



# Ecological Citizenship

## A Senior Year Main Lesson

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**T**he senior year History main lesson at the Rudolf Steiner School is designated as a “Contemporary History” block. It offers an opportunity to teach the final History main lesson as a history of the future, when contemporary times will become a historical past. We are living in historical times, where what we do today would determine the course of a challenging future. It is a future in which Earth’s resources are insufficient for a human population that has grown beyond Earth’s carrying capacity. While the depletion of environmental resources and the deterioration of life-supporting ecosystems due to various forms of human-caused pollution have been projected since the late 1960s, a growing awareness of a transforming climate has entered world consciousness a decade or so later. The multiple scientific studies of the climate conditions that followed all come back with the same conclusion: the global climate is changing and the effects will be devastating for a variety of species, including the human species. “Climate Change” has since become the general caption for overall environmental degradation, a future crisis of existential proportions.

While it doesn’t make much scientific sense at this point to talk about “stopping” climate change, there is much to be done to mitigate and prepare for its impacts that spell nothing less than a different reality. Here, too, there is a catchall phrase, *sustainability*, which, most generally, aims at the long-term viability of Earth as humanity’s life-supporting environment, and a focus on climate change mitigation by reducing the levels of carbon and other greenhouse gasses released into the atmosphere by human production and consumption habits. The time for action is now—a protracted “now” that has begun several decades ago—rendering the current moment historical in its impact on the future.

Bringing this awareness to the senior class does not amount simply to a more detailed delivery of bad news they have been hearing through various filters throughout the years. It serves as the starting point of an arc, where well-informed awareness leads to clarity of purpose and resolve on action.

The awareness of a looming environmental crisis has given rise, starting in the early 1970s, to a new consciousness of humanity’s place and role in the world,

motivating a more intimate relationship with the natural world as well as a greater commitment to social responsibility and a shared purpose. A sense of urgency and necessity has been driving an impulse to restructure our material and social arrangement in this world. There is no better time than the senior year for our students to hear the call for a purposeful, peaceful revolution in which they have a part.

In many ways, even as the environmental crisis that came to a focus with climate change is projected to bring about devastating destruction to land and life, awareness to its approach has also served as an opportunity for humanity to come into its best. The greater the danger, the greater the responsibility, and with great responsibility comes great opportunity to turn from competition to collaboration, from exploiting to nurturing, from mindless consumption to mindfulness about all aspects of living in this world.

This is demonstrated quite beautifully in the internationally collaborated document known as the Earth Charter, sparked by the 1987 report by the UN World Commission on Environment and Development, initiated at the 1992 Earth Summit in Rio de Janeiro, and officially released in 2000 at the Peace Palace in The Hague. The Charter was composed from thousands of individual contributions under a multicultural, international editorship (see [www.earthcharter.org](http://www.earthcharter.org) for the document and its history).

In its Preamble, the Charter states:

We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.

The fourth point of the Charter's Preamble outlines the kind of responsibility required of a global community confronting both danger and opportunity:

To realize these aspirations, we must decide to live with a sense of universal responsibility, identifying ourselves with the whole Earth community as well as our local communities. We are at once citizens of different nations and of one world in which the local and global are linked. Everyone shares responsibility for the present and future well-being of the human family and the larger living world. The spirit of human solidarity and kinship with all life is strengthened when we live with reverence for the mystery of being, gratitude for the gift of life, and humility regarding the human place in nature.

The final line in this declaration of universal responsibility resonates clearly with core impulses of Waldorf education and of the Waldorf educator: kinship with all life, facing life in its various forms with reverence, gratitude, and humility – isn't that what we guide our students to do? Doesn't it qualify how we aim to approach our students and the tasks of teaching?

Recognizing the sacredness of life, of all life, and of that which provides for life is at the core of Waldorf education as much as it is in the Earth Charter's commitment to revitalizing a global society and its home, the planet. In many ways, a senior year seminar on climate change, or on *facing* climate change, offers a unique opportunity to bring together the various strands of Waldorf education and guide students to come into their very best.

The findings and projections of climate change science, reviewed in the course, lead directly to questions of personal and collective responsibility, of the ways ecological problems are intertwined with social ones, and of the deep significance of the outlook provided by the science of Ecology: viewing the world and all its creatures as a web of interrelations, a holistic view that recognizes the connectivity and interdependence of all life forms in relation to each other and to their environments.

The utility of such an ecological outlook goes beyond an understanding of the natural world and offers insightful ways to view the social and the cultural spheres, as well as one's own relations to others, human and non-human alike. Indeed, the ecological paradigm, if

you will, has been making productive inroads in recent decades into the humanities and the social sciences, redirecting many fields of inquiry to view their subject matter through the prism of relationships or in relational terms, where elements define each other through dynamic interdependence and nothing exists in isolation.<sup>1</sup>

Hence "Ecological Citizenship," as a main lesson block, while taking ecological degradation and restoration as its subject matter, also aims at nurturing in the near-graduation students a perspective in which each individual is an interrelated part of several material, social, and cultural ecosystems. The notion of "citizenship" explored in the block is conceptually and structurally ecological, in the sense that it is defined as active membership in a community, from the nearest—one's family, neighborhood, school, city—to the widest: humanity, Earth-dwellers. The questions, 'What does it mean to be a member of a community? What do we receive from and what do we give to the communities we belong to?', are applied in expanding circles, from one's own household to the broadest level of an informed and technologically advanced humanity living in the shadow of a looming ecological crisis.

The academic concept of Ecological Citizenship that informs this course has been developing in the past three decades or so, responding to the globalization of world economies, on the one hand, and the growing awareness of a worldwide environmental crisis, on the other hand, which recognizes a "common future" for global humanity. Indeed, the 1987 report from the UN World Commission on Environment and Development (WCED), entitled "Our Common Future," has remained a central influence in the conceptualization of ecological citizenship. Not only that the very title of this pioneering report holds a fundamental notion—a *common* future dictates common, collaborative, globally connected action in the present—but it also offers the definition of sustainable development that has been informing the thinking on the requisite transformation of human practices. This definition states:

There is no better time than the senior year for our students to hear the call for a purposeful, peaceful revolution in which they have a part.

1 Rudolf Steiner championed the ecological paradigm in its early stages in two appreciative essays on Ernst Haeckel, the "father" of Ecology. Steiner's reservations, of course, relate to the scientific reduction of life through a materialist, mechanistic perspective. Warning of such reductionism, Steiner's appreciation hints at the perfect match of a holistic paradigm of dynamic interrelations with a spiritual understanding of the world. See Rudolf Steiner, *Two Essays on Haeckel* (1900, 1905; GA 30, GA 54).

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.<sup>2</sup>

The term “sustainability,” which has come into frequent use in recent years, does not merely suggest long-term resource maintenance; it is also, as made clear by the above definition, grounded in a commitment to the *people* of the future and thereby to the world that environs them.

“Our Common Future,” also known as “The Brundtland Report,” in reference to the committee’s Chairwoman, Norway’s former Prime Minister Gro Harlem Brundtland, has been instrumental in tying together the material conditions of the planet and its resources with the wellbeing of the people, all the people, of the planet. It has made the case for the view that remedying social problems—poverty, access to education and other resources, gender inequality, economic inequalities in both regional and global settings—is not only a moral imperative but a necessary element in bringing about a livable future. Other seminal initiatives, like the UN’s Earth Charter, which responded to the Brundtland Report’s call for a “new charter,” or the “Green New Deal” proposed Resolution in the United States Congress,<sup>3</sup> has followed suit in the alignment of material sustainability, social justice, and human flourishing.

So what kind of society, or what kind of citizens, or *citizenship* would form and inform this global project of revitalizing humanity and its home planet?

## Ecological Citizenship – The Concept

Academic theories and concepts can be met with cynicism by twelfth-graders prone to suspicion of that which appears too detached from reality as they know it, or too complex to understand at first or second glance. Still, at twelve grade, the students are ready to begin grappling with theoretical concepts, and they will benefit from an introduction to the kind of reading and thinking they are likely to encounter in the next step of

their education. It also serves as an early indication of the role of academia as an incubator of ideas, considered historically, methodically, and in a well-informed manner, even if these might later transform into vague slogans or cudgels in political and cultural wars when they make their way into the wider public sphere. Finally, even a less than precise understanding of such concepts, specifically the concept of ecological citizenship, has the potential of igniting curiosity and inviting further inquiry and reflection.

The British political theorist, Andrew Dobson, has been a leading voice in the academic conceptualization of a new kind of global citizenship.<sup>4</sup> Citizenship, Dobson offers, “is about activity with public implications” (Dobson 2007, 280-1). “From an environmental point of view,” he clarifies, “every act has public implications. As we live our lives, we draw on environmental resources and leave environmental waste” (281). This view underlines the ecological nature of human existence, i.e. as interdependent, interactive,

and inter-impactive (if I’m allowed to coin a phrase) creatures, even when living in assumed isolation or in remove from nature. In this sense, this kind of citizenship or community membership is to be *recognized* rather than conferred: we are already citizens of the Earth-dwelling community, whether we have a name for it or not.

Informed by the definition of sustainable development quoted above, Dobson narrows down the personal obligation of ecological citizenship to ensuring “*that ecological footprints make a sustainable, rather than unsustainable impact*” (Dobson 2003, 118-9). Echoing the language of “Our Common Future” and limiting himself to the most general terms, Dobson further explains: “the ecological citizen will want to ensure that her or his ecological footprint does not compromise or foreclose the ability of others in present or future generations to pursue options important to them” (119).

Dobson sketches out the defining characteristics of environmental or ecological citizenship as follows (Dobson 2007, 280-282):

1. It involves a greater commitment to the common good than to limited self-interest, recognizing

<sup>2</sup> Gro Harlem Brundtland, *Our Common Future: Report of the World Commission on Environment and Development* (Geneva: UN-Dokument A/42/427, 1987). [www.un-documents.net/ocf-ov.htm](http://www.un-documents.net/ocf-ov.htm)

<sup>3</sup> The proposed Resolution, introduced in the House of Representatives in February 2019, is available here: [www.congress.gov/bills/116/congress/house-resolution/109/text](https://www.congress.gov/bills/116/congress/house-resolution/109/text)

<sup>4</sup> For short review of the academic development of a concept of ecological citizenship see Michel Bourban, “Ecological Citizenship” in Nathaniel Wallenhorst and Christoph Wulf (eds.), *Handbook of the Anthropocene* (Cham, Switzerland: Springer, 2023). [https://doi.org/10.1007/978-3-031-25910-4\\_168](https://doi.org/10.1007/978-3-031-25910-4_168)

that what is good for all is also good for me, and that environmental health or sustainability is a common good.

2. It follows the civic-republican model of citizenship, where one's responsibilities to the community at large are of greater concern than the rights and liberties the community or State owes the citizen.
3. If the goal of this citizenship is to ensure a sustainable future by embracing a sustainable life style, which can be measured by one's ecological footprint, fairness or *justice* would dictate maintaining an equitable ecological footprint. This means not allowing ourselves a greater draw on environmental resources (including energy) and a greater production of environmental waste than is allowed to others. The historical and current fact that the societies of the developed world have been drawing a far greater amount of energy and other resources than those in the underdeveloped or developing world makes it a case of justice, not charity, when we are called upon to adjust our ecological footprint for the sake of equity.
4. It is a mode of citizenship that is *international* – we, especially in the developed world, draw on environmental resources from abroad, and our environmental impact, especially in view of climate change, transcends national borders. It is also *intergenerational* – our actions today, especially in view of climate change, will impact future generations.
5. It is a citizenship that extends from the public sphere, where citizenship has traditionally been exercised, to the private sphere. My consumption at home, or in whatever setting I deem private, still has environmental, hence *public* implications.

In his work, Dobson, like other political theorists, is moving from principles to implications according to an established procedure of reasoning and in view of historical precedent. This might not be the language of spirit, but it is couched in the principles of justice, equality, and responsibility and recognizes causality as morally binding (“You” broke it, you are obligated to fix it). As members of the planet community, we have

historically been drawing on the planet's resources and making an impact on its local, now global environments. Advanced by the generations that came before us, we have an obligation to those who will come after us. Obligation to community at large (if you will: solidarity, responsibility) dictates that we would make it possible, or at least not impossible, for others to pursue their happiness, or at least their comfort, at a minimum: their conditions of existence. Measured by an ecological or “carbon” footprint, this obligation is measurably translatable to action, or rather to habits of ongoing action: the ways we conduct our consumptive lives. A principle of justice-as-equality offers a further measure on the limits we are called upon to impose on ourselves in living sustainably: an equal distribution of the impact we have on the planet and its resources.

For twelfth-graders, there is a challenge and a charm in the geometric construction of this concept. It is easily reduced by the impatient ones to the basics of ‘Reduce (energy use), Reuse, Recycle,’ but, as a term, “ecological citizenship” also resonates for many with their general instincts and inclinations: Yes! We are citizens of this planet, of an eco-system, and we are committed to its wellbeing!

Appealing to those kindling a revolutionary spark, and to a generation eagerly committed to social justice, we also explore a more fiery brand, dubbed “Sustainability Citizenship.” In this version, coming from political theorist John Barry, the required response to global warming and environmental deterioration is portrayed in terms of resistance to the existing order, a critical citizenship ready for civil disobedience. In this more broadly political version, a new, environmen-

tally committed model of citizen engagement goes far beyond habits of consumption and encourages activism aimed at a restructuring of industry, commerce, governmental policy, and global cooperation in view of the deep-seated causes of environmental degradation and global warming:

Sustainability citizenship, while of course centered on environmental issues, ... [will] encompass economic, social, political, and cultural spheres in its remit ... it includes human rights, democracy, equality, quality of life, participation, and good governance. (Barry 2006, 24)

Andrew Dobson: “The ecological citizen will want to ensure that her or his ecological footprint does not compromise or foreclose the ability of others in present or future generations to pursue options important to them.”

This comes from the side of political theory. But if theory is neatly organized in axioms and their outcomes, what would the life of a committed ecological citizen look like in practice? For this we turn to a documented and well-publicized experiment known as the No Impact Project.

## Ecological Citizenship in Practice

The 2009 documentary, “No Impact Man,” follows the yearlong project of author and activist Colin Beavan in his aim to reduce his household’s ecological footprint to zero. It is an experiential and experimental project, wherein Beavan aims to eliminate or replace all daily practices that contribute to a negative ecological footprint in order to eventually assess which ones of these practices is impossible to live without and which ones of the environmentally sound alternatives could be maintained.

Accordingly, Beavan, along with wife and their toddler daughter, discontinue use of all motorized transportation, including elevators; limit their food consumption to locally grown produce and dairy mostly purchased in a nearby farmer market; use only environmentally harmless or homemade cleaning products; forego use of all paper products, including disposable diapers and toilet paper; compost their food scraps; and, eventually, disconnect from the electric grid. In addition, the family volunteers at a local community garden and visit the Hawthorn Valley Farm, which practices bio-dynamic farming, and Ronnybrook Farm Dairy, both located in New York’s Hudson Valley, where much of the family’s food originates.

Beavan also actively engages in publicizing his project on his website and through participation in wide media coverage of the family’s experiment. He concluded the project with this documentary and with the publication of his book, *No Impact Man: The Adventures of a Guilty Liberal Who Attempts to Save the Planet, and the Discoveries He Makes About Himself and Our Way of Life in the Process* (Macmillan, 2010). The publicity activity, for which Beavan was criticized at the time as acts of self-promotion, is an important aspect of the project, as Beavan is aware that the impact of public advocacy is eventually much more significant than the actual reduction of the family’s ecological footprint.

The documentary offers plot and drama to the idea of ecological citizenship practiced at the extreme. At times, Beavan draws from the students generous servings of adolescent cynicism and scorn, especially

as the real-life complexity of the characters can make them unlikeable in certain scenes, but his project also forces them to confront wasteful consumption in their own lives.

The fact that Beavan and his family conduct their experiment and go through their various experiences just a couple of miles down the road from the Rudolf Steiner School in Manhattan is a source of pleasure for the students. They recognize the public settings of the action—

Some students take up biking or walking as ways to get to school; others monitor their shower time; some become guiltily aware of their shopping habits.

including the Hawthorn Valley Farm, located across the street from the Hawthorn Valley Waldorf School, and the location of several week-long Steiner School trips between grades three and ten—and realize the possibilities of sustainable living in the sites they know. They see the Beavans cross over from the private to the public sphere – to recall Andrew Dobson’s terms, often biking through the same public spaces the

students occupy, and experimentation in urban sustainable living comes a little closer to home.

This is also the assignment associated with the film viewing: adopting some of the sustainability practices observed in the documentary for the duration of the block. This, too, is meant to be both experiential and experimental: the students are invited to explore what is possible, what is inconvenient, and what is impossible – and why. When documented in journal writing and incorporated into the course’s final report, this experimentation proves impactful. Some students take up biking or walking as ways to get to school; others monitor their shower time; some become guiltily aware of their shopping habits; all become more aware of the food arriving to their dinner table. Awareness seems to be the first benefit of the exercise accompanying the documentary viewing; in education, awareness is often a primary goal.

The conclusion Colin Beavan arrives at by the end of his project is that the most effective action he could undertake to promote a sustainable future is to participate in environmentally oriented community work. Community, he realizes, is key; it enables him to have clear and direct impact on other people and he becomes accountable to specific, co-present others, the members of the community he is engaged with. The human factor, human interaction, reveals itself in this conclusion to be significant on all levels—immediate, binding, rewarding, and dually effective. Even if the work practiced in community is oriented towards land and air, towards the physical environment, it clearly,

and quite immediately, shows signs of benefitting the humans living in the environment. And here lies another conclusion: that it makes little sense to separate the beneficiaries of environmental work, that the ecological paradigm and the reality that it reveals demonstrate that all members of an ecosystem, actors and environment alike, benefit from a healthy ecological whole. It is with the hope that the students would be able through hands-on experience to sense and internalize this conclusion, which is a core idea of ecological citizenship and of this course on ecological citizenship, that we borrow another page from No Impact Man's playbook and pick up a communal "green" project, such as park cleaning or community garden work. The lessons learned by experience, as we all know, by getting one's hands dirty, are often internalized more effectively than those learned otherwise.

### Climate Change: A Closer Look

Otherwise learning is also practiced in the study of climate change science, taken in a collaborative effort straight from the scientific sources.

There are various online resources available today for learning about climate change through current measurements, documented trends over the past decades, and future projections.

For example, though there is a substantial doubt that this resource will still be available by the time this article appears in print, the U.S. Environmental Protection Agency (EPA) has a rich and highly informative website, with a detailed presentation of current climate change science and resources for educators ([www.epa.gov/climate-change](http://www.epa.gov/climate-change)). The same goes for the U.S. Global Change Research Program and its Climate Science Special Report and National Climate Assessments ([www.globalchange.gov](http://www.globalchange.gov), [nca2023.globalchange.gov](http://nca2023.globalchange.gov)). NASA, too, offers a short, helpful, and comprehensive presentation of scientific findings and satellite imagery ([science.nasa.gov/climate-change/](http://science.nasa.gov/climate-change/)). And the National Academies of Sciences, Engineering, and Medicine, offers detailed reports and overview publications on its "Environment and Environmental Studies: Climate Change" tab ([nationalacademies.org](http://nationalacademies.org); [nap.nationalacademies.org](http://nap.nationalacademies.org)).

A resource that we need not fear would be altered soon by a science-hostile U.S. administration is the United Nation's Global Environment Outlook, which,

since 1997, has been publishing methodic assessments of the state of the global environment, evaluations of policies and actions enacted to address environmental concerns, and projections of future trends ([www.unep.org/geo/](http://www.unep.org/geo/)).

However, the most comprehensive scientific report on climate change, and the source for many of the other resources available to the public, is the Intergovernmental Panel on Climate Change (IPCC), which collects and assesses climate research from around the globe.

Here is how the IPCC describes itself:

The IPCC was created to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options.

Through its assessments, the IPCC determines the state of knowledge on climate change. It identifies where there is agreement in the scientific community on topics related to climate change, and where further research is needed. The reports are drafted and reviewed in several stages, thus guaranteeing objectivity and transparency. The IPCC does not conduct its own research. IPCC reports are neutral, policy-relevant but not policy-prescriptive. The assessment reports are a key input into the international negotiations to tackle climate change. Created by the United Nations Environment Programme (UN Environment)

and the World Meteorological Organization (WMO) in 1988, the IPCC has 195 Member countries. ([www.ipcc.ch](http://www.ipcc.ch))

The students spend time with the various pages of the IPCC website before we turn to the latest Assessment Report, focusing further on the Synthesis Report and Summary for Policymakers, which condense thousands of pages of scientific findings into shorter, data-rich versions. These reports, along with an assortment of fact sheets and the site's Frequently Asked Questions section, are divided between two or three groups of students, each of which assigned the collaborative task of studying, summarizing, and sharing the information with the rest of the class through an oral presentation and a written group-report. This means that the students get to exercise collaborative work, not entirely

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dissimilar to the one that produced the original IPCC report or that is needed as the world community turns to address adaptations, mitigations, and solutions.

## Solutions: Drawdown

In the final week of the course, we explore climate change “solutions” through Project Drawdown ([www.drawdown.org](http://www.drawdown.org)). The project is the brainchild of decades-long environmental activist, innovator, and author, Paul Hawken, with whom we start the course by reading his 1993 “Declaration of Sustainability,”<sup>5</sup> an early call for a restructuring of industry and commercial practices in ways that would make the sustainable choice an easy default rather than an activist effort.

Project Drawdown studies technologies and social practices that reduce or remove climate-change-generating greenhouse gas emissions from the atmosphere. An implementation of multiple practices and technologies, according to the Drawdown Project, would steadily bring down the atmospheric levels of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, and other greenhouse gasses and reverse the trend of global warming. The project has so far studied close to 100 solutions, assembled in sectors of Electricity Generation, Agriculture and Land Use, Industry, Transportation, Buildings, Carbon Sinks, and Health and Education. Each solution is studied and modeled to project the amount of greenhouse gas reduction it will achieve over 30 years, alongside the costs in initial implementation as well as savings in lifetime operation. The solutions are presented on the Drawdown website with a short, ca. 1,000-word overview, presenting the methodology used to study and model the solution, scenarios of efficient implementation, discussion, conclusion, and relevant numbers of emissions removed and dollars to be invested or saved.

The solutions range in alphabetical order from Abandoned Farmland Restoration to Water Distribution Efficiency, with a variety that includes Bamboo Production, Building Retrofitting, District Heating, Electric Cars, Bikes, and Trains, Improved Cattle Feed, Methane Digesters, Plant-Rich Diets, Refrigerant Management, and Seaweed Farming – a random sample.

No single or cluster of solutions would reach the desired

effect of drawing down the level of atmospheric greenhouse gasses, but a combined implementation of “all available solutions,” according to the project’s website, should get us there.

Family planning is projected to remove as much greenhouse gas emissions from the atmosphere as all the technological innovations of the Transportation sector combined.

Interestingly, Project Drawdown, in its measured and calculated methods, confirms the claim made since the early stages of organized attempts to address environmental degradation and climate change. Namely, that social problems and environmental damage go hand in hand, that plans to redesign global patterns of production, consumption, and resource use must include plans to remedy social inequalities on both local and global levels. (In the course, we study this connection by reading “Environmental Problems Require Social Solutions,” the Introduction chapter to an anthology of studies in the newly established field of Environmental Sociology.<sup>6</sup>) This is made clear, for example in the Health & Education sector, which is focused on family planning and is projected to remove as much greenhouse gas emissions from the atmosphere as all the technological innovations of the Transportation sector combined. More accurately, implementation in underdeveloped or developing countries of high-quality, 12-year education, especially for girls and young women, and the practice of voluntary family planning will not only benefit gender equality, health, well-being, and economic development, it would also curb population growth, with a projected reduction over 30 years of 68.9 gigatons of CO<sub>2</sub>-equivalent greenhouse gas emissions. Implementation of the ten technological innovations contained in the Transportation sector (the other three have to do with carpooling and redesigning cities so biking and walking would become preferable to driving) is projected to reduce a combined amount of 47.08–69.38 gigatons of CO<sub>2</sub>-equivalent greenhouse gas emissions.

The Project Drawdown website further explains:

Climate and social systems are profoundly connected, and those connections open up solutions that are often overlooked. Some initiatives, designed first and foremost to ensure fundamental human rights and foster equality, also have cascading long-term benefits for climate change. These include rights-based, voluntary family planning

5 Paul Hawken, “A Declaration of Sustainability: 12 Steps Society Can Take to Save the Whole Enchilada,” *Utne Reader* 59, 54-61, 1993.

6 “Environmental Problems Require Social Solutions” Introduction to *Environmental Sociology: From Analysis to Action* (by Leslie King & Deborah McCarthy Auriffeille (Rowman & Littlefield Publishers 2014.))

and high-quality, inclusive primary and secondary education. Family planning and education are not in themselves climate mitigation solutions. Rather, one outcome of family planning and education, slower global population growth, can contribute to reduced carbon emissions over time.

(<https://drawdown.org/sectors/health-and-education>)

Another important resource included in the project's website is a "Climate Solutions 101" course – a set of six video presentations, ranging in length from 10 to 25 minutes, in which the reality of climate change is reviewed and explained, the solutions approach is laid out, specific solutions are explored, and the road to action is designated. The caption to the final section of this video course asks: "What role will you play in building a better future?"

This question is also implicit in the Ecological Citizenship main lesson, a question made more explicit with this final unit focused on future-oriented solutions and action. The students are nudged closer to confronting this question – What role will you play in building a better future? In securing a future for humanity in a thriving world? – with their last assignment for the block: Studying more closely three of the solutions on the website's menu and presenting them to the rest of the class. In a class of 20 students, this offers an opportunity for a collaborative effort to acquaint each student with 60 of the Drawdown solutions. The students are also instructed to research on their own what kind of professions are needed for developing and implementing their selected solutions. Then, and here we come closer to the students' own life path, they have to find out what course of study, what major in college, or what training a person needs to follow to prepare for such professions.

## Last Words

This closing of the course is set up as an opening for the students to start thinking about the role they will be taking in protecting and reshaping the future of humanity. The roles and positions—this is hopefully made clear throughout the second part of the block—are endless and range from science, technology, and entrepreneurship to education, art, journalism, advocacy,

social organizing, law, and politics. The message is that the students can and should discover their individual path in life and follow it to self-realization. But with the knowledge that has been solidified in the course, of the challenges, dangers, and even existential threat that awaits in the future, the students are now encouraged to find ways to merge their personal aspirations with the communal need, to find their way into a common future to which they will be contributing and from which they will be benefitting as citizens, ecological citizens, members of the ecosystem, whose ecological health they will have helped secure.

The idealism promoted in this main lesson has been in preparation throughout the four high school grades, if not earlier. In many ways, the Ecological Citizenship main lesson is designed to serve as the capstone of the History and Social Studies curriculum, where diverse trajectories of civilization are introduced, the arc of justice is traced through a history of injustices, humanity's spiritual and material unfolding is explored through the stories of various religions and technological innovations, and contemporary social issues are researched and discussed. If the common thread that runs through these explorations is the place and role of humanity

in the world throughout the ages, this final focus on facing climate change confronts the reflective question with a concrete task. If the idealism of self-realization in the service of collective wellbeing has been an implicit resonance throughout the years, it now comes to the fore with the urging of a necessity, an existential necessity. Idealism, in this context, turns out to be also utilitarian.

Will we have succeeded in nurturing such an idealism in

our students? I'll let them speak for themselves with a selection of final reflections from the past several runs of the Ecological Citizenship main lesson:

*It is difficult to conceptualize the impending danger of climate change because its impact is mostly seen on a global scale. Therefore, I notice that my job, as an individual, is not to revert carbon dioxide levels back to pre-industrial levels or restore the icecaps and glaciers that have melted, but rather be a force for good, by making sure that my choices as an individual contribute to the global mission of protecting our world. Understanding my position in the battle against climate change is an important step towards becoming an ecological citizen.*



*I hope to make small changes in my own daily life that are helpful to the environment as well as become a more active community member. I plan to share with others the power of being ecologically minded citizens with the intention of bettering the world. I believe it is important to promote the idea that ecological citizens are holistic in their view of climate change, allowing for meaningful growth in the social, economic, political, and natural spheres. Now that I have awareness over the ever evolving nature of climate change, I feel better equipped to live as an ecological citizen in order to make choices that support our environment and the prosperity of our world. I hope to be a force for good in achieving this collective goal, by following sound actions and disseminating valuable information.*

Camila Grunberg, Class of 2021

*The notion of ecological citizenship pertains to the very purpose of our lives and questions humanity's role in the world. And if so, what does it entail? Although there is not one single, all-encompassing answer that has been proven true, it is one question that is quintessential to human existence. The rise of Humanism resulted in the shift from God to God's creation of man, and yet we are now left with understanding humanity's place in the universe. It is my personal belief that our purpose lies within the striving to understand oneself, the world, and the complexity of being. In our existence, we have the unique opportunity to question everything and transform ourselves and therefore our society. The possibility of opportunity is linked with goodness, and so, to improve our lives, it is imperative to understand the meaning and consequence of our actions. While this question remains unanswered, it is of the utmost importance that we ensure human existence will have the possibility to continue so that future generations will have the potential to search for such truths as well. There is an additional urgency to this as we are running out of time and cannot afford to continue postponing fundamental change.*

Leah New, Class of 2021

*Personally, this main lesson has affected my mindset towards the environment around me, especially towards consumption. Shopping has become a minefield of moral dilemmas and energy feels wrong when used. A conversation about ecological citizenship is only the first step to contributing your duty as a citizen. The world is one big organism, and whether it's for better or for worse, we humans are a part of it. It is our duty as citizens to work together with the environment to not*

*let our future generations reap the consequences of our 'consumption without consideration.'*

Laura Madhu, Class of 2022

*Coming out of this course, I feel like I have a much better understanding of what climate change will lead to, and what needs to be done. It is no longer a concept I am ignorant of, and by having this knowledge I feel a moral obligation to put it to use. Personally, I now find myself more conscious of my daily actions/purchases and think about the real cost when it comes to the bigger picture. Going forward in life, I will make decisions in a new light and hope to only decrease my personal contributions to climate change in the future. I also recognize the wider problem at hand and the necessary change that needs to be done on a larger scale. A part of me wants to say that I am hopeful that the new generation will take matters into their own hands and make the needed change, but I am worried. [...] I hope to use my voice to spread climate awareness and find other ways to get involved more hands-on. I can not ignore the problem at hand because doing nothing tells me that I am ok with where our future is headed, which I am not. Climate change is no longer a passive problem we can continue to sweep under the rug, it's a detrimental problem that is actively destroying our home, and if we continue the way we're headed future generations will struggle to survive and our species would be jeopardized.*

Susan Santiago, Class of 2023

*I leave this block with a new sense of responsibility, and with it unrest. I intend to use this unrest to make changes in my own personal life, along with setting an example for my community, because we are all ecological citizens of this planet.*

Danica Sastra, Class of 2025

## Appendix I

### Ecological Citizenship – Course Outline

**Week 1 Introduction of themes:** Environmental Crisis and Climate Change; What is Sustainability? What is a Carbon Footprint? Variations of Citizenship.

**Questions and activities:** Where do our groceries come from? Where does our garbage go to? What happens after we flush the toilet? How and from where do water, electricity, heat come into our homes?

**Readings:**

- Excerpt: “Our Common Future” – Report from the UN World Commission on Environment and Development (1987).
- Paul Hawken, “A Declaration of Sustainability” (1993)
- The Earth Charter

**Week 2 Ecology:** A natural science and a way of viewing the world. Introduction to Intergovernmental Panel on Climate Change; Resistance and Sustainability Citizenship; What’s in the News? – tracking climate change related reporting in the *New York Times*.

**Readings and Resources:**

- Ecology: Textbook chapter
- Excerpts: Jaboury Ghazoul, *Ecology: A Very Short Introduction* (2020)
- John Barry, “Resistance is Fertile: From Environmental to Sustainability Citizenship” (2006)
- Naomi Klein, “We Have a Once-in-Century Chance”
- IPCC – The Intergovernmental Panel on Climate Change Website ([www.ipcc.ch](http://www.ipcc.ch))

**Week 3 Environmental Sociology:** Environmental Problems are Social Problems; IPCC study and class presentations; *No Impact Man*. What’s in the News? – tracking climate change related reporting in the *New York Times*.

**Readings and Resources:**

- IPCC – Assessment Report: Summary for Executives; Fact Sheets; Frequently Asked Questions
- Leslie King & Deborah McCarthy Auriffeille, “Environmental Problems Require Social Solutions”
- In-class viewing: *No Impact Man* (2009)

**Week 4 The Concept of Ecological Citizenship:** Academic Readings

**Readings:**

- Excerpt: Andrew Dobson, “Environmental Citizenship: Towards Sustainable Development” (2007)
- Excerpt: Andrew Light, “Ecological Citizenship: The Democratic Promise of Restoration” (2006)

**Week 5 Solutions: Project Drawdown:** Study and Class Presentations; student reporting on their experience with the No Impact challenge; fieldwork: working in the community garden; day trip: a visit to Governors Island.

**Resources:**

Project Drawdown: [www.drawdown.org](http://www.drawdown.org)

## Appendix II

### Recitation – Our Purpose in Poetry

Teaching this course opens multiple avenues for working with the students’ soul faculties of thinking, feeling, and willing. Complex scientific data and theoretical constructions are offered as an advanced challenge to the students’ thinking; the will is exercised in taking on the “No Impact” challenge of reducing consumption and waste, as well as the demanding academic challenges of the course; feelings of dread, anger, inspiration, hope, and responsibility swarm through the classroom during this block, where the pedagogical intention is to guide the course of this flow from dread or alarm to a sense of responsibility and resolve.

As any Waldorf teacher knows, it is through the feeling channel that we are able to get to the students in the most effective and lasting way. A classroom felt experience will stay with them long after the content of a course is forgotten.

Speech work offers a highly effective way to activate and exercise the feeling channel in the classroom. In recitation, speech becomes the matter of breath; ideas, verbalized, resonate through our lungs and larynx; emotion binds itself to semantic structure and oxygen; words composed by others flow through our bodies like a melody through a flute – we are the instrument and the player, too. In group recitation, the individual is one with others, participating as a part in a whole. Deliberate recitation tunes the students to be like members of a choir, a dance troupe, a eurythmy group. Rhythm, musicality, inflection, vocal turns of phrase are the tools of soulful recitation.

Amanda Gorman’s long poem, “Our Purpose in Poetry: Or, Earthrise,” offers excellent material for this course’s speech work. It states in short lines many of the messages delivered in the course, leaving to the teacher the roles of arranging and conducting the verbal notes into musical speech.

## Our Purpose in Poetry: Or, Earthrise

*Dedicated to Al Gore and The Climate Reality Project*

**Amanda Gorman**

On Christmas Eve, 1968, astronaut Bill Anders  
Snapped a photo of the earth  
As Apollo 8 orbited the moon.

Those three guys  
Were surprised  
To see from their eyes  
Our planet looked like an earthrise  
A blue orb hovering over the moon's gray horizon,  
with deep oceans and silver skies.

It was our world's first glance at itself  
Our first chance to see a shared reality,  
A declared stance and a commonality;

A glimpse into our planet's mirror,  
And as threats drew nearer,  
Our own urgency became clearer,  
As we realize that we hold nothing dearer  
than this floating body we all call home.

We've known  
That we're caught in the throes  
Of climactic changes some say  
Will just go away,  
While some simply pray  
To survive another day;  
For it is the obscure, the oppressed, the poor,  
Who when the disaster  
Is declared done,  
Still suffer more than anyone.

Climate change is the single greatest challenge  
of our time,

Of this, you're certainly aware.  
It's saddening, but I cannot spare you  
From knowing an inconvenient fact, because  
It's getting the facts straight that gets us to act and  
not to wait.

So I tell you this not to scare you,  
But to prepare you, to dare you  
To dream a different reality,

Where despite disparities  
We all care to protect this world,  
This riddled blue marble, this little true marvel  
To muster the verve and the nerve

To see how we can serve  
Our planet. You don't need to be a politician  
To make it your mission to conserve, to protect,  
To preserve that one and only home  
That is ours,  
To use your unique power  
To give next generations the planet they deserve.

We are demonstrating, creating, advocating

We heed this inconvenient truth, because we need to  
be anything but lenient  
With the future of our youth.

And while this is a training,  
in sustaining the future of our planet,  
There is no rehearsal. The time is  
Now  
Now  
Now,  
Because the reversal of harm,  
And protection of a future so universal  
Should be anything but controversial.

So, earth, pale blue dot  
We will fail you not.

Just as we chose to go to the moon  
We know it's never too soon  
To choose hope.  
We choose to do more than cope  
With climate change  
We choose to end it—  
We refuse to lose.  
Together we do this and more  
Not because it's very easy or nice  
But because it is necessary,  
Because with every dawn we carry  
the weight of the fate of this celestial body orbit-  
ing a star.  
And as heavy as that weight sounded, it doesn't  
hold us down,  
But it keeps us grounded, steady, ready,  
Because an environmental movement of this size  
Is simply another form of an earthrise.

To see it, close your eyes.  
Visualize that all of us leaders in this room  
and outside of these walls or in the halls, all  
of us changemakers are in a spacecraft,  
Floating like a silver raft  
in space, and we see the face of our planet anew.  
We relish the view;  
We witness its round green and brilliant blue,

Which inspires us to ask deeply, wholly:  
 What can we do?  
 Open your eyes.  
 Know that the future of  
 this wise planet  
 Lies right in sight:  
 Right in all of us. Trust  
 this earth uprising.  
 All of us bring light to exciting solutions never  
 tried before  
 For it is our hope that implores us, at our uncompro-  
 mising core,  
 To keep rising up for an earth more than worth  
 fighting for.

**Amanda S. C. Gorman** (born March 7, 1998) is an American poet. She was the first National Youth Poet Laureate (2017) and is remembered for her delivery of her poem “The Hill We Climb” at the inauguration of President Joseph R. Biden, when she was not quite 23 years old.

## Sources

John Barry. “Resistance Is Fertile: From Environmental to Sustainability Citizenship.” In Andrew Dobson and Derek Bell, eds. *Environmental Citizenship*. Cambridge, MA, and London, UK: MIT Press, 2006.

Gro Harlem Brundtland. *Our Common Future: Report of the World Commission on Environment and Development*. Geneva: UN-Dokument A/42/427, 1987. [www.un-documents.net/ocf-ov.htm](http://www.un-documents.net/ocf-ov.htm)

Andrew Dobson. *Citizenship and the Environment*. Oxford: Oxford University Press, 2003.

Andrew Dobson. “Environmental Citizenship: Towards Sustainable Development.” *Sustainable Development* 15, 276-285, 2007.

Jaboury Ghazoul. *Ecology: A Very Short Introduction*. Oxford: Oxford University Press, 2020.

Amanda Gorman. “Our Purpose in Poetry: Or, Earthrise”

Paul Hawken. “A Declaration of Sustainability: 12 Steps Society Can Take to Save the Whole Enchilada”. *Utne Reader* 59, 54-61, 1993.

Leslie King & Deborah McCarthy Auriffeille. “Environmental Problems Require Social Solutions” Introduction to *Environmental Sociology*:

*From Analysis to Action*. Rowman & Littlefield Publishers, 2014.

Naomi Klein. “We Have a Once-in-Century Chance”. In *On Fire: The (Burning) Case for a Green New Deal*. New York: Simon & Schuster, 2019.

*No Impact Man*. Directed by Laura Gabbert and Justin Schein, with Colin Beavan and Michelle Conlin, Oscilloscope Pictures, 2009.

*Project Drawdown*. [www.drawdown.org](http://www.drawdown.org)

*The Earth Charter*. [www.earthcarter.org](http://www.earthcarter.org)

*IPCC – The Intergovernmental Panel on Climate Change*. [www.ipcc.ch](http://www.ipcc.ch)

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