

Sustainability, Catholic Institutions of Higher Learning, and The Natural Step¹

Steven A. Kolmes, Ph.D.
Russell A. Butkus, Ph.D.

Abstract

Sustainability at Catholic colleges and universities involves elements of physical plant operations, food services, curricular design, and a host of other concerns. The imperative for Catholic higher education to engage with issues of sustainability is both practical and ethical, and is well supported by Catholic Social Teaching. The article addresses the tools provided by a variety of organizations, focusing on The Natural Step, which is based on four simple system conditions that incorporate an ethical dimension as central to sustainability. A discussion of Catholic Social Teaching and sustainability, as well as case study material and evidence about the present condition of sustainability in Catholic higher education are included.

Steven A. Kolmes is Chair of Environmental Science, University of Portland, Portland, OR; Russell A. Butkus is Associate Professor of Theology and Environmental Science, University of Portland, Portland, OR.

¹ Participants in the Natural Step workshop at the University of Portland contributing to discussions, presentations, and writing System Condition Four based on Catholic Social Teaching and the environment included in this paper were: Matthew Baasten, University of Portland, Theology; George Basile, The Natural Step; Rev. E. William Beauchamp, C.S.C., University of Portland, President; Maureen Beezhold, Northwest Earth Institute; Russell Butkus, University of Portland, Theology and Environmental Science; David Carrier, Archdiocese of Portland, Office of Justice and Peace; Joseph Carver, S.J., Oregon Province Society of Jesus; John and Jane Emrick, Norm Thompson Company; Eban Goodstein, Focus the Nation; Christopher Hamlin, University of Notre Dame, History; Regina Hauser, Oregon Natural Step Network; Gregory Hill, University of Portland, Mathematics and Environmental Science; Timothy Kautza, National Catholic Rural Life Conference; Chad King, Ohio Dominican University, Environmental Science; Steven Kolmes, University of Portland, Molter Chair in Science; James Male, University of Portland, Sweo Chair in Engineering; Daniel Misleh, Catholic Coalition on Climate Change; Patricia Nagle, Earth Home Ministries; David Olszyk, University of Portland, Environmental Science; Kenneth Otto, St. Phillip Neri; William Purcell, University of Notre Dame, Center for Social Concern; Bishop Walter Sullivan, Bishop Emeritus of Richmond; Daniel Sundseth, U.S. Department of Agriculture; Cristina Vanin, St. Jerome's University at the University of Waterloo, Theology; Archbishop John Vlazny, Archbishop of Portland; Margaret Young, University of Portland, student in Theology and Environmental Science.

A clearly articulated, practical, and applicable ethic of sustainability is needed by all Catholic institutions (including colleges and universities) because of the deterioration of our environment. This physical process has become an unmistakable ethical responsibility. The United States Catholic Conference made this point in their 1991 pastoral statement, *Renewing the Earth: an Invitation to Reflection and Action on Environment in Light of Catholic Social Teaching*:

What is now needed is the will to make the changes in public policy, as well as in life-style, that will be needed to arrest, reverse, and prevent environmental decay and to pursue the goal of sustainable, equitable development for all. The overarching moral issue is to achieve during the twenty-first century a just and sustainable world.²

However, societal and institutional change has come slowly. Fifteen years later, the *Regional Sustainable Development Action Plan of the Oregon Province of the Society of Jesus* observed:

Rachel Carson's 1962 bestseller, *Silent Spring*, detailed the harmful effects of pesticides and launched the West's modern-day environmental movement. Her theories were violently attacked by both corporations and government agencies at the time. The truth of her research has been vindicated by history, revealing her prescience. Today almost 45 years later, serious environmental degradation on land and sea threatens all life systems. The current challenges are so significant that our Province apostolic effort must be re-envisioned.³

Sustainability on Catholic campuses is both a practical and a moral imperative; we need to educate ourselves and those who observe us about the interactions of ethics, consumption, production, and the environment.

This article is the outcome of a workshop⁴ held at the University of Portland. Representatives from Catholic universities, environmental NGOs, religious communities, dioceses, national Catholic organizations, and others examined the relationship between Catholic Social Teaching (CST) and The Natural Step Network. The Natural Step is a

² US Conference of Catholic Bishops, *Renewing the Earth: An Invitation to Reflection and Action on Environment in Light of Catholic Social Teaching* (Washington, D.C.: USCCB, 1991), Part V. God's Stewards and Co-Creators.

³ Society of Jesus, Oregon Province, *Regional Sustainable Development, a Plan of Action* (Portland, OR: Society of Jesus, Oregon Province, 2006). Available at <http://www.nwjesuits.org/WhoWeAre/Colombia/PDF%20Files/RSD%20Plain%20Text.pdf>.

⁴ See footnote no. 1 for participants at this event.

process developed to help businesses and communities move toward sustainability.

“Sustainability” is a term that appears frequently in many conversations today: sustainable ecosystems, sustainable development, sustainable business practices, sustainable societies, etc. From a scientific perspective, sustainability exists in an ecosystem with stable energy flows and nutrient cycles, stable species diversity measures and plant and animal population levels, and sufficient areas and connectivity of natural habitat to allow life cycles to be completed normally. Additionally, toxic materials must not be accumulating in the air, water, or soil.⁵

In this article, sustainability on campuses refers to steps (such as reducing carbon emissions and also the use of energy, water, and paper; improving building design; recycling, augmenting food service operations, composting, lawn care regimes, and a host of other campus activities) that can be taken by colleges and universities to promote and support sustainable ecosystems. From the perspective of higher education, sustainability efforts have led to the formation of two major organizations:

1. The Campus Ecology[®] program of the National Wildlife Federation⁶ which promotes activities as diverse as its *Chill Out: Campus Solutions to Global Warming* contest, a *National Teach-In on Global Warming Solutions*, competitive fellowships to provide student leaders with resources, a series of *Greener Campus* web conferences,⁷ and annual campus sustainability report cards that evaluate the progress different institutions have made.
2. The Association for the Advancement of Sustainability in Higher Education (AASHE),⁸ which is developing a Sustainability Tracking, Assessment, & Rating System (STARS). STARS provides a comprehensive scoring system for institutions to use in sustainability assessments. This system has the advantage of examining many aspects of institutional operations; it also has the disadvantage of comprising a document of more than one hundred pages that will require a licensing fee to utilize. In addition to STARS, AASHE also sponsors conferences, discussion lists, and workshops.

⁵ Russell Butkus and Steven Kolmes, “Ecology and the Common Good, Sustainability and Catholic Social Teaching,” *Journal of Catholic Social Thought* 4, no. 2 (2007): 403-436.

⁶ <http://www.nwf.org/campusecology/>.

⁷ These are available in podcast and PowerPoint format at <http://www.nwf.org/campusecology/resources/teleconferences.cfm>.

⁸ <http://www.aashe.org/>.

Whether campuses choose to join organizations dedicated to campus sustainability or not, word of their performance in this area is increasingly publicized. The best known of such performance reports comes from the Sustainable Endowment Institute, which issues an annual *College Sustainability Report Card*.⁹

Catholic colleges and universities are not among the vanguard of institutions rated highly for their sustainability efforts. In the 2009 *College Sustainability Report Card* (which scores a selection of 300 “leading schools”) no Catholic institution scored in the “A” range, which included a mixture of private and public institutions whose resources range from remarkable to sufficient. Catholic institutions achieving better than a “C” rating were Seattle University (B+), Villanova University (B), Santa Clara University (B), Boston College (B-), Georgetown University (B-), and University of Notre Dame (B-). A number of other major Catholic institutions scored in the “C” range to “D-”. Perhaps smaller Catholic colleges and universities should be thankful for more time to implement sustainability programs before being included in an expanding report card.^{9a}

Sustainability has strong connections to curricular design. Experiments seeking the best integration of sustainability into higher education are ongoing around the country and the world.¹⁰ While no consensus has emerged (and perhaps none will), solutions ranging from free-standing courses on sustainability, embedding sustainability as an attribute of various courses, and student sustainability-oriented service activities are all presently employed. The reconceptualization of campus construction is increasingly common. Buildings become both structures and instructional features, as Leadership in Energy and Environmental Design (LEED) rated academic buildings proliferate on campuses. The Society for College and University Planning has become especially active in providing such resources¹¹ and their Campus Sustainability Day has been an annual event around the US since 2003. Catholic colleges and universities are presented with the challenge and

⁹ <http://www.greenreportcard.org/>.

^{9a} University of Portland has not been included in these rankings.

¹⁰ John Blewitt and Cedric Cullingford, eds., *The Sustainability Curriculum: The Challenge for Higher Education* (London: Earthscan, 2004); Peggy F. Barlett and Geoffrey W. Chase, eds., *Sustainability on Campus: Stories and Strategies for Change* (Cambridge: MIT Press, 2004); Peter Blaze Corcoran and Arjen E.J. Wals, eds., *Higher Education and the Challenge of Sustainability: Problematics, Promise, and Practice* (New York: Springer, 2004); Ann Rappaport and Sarah Hammond Creighton, *Degrees That Matter: Climate Change and the University* (Cambridge: MIT Press, 2007).

¹¹ http://www.scup.org/resources/topic_issue/sustainability.html.

opportunity of integrating sustainability into curricula already enriched with a distinctive ethical perspective.

From the perspective of Catholic Social Teaching (CST), also known as the modern Catholic human rights tradition, the most appropriate characteristics for developing an interpretation of sustainability are the principles of the common good and social justice. While a detailed historical analysis of the common good and social justice in CST is beyond the scope of this article, it is necessary to highlight critical junctures in the evolution of these key principles.¹² Before doing so, two observations are in order. Sustainability, an applied ethic, is a function of ecology in general and human ecology in particular. It is concerned with reconfiguring human institutions, the way in which human institutions interrelate with each other, and the biophysical world. Furthermore, from the perspective of CST, sustainability must be understood and applied as a norm that includes human and natural systems. The ideal is to achieve a genuine balance of interaction that allows human societies and natural systems to flourish, and not at the expense of each other.

A review of the tradition of CST from *Rerum novarum* (1891) to the most recent documents on the environment such as the U.S. Catholic Bishops statement, *Global Climate Change, A Plea for Dialogue, Prudence, and the Common Good* (2001), indicates that the norm of the common good is an evolving and flexible principle useful to multiple spheres of human activity. In *Rerum novarum*, the beginning of CST, the common good was applied to the individual nation state, linking it to human dignity and human rights. Pope Leo XIII defined the common good as that social economic condition in which the rights of all citizens were protected. Forty years later, in the midst of the Great Depression, Pope Pius XI issued *Quadragesimo anno* (1931). This encyclical did not alter Leo XIII's essential meaning of the common good, but it did introduce the novel idea of social justice, in a compelling statement, that the common good could not be achieved unless socioeconomic institutions were restructured. This was a quantum leap for CST. In light of the current national and global economic meltdown, this argument still seems valid.

The next major development regarding the common good occurred during the papacy of John XXIII, most notably with the encyclicals *Mater et magistra* (1960) and *Pacem in terris* (1963). Here we observe the globalization of the common good into the universal common good and

¹² For an in depth analysis of ecology, sustainability, the common good, and CST see Butkus and Kolmes, 2007.

the most comprehensive articulation of human rights in CST. The universal common good was now expanded to include all of humanity.

The meaning of the common good as a universal principle that applied to all human beings remained fairly constant until about twenty years ago. Then it began to be interpreted in response to the environmental crisis. Pope John Paul II introduced the ecological question particularly in the encyclicals *Sollicitudo rei socialis* (1987) and *Centesimus annus* (1991).

Since then, there has been rapid development and enlargement of the meaning of the common good through the hermeneutical lens of ecology. An excellent example is the notion of the “planetary common good” used in *Renewing the Earth*¹³ and the recognition in *Global Climate Change*¹⁴ which recognizes that the world’s climate system is intrinsic to the “planetary commons” and thereby a component of the universal common good. Moreover, *Global Climate Change* also linked the norm of the common good to the ethical responsibility of ensuring the wellbeing of future generations.

These recent developments in CST reflect the ecological insight that the human common good is inherently interrelated with the common good of the natural world, known in theology as creation. This idea is well stated by the Pontifical Council for Justice and Peace when they wrote, “The common good of society is not an end in itself; it has value only in reference to attaining the ultimate end of the person and the universal common good of the whole creation.”¹⁵

In their creative, international pastoral letter, *The Columbia River Watershed, Caring for Creation and the Common Good* (2001), the Catholic Bishops of the Pacific Northwest for the first time in CST linked the common good with an ecological region, the Columbia River Basin. In the final section of the pastoral letter, “Considerations for Community Caretaking,” the Bishops urge people to “Conserve the Watershed as a Common Good” and explicitly linked that with the requirements of

¹³ See the Pastoral Statement of the United States Catholic Conference (1991), *An Invitation to Reflection and Action on Environment in Light of Catholic Social Teaching*, <http://www.usccb.org/sdwp/ejp/bishopsstatement.shtml>.

¹⁴ See: *Global Climate Change: A Plea for Dialogue, Prudence, and the Common Good*, a statement of the United States Conference of Catholic Bishops (2001), <http://www.usccb.org/sdwp/international/globalclimate.shtml>.

¹⁵ Pontifical Council for Justice and Peace, *Compendium of the Social Doctrine of the Church* (Washington, D.C.; USCCB Publishing, 2004.), no. 170.

sustainability.¹⁶ The unique application of the common good in this document to a regional watershed opened new possibilities in the use of the common good as an operative norm.

More recently, Pope Benedict XVI's January 2007 World Day of Peace message, "The Human Person, The Heart of Peace," offered another way of understanding sustainability. In the message, Benedict XVI coined the phrase, the "ecology of peace" and says that if humanity "truly desires peace" then "it must be increasingly conscious of the links between natural ecology, or respect for nature, and human ecology."¹⁷ Making a distinction between the ecology of nature and human ecology, the pope declared that what is required is a social ecology. Given the overall emphasis of Benedict XVI's statement, especially his reflection on the "serious problem of energy supplies," it is reasonable to equate his notion of social ecology with sustainability. Achieving sustainability in the global forum will contribute to the "ecology of peace."

What does the evolution of the common good and social justice mean for sustainability, CST, and the University campus? Concisely stated, it means that in CST, sustainability should be understood as the work of social and environmental justice. It is through the work of social and environmental justice that the planetary common good is produced, promoted, and sustained. Sustainability is where the requirements of social and environmental justice overlap.

There are two equally important priorities to this project. First, there is the human good that CST has traditionally referred to as "the social question." In this regard, human communities, especially those most vulnerable, must be sustained and the rights of all protected. A prime example in the U.S. today is extending health care to an estimated 44 million people currently without it, whose right to bodily integrity is systematically violated. This may require the restructuring of health care and its current delivery system, an example of the work of social justice. Second, there is the ecological good, the ecological dimension of the common good wherein the integrity of the natural world is promoted and restored: the work of environmental justice. A reorganization of human institutions would help reduce the human "ecological footprint" and to produce a more just and sustainable society.

¹⁶ Roman Catholic Bishops of the Northwest, *The Columbia River Watershed: Caring for Creation and the Common Good*, An International Pastoral Letter by the Catholic Bishops of the Region (Seattle: Columbia River Pastoral Letter Project, 2001).

¹⁷ Benedict XVI, "The Human Person, The Heart of Peace," World Day of Peace Message (Vatican City, January 1, 2007).

The implementation of “the ecology of peace” as the work of sustainability requires restructuring of human social and economic patterns. Catholic institutions of higher learning have the moral responsibility of promoting the common good through their own institutional structures. The university campus—students, staff, faculty, administration, the academic curriculum, and the entire physical plant—should be considered a common good. The Catholic university and college should strive to become sustainable from an ecological and social perspective. This work would include the application of this ethic, monitoring energy consumption, reducing waste, and avoiding and eventually eliminating contributions to environmental toxicity.

The Natural Step Process is a model for achieving sustainability in institutions. It includes three system conditions based on the science of sustainability, important for a conversation involving Catholic institutions. A fourth system condition is specifically based on an articulation of social justice.

Institutions of Catholic higher education, and others as well, can continue to carry out their historical missions in a rapidly changing world through the practice of sustainability. Re-envisioning the connection between institutional mission and the creation of the future is not something Catholic institutions should leave to government or industry; it is a process that requires the engagement of society as a whole.

The issue of sustainability must become more central to the teaching and practice of Catholic institutions of higher education. One way to do this is through multidisciplinary coursework. The University of Portland teaches sustainability in Environmental Studies, in the Business School as sustainable entrepreneurship, and in the Department of Theology as theology from an ecological perspective. There is faculty support for widespread student involvement in the Focus the Nation project¹⁸ to produce a broad nonpartisan debate on national policy related to global climate change. Student involvement demonstrates how important this is to their future. Another way is through improving campus usage practices. At the University of Portland there is an active College Ecology Club, involvement of the undergraduate engineering club in sustainability activities, student run Earth Day events and their environmental film series, sustainability columns in the student newspaper,

¹⁸ See: <http://www.focusthenation.org/> which in January of 2008 brought over 3,200 people to our campus, along with students from 15 colleges and universities, the Governor, and state and federal legislators, for a major regional event focused on climate change. Also see: <http://www.presidentsclimatecommitment.org/about/commitment>.

and a student-led organic garden on campus. Student activity funds are used to support environmental lectures and discussions. Students are asking the faculty to provide leadership, partnership, and education, and Catholic institutions must not ignore this call.

In addition, the President of the University of Portland has established a new Presidential Advisory Committee on sustainability. The committee has launched several campus usage practices such as: a biodiesel processor has been installed to convert our cafeteria's waste oil into fuel; a commitment has been made to practice environmentally sensitive building construction; and the University participates in the American College & University Presidents' Climate Commitment.^{18a} Such activities and others ought to become widespread in Catholic higher education.

To discern what this challenge fully means to Catholic higher education, a group of twenty-seven scholars and professionals gathered in 2007 for two days of intensive collaborative discussion on System Condition Four of The Natural Step, and how the application of four system conditions might look from the perspective of CST. The conference drew upon a convergence of experiences and resources, the aim of which was to articulate a version of System Condition Four—that there must be fair and efficient use of resources to meet human needs—informed by CST. The goal was to produce a document by the end of the workshop that could be disseminated throughout the institutions of Catholic higher education for discussion, reflection, and implementation.

The Natural Step was selected for the sustainability model because it is based on succinct concepts rather than a catalog of details to input into a software tool. It helps institutions where they are rather than judging their status against some external referent. There are no fees associated with licensing. The Natural Step is an international nonprofit research, education, and advisory organization that helps individuals, communities, and other organizations to take meaningful steps toward sustainability. Its mission is to act as a catalyst to bring about systemic change by making fundamental principles of sustainability easier to understand and effective sustainability initiatives easier to implement. Its framework is used around the world by hundreds of organizations, including Fortune 500 companies, government departments, municipalities, and small- and medium-sized businesses.

The Natural Step system is rooted in scientific principles but includes social justice issues (System Condition Four) as a central concern,

^{18a} See: <http://www.presidentsclimatecommitment.org/about/commitment>.

resonant with CST and the mission statements of institutions of Catholic higher learning. The methodology provides a practical set of criteria that can be used to direct social, environmental, and economic actions.

The Natural Step's definition of sustainability includes four system conditions, or basic sustainability principles, that need to be met in order to have a sustainable society. Applying these sustainability principles to decision making allows people to get "upstream" of today's sustainability challenges and be both strategic and proactive.

The Natural Step System Conditions for a sustainable society state that nature is not subject to systematically increasing:

1. concentrations of substances extracted from the earth's crust;
2. concentrations of substances produced by society; and
3. degradation by physical means; and that
4. people are not subject to conditions that systematically undermine their capacity to meet their needs.¹⁹

The first three principles focus on human interaction with the environment. They are based upon an understanding that all life is fundamentally supported by natural processes, such as the capturing of solar energy by photosynthetic organisms and the natural cycling of air and water. These processes are essential to maintaining human life. However, human activity is altering the ecosystems that provide these and other life-supporting services, as well as the natural resources that we need to survive.

The fourth system condition acknowledges that fundamentally, sustainability is about maintaining human life on the planet. It emphasizes the necessity of fair and just conditions for the fulfillment of human need. We propose below a rearticulation of this fourth sustainability principle, interpreted through CST, and applicable to Catholic institutions.

The results of the collaborative workshop on The Natural Step and particularly System Condition Four are presented below, followed by practical applications for implementation.

¹⁹The Fourth System Condition has been articulated and expanded frequently by people working to implement sustainability in different contexts, for examples see: Karl-Henrik Robert, John Holmberg, and Karl-Erik Eriksson, *Socio-ecological Principles for a Sustainable Society: Scientific Background and Swedish Experience* (Costa Rica: International Society for Ecological Economics (ISEE), 1994); Paul Hawken, "Taking the Natural Step," *In Context* 41, no. 36 (1995); Susan Garrett, "The System Conditions for Sustainability and their Implications for Green Building," *Southface Journal*, (Summer 2006); Larry Chalfan, *ISO 14001 and The Natural Step at Oki Semiconductor Manufacturing, Zero Waste Alliance Publications*, (2000), <http://www.zerowaste.org/publications.htm>.

System Condition Four from the Catholic Tradition

In present and future societies that are just and sustainable, all persons—especially the most vulnerable—deserve, and have a right to, the basic social and ecological conditions necessary for life and dignity. This cannot be separated from the care and defense of all of creation.^{19a}

The Christian theological and liturgical traditions affirm that through the incarnation, Jesus Christ not only entered and embraced our humanity, He also entered and embraced all of God's creation. This is why, in CST, "the common good should be conceived as the sustenance and flourishing of life for all beings and for future generations."²⁰ At the heart of CST is the principle of the dignity of the human person which is grounded in the *imago dei*, that human beings are created in the image of God.

Social structures and institutions that undermine peoples' capacity to meet their needs are a form of social sin. However, social sin can be rectified through the activity of social justice. Social justice is the process whereby individuals and groups participate in the elimination of those social constraints that undermine peoples' capacity to meet their needs. The byproduct of social justice is the possibility of social reconciliation, which connects the individual, God, and community through the Holy Spirit.

We stand at a precarious moment in both human and Church history. For millennia humans have exercised dominion over creation, and creation is now in crisis. Inaction with respect to CST is undermining the common good which includes environmental systems. The environment is part of the common good and a collective responsibility. This recognition leads us to account for all the consequences of our actions, especially for the poor. We cannot continue to act in the same manner as we have in the past without further eroding the common good. The Natural Step Fourth System Condition provides one opportunity to connect CST to action.

How?

Sustainability arises from practicing our faith and fully realizing the potential of Catholic institutions to manifest the reign of God and

^{19a} Rearticulation of the Fourth System Condition from the perspective of CST.

²⁰ Canadian Conference of Catholic Bishops, *You love all that exists...all things are Yours, O God, lover of life*, A Pastoral Letter on the Christian Ecological Imperative from the Social Affairs Commission (Ottawa: CCCB, 2003): 7. <http://www.cccb.ca/site/Files/pastoralenvironment.pdf>.

the rich interconnectedness of the commonwealth of creation in the world.

Consequently, the Church is in a position to embody sustainability because our faith calls for:

- Reconciliation and Communion (healing, communal nourishment): we build bridges rather than burn them;
- Peacemaking: we come together rather than create separation, divisions;
- Empowerment: we value all contributions, rather than privileging some;
- Compassion: we respect, listen, learn, share, and build;
- Solidarity: we stand with others to create networks of mutual support;
- Common good: we strive to make good choices that benefit all, instead of pursuing individual self-interest;
- Justice: we strive to meet previously unmet human needs.

Characteristics of our Church that lend themselves to modeling sustainability are:

- Scale: we have global reach but are community-based;
- Consistent moral framework that is compatible with sustainability;
- Diversity of background: racial, ethnic, economic, etc.;
- Diversity of perspective: theologians, scientists, educators, business people, and others;
- Networks of Catholic institutions: ecclesial, educational, professional, health care, charitable, and pastoral organizations.

A list of nonsubstitutable, universal, and nonhierarchical human needs from the discipline of economics has been articulated as: subsistence, protection/security, affection, understanding, participation, leisure, creation, identity/meaning, and freedom.²¹ All these needs have been specifically articulated as goods in CST.

Putting It into Practice

The use of the Four System Conditions became apparent during discussions at the University of Portland with our food service *Bon*

²¹ M. Max-Neff, "Development and Human Needs," in *Real-life Economics: Understanding Wealth Creation*, ed. P. Ekins and M. Max-Neff (London: Routledge, 1992), 197-213.

Appétit. With their efforts we have been moving whenever possible to locally-grown, organic food. This is in accord with System Condition Two (less accumulation of synthetic pesticides and fertilizers in the soil and groundwater), System Condition Three (less reliance on overseas food sources likely to involve tropical deforestation in areas where slash-and-burn agriculture is practiced), and System Condition Four (helps local farmers remain in business, providing them a guaranteed buyer at a fair price). An unintended consequence of this shift was that the menu offered to the students became more seasonal and less typical of an American diet where food travels an average of 1,500 miles to our plates. This calls for education and conversation as pears and Oregon hazelnuts appear on our tables in autumn.

As we begin to make changes in accord with one system condition, improvements in other system conditions frequently occur. An organization can identify “low hanging fruit” relatively quickly and then make simple changes at little or no cost to the institution. An example from the University of Portland was the decision to allow faculty to use some of their travel budget to purchase carbon offsets for their airfare. This practice does not increase the University budget but has environmental benefits. Other examples are using online syllabi instead of printed ones, printing with narrower margins, and double-sided printing. This reduces paper expenses for the University and yields benefits in terms of System Condition Three (fewer trees used for paper production).

Catholic colleges and universities might consider the following opportunities to move their operations toward environmental sustainability in accordance with the Four System Conditions of The Natural Step:

- Find local sources of food for the campus food service: locally sourcing food supports small farms and regional economies, and also reduces greenhouse gas emissions and other pollutants associated with long distance food transportation.²²
- Reduce paper use: using double-sided printing, narrowing print margins to less than the 1.25” standard for Microsoft Word, having extensive recycling bins on campus, and increasing the percentage of postconsumer recycled content in the paper purchased by the institution will reduce the demands of the campus for forest products.
- Design a campus plan for subsidizing mass transit use for students, faculty, and staff: providing bicycle racks and perhaps a space for a

²² For some specifics see <http://www.up.edu/bonappetit/default.aspx?cid=5615&pid=92>.

local car-sharing company on campus can also reduce reliance on individual car use.

- Allow students to begin a small organic garden on campus, growing heirloom varieties of plants, and obtaining organic food for themselves and the cafeterias.
- Encourage a student-led “dorm challenge,” giving a prize to the dormitory whose students save the most electricity compared to the previous year’s use.
- Carry out a greenhouse gas inventory for off-campus travel by air (e.g., sports teams, terms abroad, faculty, etc.): carbon offsets are commercially available for purchase, making airline travel carbon neutral and increasing the cost of air travel by a small percent.²³
- Contact local electric utilities to secure wind power or other carbon neutral options available for all or part of an institution’s electricity use.
- Use LEED (Leadership in Energy and Environmental Design) certification for campus construction to achieve an internationally recognized standard of environmentally sensitive construction and building operation.²⁴
- Plant portions of the campus with native vegetation to reduce the need for watering and use of chemicals in maintenance. These plants will simultaneously serve as a teaching resource for botany classes.
- Design and print a campus sustainability wallet card, modeled on the Monterey Bay Aquarium Seafood Watch Card,²⁵ that directs students, staff, and faculty to environmentally sound actions on campus.
- Purchase a biodiesel generator or encourage engineering students to design their own as part of a senior year design requirement or competition. A biodiesel generator would allow for the conversion of waste grease from the campus food services for use in running campus vehicles and perhaps for fuel in physical plant boilers. Cost-benefit analysis can determine the payback period for the initial investment given the volume of fuel produced, its local price, and the cost of the chemical inputs expended to produce the fuel.
- Use resources available through the Association for the Advancement of Sustainability in Higher Education (AASHE) and the National Wildlife Federation’s Campus Ecology program to learn what many other creative institutions are doing.

²³ Information on carbon offset opportunities can be found at: http://www.tufts.edu/tie/tci/pdf/TCI_Carbon_Offsets_Paper_April-2-07.pdf.

²⁴ For more information see: <http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>.

²⁵ For more information see: http://www.mbayaq.org/cr/cr_seafoodwatch/download.asp.

- Participate in the national President's Climate Commitment, which involves a comprehensive greenhouse gas inventory and a campus-wide action plan.²⁶
- Conduct an analysis of current university curricula for content on sustainability. If necessary, put in place a strategic plan for increasing the treatment of sustainability in coursework. This could be an exciting opportunity for interdisciplinary and multidisciplinary collaboration among interested faculty. At the very least, sustainability ought to be addressed in existing courses on CST.

A commitment to the principle of sustainability is a decision to respect, restore, and care for the community of life. It is a commitment to social and economic development that promotes the values of human rights, care for the natural world, and the common good of the whole earth community, especially the poor and most vulnerable. It involves sustaining the present generation without imposing long-term costs or penalties on future generations. It replaces the use of nonrenewable resources with renewable ones and reduces the consumption of all resources. It entails reuse, recovery, and recycling wherever possible, and also replenishment or restoration of the natural balances affected by our actions. It implies sound life cycle planning and economics—economics that truly reflect the environmental and human costs of our technologies and decisions. Sustainability will succeed only if it expands to include a vision of flourishing communities that hold all creation as sacred.²⁷ As Catholic institutions of higher education, we expect that our students will demand more of us in the future as they envision lives in a changing world full of opportunities and challenges related to the environment. If Catholic higher education is to remain relevant, engaged, and teach to “the signs of the times,” we must come to grips with the complex issues that sustainability raises. The Natural Step System Conditions give us one way to do so that incorporates the elements of human dignity and social justice at the core of a Catholic education.

²⁶ For more information see: <http://www.presidentsclimatecommitment.org/html/commitment.php>.

²⁷ Society of Jesus, Oregon Province, *Regional Sustainable Development, a Plan of Action*, 2006.