1. Executive Summary

1. What is the strategic opportunity we intend to address?
2. What are the main activities of our proposed project, including any innovative approaches?
3. What are the anticipated concrete outputs and outcomes?

Please limit your response to 1,300 characters, including spaces and punctuation.

Open Source Ecology manages education programs that train entrepreneurs to build their own industrial capital in order to stimulate regional manufacturing-based economic development in rural and urban settings alike. Our founder, Dr. Marcin Jakubowski, has been recognized internationally for his vision of accelerating the development of an open source economy that promotes entrepreneurial-based solutions to the long-term structural issues within the global economic system. He is a 2012 Shuttleworth Fellow and a Senior TED Fellow with the most-viewed TED Talk of all time that was rated 6th in the 2011 Best of TED listing by the Huffington Post.

Open Source Ecology is developing the **Global Village Construction Set (GVCS)**: a modular, high-performance, do-it-yourself, low-cost technology platform that allows for the easy fabrication of the 50 vital industrial machines that are the basis for high living standards in many parts of the world. The GVCS includes machinery, equipment, tools, components, and other infrastructures for creating a complete economy: food, fuel, energy, building materials, transportation, and fabrication. We redesign the conventional technological underpinnings of society so that they are affordable to make at the local level, user serviceable, designed for long-term use, and available for everyone to build and use without restriction anywhere in the world. The platform enables more people to produce clean energy, manufacture goods, construct buildings, and grow food locally using machinery that is, on average, 69% cheaper than commercial models when built by the end user.

We anticipate the following concrete outputs and outcomes:

1. The creation of extensive training materials covering all of the required information for how to build each GVCS machine throughout the world using readily available fabrication tools.
2. Iterative prototypes as well prototype analysis and field-testing reports.
3. An open archive of business plans based on the use of the GVCS technology.
4. Evaluation reports from people independently replicating the technology documenting their experiences, ideas for improving the technology and business plans, etc.
5. The creation of small-businesses in rural and urban settings in both developed and developing nations.
6. The expansion of the skills required to build and service industrial capital as well as how to operate a successful business.
7. Bottom-up economic development and the growth of regional economies that use local resources to manufacture goods and provide services.
8. The responsible management of local natural ecosystems, because they are the basis of wealth in the regional economy.

2. Project Description

1. What activities are involved in the project?
2. Who will be involved?

3. What core questions or hypotheses do you plan to explore, including any possible "Big Questions"?

Please limit your response to 4,000 characters, including spaces and punctuation.

Open Source Ecology offers three programs that work together to promote economic development: an open source innovation development pipeline with a current focus on the Global Village Construction Set, the OSE Fellowships Program that provides hands-on capital fabrication and maintenance education as well as enterprise development training, and distance-education programs that facilitate independent replication of the machinery and widespread adoption of our in-development archive of open business models.

The Global Village Construction Set is being produced by a distributed network of project teams that use Agile project management protocols, and each machine undergoes four phases of product development: concept design, prototyping, field testing, and documentation. After trying multiple strategies, we have determined that concept design is best handled by retired engineers, who can often provide a lifetime of experience, financial stability, free time, and a desire to contribute to society. Prototyping and field testing are handled by trainees in our OSE Fellowship Program in tandem with professional fabricators, and documentation involves a set of individuals with diverse skills from videography and editing to mechanical drafting and 3D modeling.

When the Global Village Construction Set is completely designed and documented, our next phase of development is to experiment with how much economic output can be generated in a single location. We expect that multiple small businesses can be based within the same manufacturing facility if it is sufficiently robust and well managed. This model, if successful, could then be replicated throughout the world to rapidly advance our impact, because regional manufacturing centers can act as hubs for the distribution of training and technology throughout the corresponding local economy.

Our big question is "Can we create a post-scarcity society, and what would humanity become if we openly shared innovation as widely as possible?" Imagine a world where everyone had access to economic best practices. What levels of human culture would be possible?

3. Strategic Promise: *

Why is the proposed project important relative to the current state of knowledge in your field or across fields? Please limit your response to 1,000 characters, including spaces and punctuation.

Organizations such as Technoserve and Kickstart have promoted entrepreneurial-based solutions to poverty in developing nations with an impact that has affected millions of lives. Kickstart, for example, largely sells low-cost irrigation equipment to people living in rural environments that can be used as the basis of a small-scale enterprise. To date, they have catalyzed the development of 122,900 small businesses in this way, and Technoserve has impacted the lives of over 1.5 million people in 30 countries. We consider the work of these and other similar organizations to be our relative field of comparison, although there are some significant differences.

Like the previously mentioned organizations, our programs promote business development as a solution to poverty by expanding access to profitable technology and marketable practices. Our approach innovates on previous work by drastically reducing costs and technical barriers for the development of an entire platform of industrial machinery that creates an open-ended set of possibilities for the creation of for-profit ventures. The GVCS machines can be combined to create additive manufacturing processes for the creation of complex products. For example, the platform includes agricultural

technology but also a bioplastic extruder that can create plastic from corn, which is a fundamental ingredient for an enormous array of goods.

We are also developing a feedback loop that accelerates our organizations ability to learn by documenting the ways that people in the field innovate on our technology designs. This is the point where our strategy promises to maximize our ability to make an impact.

4. Capacity for Success: *

Please explain how you (the applicant, the project team, and/or the organization(s) connected to the proposed project) are positioned to carry out the proposed activities with distinction and a high standard of excellence. Please limit your response to 1,000 characters, including spaces and punctuation.

Our track record is an indication of our ability to succeed. To date we have published beta-stage releases, with full documentation, of the open source tractor, compressed earth brick press, hydraulic power unit, and soil pulverizer. These machines were field-tested in the context of the construction of our 3,000 sf fabrication and training facility, equipped with machine tools purchased in Detroit, as well as 10 living units to house OSE Fellows at Factor e Farm, the global headquarters of Open Source Ecology in Missouri. We currently have over half a million dollars in grants that are hard at work prototyping another thirteen machines, which include the open source bulldozer, CNC circuit mill, CNC torch table, dimensional sawmill, induction furnace, modern steam engine, CNC multimachine, biomass pelletizer, solar concentrator, universal power supply, ironworker, microtractor, and backhoe. We also host a YouTube channel with over 840 video updates that visually illustrate the current state of development of each prototype.

We have recently negotiated a partnership with Joe Justice, founder of Team Wikispeed, which helps align us with the capacity we need to rapidly manage our innovation development pipeline. Team Wikispeed is an all-volunteer distributed Agile/Scrum team that built a 100 mpg vehicle, a record for a road-legal gasoline engine, in three months, and is the lightest car ever to achieve a five-star equivalency rating for front, side and rear impact tests. The Team Wikispeed car placed 10th in the Progressive Insurance X-Prize Competition, and its designs now serve as the basis for the open source car and open source truck within the GVCS platform. Joe and Marcin are working together to incorporate Agile project management protocols into every aspect of our innovation development pipeline.

Our founder, Dr. Marcin Jakubowski, is a Princeton graduate with a PhD in Physics from the University of Wisconsin, Madison. He established Open Source Ecology in 2003 and has been fully committed to our vision since then. Marcin has magnetized the support of people throughout the TED network, multiple foundations, and a distributed, international network of volunteers and supporters. Because people believe in the vision and are willing to commit a high level of passionate dedication in support of the project, we have over 540 True Fans that donate $10/month for instance, we are confident that we can craft an organization that mirrors the promise of our mission.

5. Expected Outputs: *

Outputs are the specific, quantifiable work products that you will create during the project. Examples include but are not limited to: academic papers submitted for publication, book manuscripts, conference proceedings, training sessions, curricula, prize competitions, films, events, and publicity campaigns.

Each GVCS machine undergoes three rounds of iterative prototype development. The final prototype becomes our model for documentation, which includes the following training materials to facilitate independent replication: (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. Documentation is openly available on our website and for shipment in DVD format, along with high-quality video tutorials showing how to fabricate and safely operate the machinery.

As we expand our capacity, it will be imperative that we document the experiences of people replicating the technology, so that we can harness their innovation and constantly drive down costs, increase accessibility and performance, and further integrate the technological ecologies that we promote with natural ecological systems, by using bio-oils for hydraulic systems instead of petroleum-based fluids, for example. In order to solicit the input of people who independently replicate the GVCS, we will survey and maintain extensive evaluation reporting.

With more organizational capacity, and as more machines enter the beta-release stage where documentation is complete enough for other people to begin building the technology themselves, we are beginning to develop an archive of business models associated with the use of open hardware. The intention of this aspect of our programming is to identify what enterprises work and in what conditions, and to identify failed models with an attempt to learn why they were unsuccessful. By the year's end 2012, we will have made extensive headway in the development of an open source business plan archive.

6. Expected Outcomes: *

Outcomes are the realistic and measurable differences that you believe will result from your project's outputs. Examples include but are not limited to: significant new lines of inquiry that might develop if your research hypotheses are confirmed, and measurable changes that your work might bring about in the actions or attitudes of your target audience.

Please specify the audiences that your project seeks to reach, as well as the specific outcomes that you expect will result. Please limit your response to 1,000 characters, including spaces and punctuation.

Our programs are designed to promote entrepreneurship that is relevant within the context the new paradigm of the open source economy. At the least, we anticipate a certain amount of success in training people to build their own industrial capital, use it safely, repair it when necessary, and incorporate it into a business plan, some of which will be successful in elevating their quality of life. We believe that we can have a substantial impact on unemployment rates, living standards, and environmental conditions.

Enduring Impact: *

The Foundation is very interested to learn about your hopes for this project. Describe your vision of the realistic and beneficial long-term changes that could result from your work. Please limit your response to 1,000 characters, including spaces and punctuation.

We hope to encourage more people to share their innovations openly for widespread benefit. Our evaluations indicate a willingness from people in over a dozen countries to independently replicate our technology, and we plan to see a hundred different locations engage in experimentation with our designs in 2012, at which point the Global Village Construction Set platform will be complete. When the synergistic relationships between the machines are explored and archived, we expect to see an accelerated rate of adoption. Within five years, in partnership with other individuals and organizations, we may see the development of hundreds of experiments in business development and integration

within existing agricultural systems. Our highest hope is to see the maturity of an open source economy that drastically reduces material scarcity for millions of people.

7. Request Amount: *

Please provide us with the amount of funding you are requesting from the Foundation. Please round to the nearest dollar, euro, or pound, and do not use symbols or punctuation.

100000

8. Relation to Sir John Templeton's Donor Intent: *

We recognize that our high aspirations can be achieved only through the vision, passion, and action of extraordinary grantees. At the same time, we are legally and ethically bound by Sir John Templeton's charter to fund only those proposed projects that have the capacity to advance his philanthropic vision. We invite you to describe how your vision for the proposed project aligns with Sir John's Donor Intent. Please limit your response to 1,000 characters, including spaces and punctuation.

It is difficult to ask the big questions without an open heart and an authentic relationship with one's own conscience. Having to make compromises against the intuition in order to survive or find comfort in a difficult world leads many down a path of bad faith or the lack of an authentic relationship with life itself. These conditions promote fragmentation among and within individuals, and people replace the voice that asks the best of them with what surrogates can help them cope. Instead, our mission is to develop economic systems that are based on morally sound practices and to share them as widely as possible. By working at the root of the problem, we can undermine the lies people tell themselves in order to survive, promoting a life of cooperation and an open heart. We assist the development of morally sound businesses, morally sound options within the market, and promote an economy that leads to widespread prosperity, a new level of human culture, and a world where more people can authentically face their lives and withstand what answers might come from asking the big questions.