Open Source Ecology (OSE) is working on a strategic initiative that will simultaneously address economic, social, and environmental problems on a local and global scale. The mission is to create communities that are capable of producing their own industrial economies from low-grade, abundant, local resources at a level that provides a standard of living comparable to that provided by modern civilization.

We are a network of farmers, engineers, and other individuals engaged in creating the Global Village Construction Set (GVCS), a low-cost, high-performance, open-source, do-it-yourself platform that allows for the easy fabrication of the 50 industrial machines that it takes to build a small civilization with modern comforts. The GVCS includes machinery, equipment, tools, components, and other infrastructures for creating a complete economy: food, fuel, energy, building materials, transportation, and fabrication. By using the open-source platform, we have invited the whole world to engage in a discussion about what the best practices are for redesigning the industrial foundation upon which modern civilization is built.

Our goal is distributive economics: developing tools for open source, productive enterprises with a focus on training producers. We are interested in developing a new economic engine: the community-based solution of re-localized production. Evidence shows that we can do much better than the wasteful status quo. For example, our designs can be manufactured eight times more cheaply than commercial alternatives. The question of societal wellbeing is not a matter of production but rather of distribution. When open-source, distributive economies become more widespread, the production of goods will improve, as will distribution systems.

In comparison to the open-source paradigm, we believe that the energy that our commercial competitors spend on protectionism, which limits their ability to collaborate openly, is both a waste and a liability. We, on the other hand, are free to contribute all of our energy to creative development. Protectionism, policing, excessive structuring, and bureaucracy are forms of waste that we tend to avoid based on our zero-waste policy of promoting post-scarcity economics.

Furthermore, every modern industrial process can be upgraded to an environmentally benign, open-source counterpart; that is the essence of our work. We are pursuing the complete closure of eco-industrial cycles, where nothing is thrown away, like in nature, where there is abundance, yet no waste. By gaining complete mastery over material transformation via open-source knowledge and eco-industrial practice, it is possible to produce locally all the same services of modern economies but without negative consequences.

In summary, our mission is to address multiple problems with a single initiative. That solution is the creation of openly available plans and training for how to produce the vital infrastructure of a modern civilization, so that communities across the planet can implement them. Innovation is a constant collaborative process, so our practices will continue to improve, eventually surpassing the utility of modern industry, when affiliated communities integrate into a global collaboration to optimize the production and use of the GVCS. Our work is to prove that we can lower the barriers to entry into farming, building, and manufacturing and can create entire economies, whether in rural Missouri, where the project was founded, in urban redevelopment, or in the heart of Africa.

The main service that the non-profit arm of Open Source Ecology will offer is a distributive enterprise model. A distributive enterprise is one that maintains the replication of such an enterprise by others at the core of its operational strategy. This means that the enterprise, in its essential design, has mechanisms for continuously optimizing design, documenting its process and results, and training producers for enterprise replication. Our goal is to assist in the global transition beyond artificial material scarcity, such that human cultural and scientific advancement is unleashed.

The Open Source Ecology Distributive Enterprise, once fully mature, will offer four main services to the global community:

- Open-source designs for The Global Village Construction Set.
- Distance-learning opportunities for people all over the world through comprehensive documentation, instructional videos, wiki, and blog.
- Producing and testing plans for integrating the machinery into a grassroots economy (2013 social experiment).
- Training opportunities at the Factor e Farm and opportunities for our trainers to travel throughout the world to teach other communities to create and use the GVCS.

Our primary focus for the coming year is completion of the entire GVCS (50 tools) by year-end 2012. Starting January 1, 2012, we will be engaging in full-time project management, under the assumption that funding continues to grow at its current rate. At that time, we will be managing 12 projects at once, with one-month prototyping schedules going through three prototype iterations for each machine. This will be in conjunction with a CAD, design, and fabrication team on site at Factor e Farm (our on-site location), where we will test our machines as well. For each machine, we will also demonstrate economic significance by engaging in production and field-testing.

For each machine, we will include the following: (1) design rationale; (2) 3D CAD files; (3) 2D fabrication drawings; (4) CAE analyses; (5) CAM files (where applicable); (6) exploded parts diagrams; (7) bills of materials and sourcing information; (8) scaling calculations; (9) A-Z instructionals; and (10) cost and performance comparisons to industry standards. All documentation is openly available on our website, along with high-quality video tutorials showing how to fabricate the machinery. The website also includes a community-developed wiki, online forum, and blog.

In order to produce and test plans for using and integrating the machinery, January 1, 2013, will mark the kickoff of the social experiment: testing if it is possible to create a materially-prosperous community, whether right here at Factor e Farm or in the heart of Africa, that enjoys one to two hour per day work requirements to provide a modern standard of living (including the ability to trade), via wise use of productive technology, while at the same time avoiding contribution to geopolitical compromises. The basic social contract for the proposed community at Factor e Farm is a *Post-Scarcity, Open Source Enterprise Community*. Participants in our village will be treated as enterprise partners who provide for village needs (modern standard of living at 2 hours per day of work), while generating sufficient surplus toward carrying out the OSE mission of open-sourcing the entire economy. Our particular social experiment has the stated goal of developing a post-scarcity economy option in parallel to the

mainstream system. We are interested in lowering the barriers to entry to a lifestyle option for unleashing freedom and pursuit of happiness – for anyone interested in such a lifestyle.

In conjunction with the development of distance-learning opportunities for communities globally, we are also developing training facilities where people can receive practical experience building and using the equipment. Trainees can then return to their respective regions to implement the distributed-enterprise model and train others. Further, our educational outreach will include sending teachers to train people in other areas of the world, using open-source curriculum, where communities are interested in adopting these practices.

Concerning tangible results, by this year's end, we will deliver the OSE Christmas Gift to the World: (1) product releases of the Tractor, Compressed Earth Brick Press, Soil Pulverizer, and Hydraulic Power Unit, having completed three prototypes for all these machines; (2) thorough documentation of these four tools to make replication a straightforward reality; and (3) extensive field testing of this equipment to demonstrate efficient, high-performance construction techniques with these tools within the context of building our training facility infrastructure. Please refer to Marcin Jakuboski's TED Talk[1] and the Open Source Ecology website[2] to view videos of our production and testing of these machines.

We also recently finalized a Kickstarter campaign to raise $40,000 for the creation of the Global Village Construction Set and received an anonymous donation for $60,000 that we are using to fund construction of our production and training facilities. Our other sources of income have included our True Fan campaign, where supporters are asked to give $10/month. We currently have over 400 True Fan's, and that has been our bread and butter while we establish our organizational foundation. Our fundraising strategy is expanding to include a development team of experienced grant writers, who are working together to create a list of foundations that we will invite to work with us in the coming year.

Since many of our outputs and outcomes are tangible products, tracking our progress is fairly straightforward. We have established a ten-point standard for the GVCS : open-source, low-cost, modular, user-serviceable, do it yourself, closed loop manufacturing, high performance, flexible fabrication, distributive economics, and industrial efficiency. Furthermore, given the collaborative nature of open source design, quality control essentially takes place with multiple redundancies.

We aim to generate data points on the feasibility of the 2013 social experiment as well, as a foundation for a realistic option for living in parallel to the mainstream of advanced civilization. These data points are: practical work requirements in hours; level of technology achieved; sufficiency of local resources; happiness, satisfaction, and meaning found in the population. We predict that this will be a grave but tractable challenge, with some inherent obscurity around the metrics, but the general outcomes that we'd like to see are clear enough: we aim to create a self-sufficient community model with a grassroots economy that enjoys a standard of living comparable to that found in modern society.

[1] http://www.ted.com/talks/marcin_jakubowski.html
[2] http://opensourceecology.org/