

**Sustainable Environments Program LOI****Section 1: Overview and Organization Information****Before You Begin**

Please take a few moments to read through the entire application, especially sections 3 and 4, prior to diving in to any one section. You may access an easy-to-read snapshot of the entire application by clicking the Printer Friendly version link at the top of the page.

Please note that you may start this application, save it and return to it later. To continue the application at a later time, you must log in to your account login page at: [https://grantrequest.com/sid\\_365](https://grantrequest.com/sid_365).

**The application form is divided into 4 sections, and you will be asked to provide:**

Section 1: General information about your organization.

Section 2: Contact information.

Section 3: Details about your request for funding, including a project summary description and anticipated results.

Section 4: Financials and Attachments (detailed narrative description and budgets).

**Organization Information:**

Organization Name

Open Source Ecology

Also Known As

Address

PO Box 442

City

Maysville

State

MO

**Zip Code**

64469

**Phone**

Please use the following format: (xxx) xxx-xxxx

816-846-0736

**Fax**

Please use the following format: (xxx) xxx-xxxx

**Website Address**<http://opensourceecology.org>

**Tax ID (if this is a project of a fiscal sponsor, please use their Tax ID and complete the Fiscal Sponsor page 3 if applicable).**

Please include the hyphen (-) in the number

77-0298872

**Projected Annual Organizational Budget**

Please type the number without commas or dollar signs. (At the very end of this application form, you will be asked to attach a detailed organization budget).

2184669

**Organization's Mission/Mission Statement and Background**

Please describe your organization's mission, what it does, and evidence of experience and accomplishment. Please limit to 1-2 paragraphs (no more than 200 words)

Our mission is to create an open source economy: one that maximizes both production and distribution, while providing environmental regeneration and social justice.

We are developing an open source manufacturing equipment platform, called the Global Village Construction Set, we incubate business models based on the machinery, and we train producers to build the equipment themselves and establish their own enterprise through the OSE Fellowship Program and through online distance learning tools.

Our founder, Dr. Marcin Jakubowski, was named a 2011 TED Fellow, and his TED Talk was rated the 6th best of the year by the Huffington Post. We also waged a successful Kickstarter.com, raising \$63,573 with 1,380 backers to deliver the OSE Christmas Gift to the World: full beta-releases of four GVCS machines. On December 25, we released full documentation for the tractor, compressed earth brick press, soil pulverizer, and hydraulic power unit. We also have working prototypes of the CNC torch table, microtractor, bulldozer, ironworker, universal rotor, backhoe, and drill press.

**Year Organization Was Established**

2004

## Section 2: Contact Information

### Organization's Primary Contact

Prefix

e.g., Mr., Ms.

Dr.

First Name

Marcin

Middle Name

Middle Name or Initial

Last Name

Jakubowski

Suffix

e.g., Jr.

Title

Executive Director (Founder)

Phone (if other than main office number)

Please use the following format: (xxx) xxx-xxxx

Extension

E-mail Address

opensourceecology@gmail.com

**Contact for this request if other than above (otherwise click Next)**

Prefix

**First Name**

Aaron

**Middle Name****Last Name**

This is only required if entering a 2nd contact person.

Makaruk

**Suffix****Title**

Development Officer

**Office Phone**

Please use the following format: (xxx) xxx-xxxx

**Extension****Office Fax**

Please use the following format: (xxx) xxx-xxxx

**E-mail**

aaronmakaruk@gmail.com

## **Section 3: Request**

**Program Category**

If you are unsure about which category to choose, select Environment

Sustainable Environments-Green Economy

**Purpose of Grant**

A brief, one or two sentence statement of your specific request (e.g., "The purpose of the grant is to..."), maximum 250 characters

including spaces. You will be asked to provide a longer, detailed description later in this application.

The purpose of the grant is to create low-cost manufacturing equipment that accelerates the development of the next economy, an open source economy, where production is relocalized, bringing wealth and jobs back to communities.

Are you applying for General Operating Support or Project Support? (please select one).

Project Support

### Total Amount Requested

Please type the number without commas or dollar signs

332409

### Duration of the grant requested (in months)

Please enter 12, 24, or 36.

12

### Project Budget

Please type the number without commas or dollar signs. Please also be sure to provide the total cash budget for the entire project, not just Surdna's portion. (At the very end of this application form, you will be asked to attach a detailed project budget).

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### Additional Funding Sources For This Project

Please list other substantial funders and/or potential funders and amounts. Please indicate which funding is committed and which is projected. If this grant will match other funds, please describe.

Anonymous Foundation - Construction Grant - 60,000/46,000

Kickstarter Campaign - 63,573

Ewing Marion Kauffman Foundation - 100,000

True Fans Campaign - 520 People (currently) x \$10/month - 2011 estimate - 36,000

(to be announced) - \$360,000

Please provide a complete description of the project, detailing the components of your work and timeframe.

Please refer to your organization's greatest strengths and any significant challenges your organization may face in terms of capacity to succeed in your work. Please do not exceed the equivalent of two typed pages (1,000 words). (At the very end of this application form you may attach a longer, more detailed project description; this is strictly optional).

Open Source Ecology provides scalable and customizable solutions that address economic and environmental problems on a local and global level. We redesign manufacturing equipment in order to make it more accessible, and we develop enterprise plans that work with the machinery to facilitate the re-localization of industry using a regional resource base and distribution system. We train entrepreneurs to create their own productive capital and establish their own businesses, and we provide openly available distance learning programs to support independent replication of our work anywhere in the world.

Over the next 12 months, we are focused on completing the development of the Global Village Construction Set (GVCS), an open source, low cost, easy to build technology platform of the 50 key industrial machines that high living standards are based on in many parts of the world. The scope of the GVCS technology covers mechanical infrastructure, agriculture, renewable energy, construction, transportation, digital fabrication, and materials manufacturing. Our designs are, on average, 49% cheaper than retail models and 69% cheaper when fabricated by the end-user. Also, because everything we create is issued under the open source license, the designs undergo an accelerated rate of innovation through the power of collaborative development, which will drive down costs even further over time.

We are a network of engineers, fabricators, machinists, farmers, and multi-skilled supporters working together to create an entire economy of open source practices. A collaborative dialog allows us to share our successes and improve one another's work. We currently maintain a 3,300 page wiki with 1,700 registered users, as well as an

online forum, blog, and YouTube page with over 700 video updates. We also have a broad base of supporters called the True Fans, currently 520 people, who auto-donate \$10/month to support our work.

We collaborate globally, but development is concentrated at Factor e Farm, a 30-acre permaculture site in Missouri held in a Community Trust. Using our beta-released machinery (tractor, compressed earth brick press, soil pulverizer, and hydraulic power unit) we have nearly finished constructing a 3,000 sf training and fabrication facility as well as 10 living units to host our OSE Fellows. OSE Fellows, beginning in April 2012, will undergo paid entrepreneurial training in the context of prototyping and field testing GVCS machinery while the platform is in development. After a trial period, this program will serve as our core focus and will expand to impact multiple regions across the country and internationally.

We incubate enterprise models based on single machines as well as combinations of multiple pieces of equipment. The technology works together in additive manufacturing processes to enable a vast array of economic opportunities that we are only beginning to document. We provide comprehensive information on the internet to help people anywhere in the world apply our designs and models in their own regions, including: (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.

Given the seriousness of the problems we are addressing and the potential scope of impact, we face considerable challenges. We have secured funding for, and are on track to complete, beta-releases of the Micro-Factory, Power Infrastructure, and Construction Packages around the beginning of Q2 2012, which covers a total of 18 machines. Beyond that point, there are definitely some difficult designs ahead of us, including the induction furnace, for melting scrap steel and reforming it into virgin feed stock, the bio-plastic extruder, which produces biodegradable plastic from corn, and the 50 kW wind turbine.

We have a lot of people looking to us as a model for what is possible. We reflect the dreams of many people who have some very strong needs for a solution, and it's our challenge to maintain our integrity as we lay the foundation for a development pipeline for future open source technology and practices beyond the GVCS.

We also have some very strong advantages working in our favor. Dr. Marcin Jakubowski, our Founder, is a Princeton graduate with a PhD from the University of Wisconsin in Physics. He is a 2011 TED Fellow, rated the 6th top TED Talk of 2011 by the Huffington Post, and the video documentation of our work has helped generate a broad base of familiarity and trust. There are a lot of like-minded people working on this issue, including initiatives by the President, and we look forward to integrating with a national coalition to create jobs and redefine American manufacturing with solutions that address the needs and strengths of regional economies.

Also, the OSE network itself attracts the support of some extremely dedicated talent. The shifts in the global economy have created a lot of stress for people, but out of these conditions come an intense amount of focus aimed towards innovating a new economic model that works, potentially even better than the one that came before. People are excited by the prospect of having access to potent manufacturing technology, where regional wealth is determined not by the shifting winds of international economics, but instead by how well local resources are managed. Open Source Economy is working to accelerate the development of a new economy based on the abundant fulfillment of human needs, where technology is integrated into natural ecological systems, and intergenerational, open cooperation, locally and globally, reignite the sound belief in progress.

## Section 4: Financials and Attachments

**On The Next And Final Page Of This Application, Please Attach The Following Documents Electronically:**

\*Organizational Budget (for one year, noting income and expenses, and identify any in-kind contributions). [MS Word, MS Excel or Adobe Acrobat (.pdf) format]

\*Project Budget (not applicable if applying for general operating support).

\*Detailed Narrative Description [MS Word format]. This narrative should elaborate on the work described in Section 3. (project description, problem statement or context for your work, outcomes, activities, and indicators). Please limit to 5-7 pages.

This will complete the information we need from you to review your request.

Click Next to attach your files.

Attachments

Title	File Name
Detailed Project Description	<a href="#">Open Source Ecology - Detailed Narrative Description.pdf</a>
Organizational Budget	<a href="#">Open Source Ecology - Organizational Budget.pdf</a>
Project Budget	<a href="#">Open Source Ecology - Project Budget.pdf</a>

Files attached to this form may be deleted 120 days after submission.