% (off campus)
Fiscal Year 2005-6	56.0% (on campus)	28.0% (off campus)
Fiscal Year 2006-7	56.5% (on campus)	30.0% (off campus)
Fiscal Year 2007-8	58.0% (on campus)	30.0% (off campus)
Fiscal Year 2008-9	60.0% (on campus)	30.0% (off campus)
Fiscal Year 2009-10	60.0% (on campus)	30.0% (off campus)
Fiscal Year 2010-11	58.0% (on campus)	30.0% (off campus)

The Project will be considered a Sponsored Project, and the Project research will be considered Organized Research for the purposes of applying the University's Indirect Cost Rates.

For Fiscal Years after those covered by the above chart, the Indirect Cost Rates listed in this Part II.C will be automatically adjusted to the corresponding Indirect Cost Rates that the University adopts for those Fiscal Years, and the University will annually update the above chart and send it to the Sponsors as an addendum or revision to this Exhibit B. See paragraph 5.01.

D. Insurance

Since the Indirect Charges cover the costs of insurance, the University will be responsible for all damages and losses to buildings, materials, supplies, and

equipment associated with the Project, except any uninsured in-transit losses covered by Part I.E. The University may cause each Project Subcontractor to be contractually responsible for all damages and losses to buildings, materials, supplies, and equipment owned by that Project Subcontractor and used for Project activities.

E. Timing

The University will charge the Project Account quarterly for Indirect Charges. Those Indirect Charges will be based only on Project costs and Expenditures actually paid by the University during the preceding quarter.

EXHIBIT C

COST SHARES OF SPONSORS

In Effect September 1, 2010

	FY 10-11
<u>Sponsor</u>	<u>Cost Share</u>
ExxonMobil	57.14%
GE	28.57%
STC	14.29%
	100.00%

As of September 1, 2010, TMC has attained the status of a withdrawing Sponsor as defined in paragraph 11.01 of the Project Agreement. The version of Exhibit C used to determine TMC's continuing share of Project Charges for Project Patent Rights pursuant to the third-to-last sentence of paragraph 11.02 is the version effective September 1, 2008 in which TMC's share is 22.22%.

EXHIBIT D

BILLING DETAILS

In Effect September 1,2010

Expenditure statements supporting invoices will contain, at a minimum, the following information, and such other information as the Sponsors reasonably request:

1. Summaries of Project Charges and credits to the Project Account, including advances made on Advance Cash Calls, on a current-quarter, fiscal-year-to-date, and inception-to-date basis (such Project Charges and credits to be grouped by the categories designated in the applicable approved budget in order to facilitate comparison of actual expenditures against the budget, and with such credits to show all funds received from third parties pursuant to paragraph 5.03). On or before December 1 of each year, the University will provide the Sponsors with a written summary of costs and expenditures for each subaccount during the last Fiscal Year and also cumulative costs and expenditures for each subaccount through the end of the last Fiscal Year. Additionally, at the reasonable request of the Management Committee (excluding the representative of any withdrawing Sponsor as defined in paragraph 11.01) from time to time during each Fiscal Year, the University will update those summaries of costs and expenditures.
2. Each Sponsor's share of the net cost of the Project and participation fees paid, on a current-quarter, fiscal-year-to-date, and inception-to-date basis,
3. Each Sponsor's current account balance,
4. Details of unusual Project Charges and credits to the Project Account,
5. A detailed description of the allocation procedures that the University followed to allocate activities, costs, or expenditures between the Project and other activities,

6. The basis of any estimates by the University of future foreign currency expenditures expressed in U.S. Dollars, with such estimates to be based on the exchange rates prevailing at the time of the estimates.
7. Quarterly estimates of anticipated total Project Charges and credits to the Project Account for each of the next six quarters.