

STARS Innovation Credit Letter: Passive Solar Wood Kiln Project, University of Oregon

January 24, 2011

To whom it may concern:

I am writing in support of The Passive Solar Lumber Kiln Project as a qualifier of STARS innovation Credit. The lumber kiln is part of a system that reuses local resources, which are typically wasted, converting them into valuable commodities that enrich the local community.

I am an Assistant Professor in the Product Design Program at the University of Oregon. My research focuses on collecting and studying simple and low-tech solutions from historical and divergent cultures and applying them to contemporary problems. In the summer of 2010 I ran a Product Design studio to design and build furniture for the Provost office Using wood from an Oak Tree that was harvested, milled and dried on the University campus.

This project came about through an unfortunate accident. A large oak tree fell onto Provost Jim Bean's car in the spring of 2009. Under the direction of Roger Kerrigan the tree was cut into large sections and allowed to dry in a university back lot, along with several other trees which had been taken down due to disease that same year.

Steve Mital, the UO Sustainability Director, approached me to see if I would be interested in using this wood for a class to build furniture for the Provosts office. In the fall of 2009, Roger Kerrigan hired a sawyer to bring a portable band saw mill to cut the logs into one and two inch thick large planks of wood. With the help of students these planks were carefully stacked into a shipping container that had been modified to become a passive solar wood drying kiln. The sun heats up the large metal box forcing water out of the wood, and a small fan replaces the air every hour keeping the wood from molding while speeding up the drying process. It typically takes about one year to dry a one-inch thick plank of wood and this process reduces that time by about on third.

In the summer of 2010 I directed a group of students in the design and fabrication of furniture for the provost's office and the lobby of Johnson Hall, the main administrative building on campus. The students learned how to take roughly sawn wood and turn it into quality, well-constructed and durable furniture.

The remaining wood was purchased by the new University Alumni Center, which is being built on campus where the wood will be used to build out interior spaces.

The University of Oregon campus has numerous large trees that were planted early in the establishment of the University; some are more than 100 years old.

All of the trees on campus have been mapped, cataloged and numbered.

Every year several trees are sustainably harvested, due to disease, or fall in storms. Previously, these trees had been chipped into mulch or burned as fuel.

Many faculty and staff have strong connections to these trees, therefore it is important to note that it is the intention of the University to utilize the wood for projects on campus or for social projects in the immediate community. The wood is made available to students and contractors who are working on these projects. The passive solar lumber kiln has been recently updated with a 400 cubic foot per min electric fan to improve the drying process and is in constant use. The Kiln has a large capacity to handle the milled wood from all trees that are sustainably harvested from campus. The process has a very low carbon transportation cost and is ideal for use in LEED certified building projects.

The Innovative nature of this project comes from a very old idea, using local materials to make things that solve local problems. This is unusual in an age of outsourcing and importing. This project is also unique in that each tree has been numbered and mapped by the University Arborist. Each number can be used to access historical data and information about the tree. We have taken that number and laser etched it into each product made from this wood, allowing the information and history of the tree to be accessed for each project produced from the wood. This Project has helped UO to rethink its relationship with its own natural resources and its concept of waste. It is yet another example of how the University of Oregon has placed sustainability as a major priority.

I hope that you will agree that this project should be applicable for STARS innovation credits.

Best regards,

A handwritten signature in black ink that reads "John Arndt". The signature is written in a cursive style with a horizontal line extending to the left of the name.

John Arndt  
Assistant professor  
Product Design University of Oregon  
University of Oregon