



Concept and Community Economic Sustainability

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Natalie Samovich, Mark Rechter, Founders Algarve Energy Park, November 2009

Starting Point

From the first brainstorm session between founders, architects and program managers the Algarve Energy Park project was envisioned as a collaborative effort to design, build and operate a model sustainable community in the Algarve region. A community that will not only work in support of creating cleaner energy, but will also operate within premises that inspire and aspire to multifunctional usage while incorporating best practices in sustainable development. Such an innovative approach, jointly with the implementation of new and evolving technologies, will create a community that not only designs and develops new technologies, but also sets standards in sustainable living. To achieve these goals a list of Project Values was drawn up: a list which is continuously updated and refined in order to take into account new ideas and project collaborators' input and evolving research.

It is an ongoing process. Sustainability can be viewed as collective thinking evolving around a number of topics ranging from economics to business strategy, as well as architecture and master planning. **Economic viability** of the community is a vital part of an overall sustainability approach. In order to ensure viability, a number of success parameters have been defined for the Algarve Energy Park. It needs to be attractive to businesses, as well as meet academic and industry needs. It also needs to be multifunctional, integrated within its various components, interactive and accessible to the public. These parameters form the basis of the master plan and guide the sustainability principles and approach.

The Algarve Energy Park's vision is centered on a number of goals. The overall development aims to pave the road for **regional diversification**, which is an important factor for continuous development and sustainable growth of

the Algarve region. Within the Algarve Energy Park this will be supported by **year-round activity scope** of the concept. The research facilities that accommodate academics and programs from different universities is an approach which reflects the needs of our times and complements the other activities within the cluster. Synergies created from combining research, development and high value component production and testing within a single cluster development are expected to ensure sustainability of the concept and continuity of the activities. Long-term viability of any sustainable concept can only be achieved if further expansion of economic activity results from such a development. Algarve Energy Park, jointly with projects in its immediate surrounding, will form an economic nucleus that will, in turn, offer an attractive proposition for more businesses and development.

In order to answer in more detail questions related to the concept values and sustainable principles discussed above, please, find some additional insights related to the project values:

How are we going to create a "model sustainable community"?

We are collaborating with leading academic, industry and expert institutions to determine cutting edge sustainability principles and guidelines for the community. Rooted in a Urban Metabolism approach, we will aim to employ advanced technologies and systems in relation to energy, water, air, waste, logistics and transportation management, among others.

Why does the Algarve Energy Park need to be a "reflection of our times"?

We are living in an era of significant and necessary change. The required change occurs not only at the tech-

nology level, but more importantly is also required at the behavioral level of the population. The Algarve Energy Park can function as a symbol of positive change: using technology to bring us closer to nature.

How will "engineering systems design and implementation" help us reach our goals?

Advanced engineering systems design and implementation are a core part of linking the different technologies and processes in a way that maximizes their combined impact.

What do we mean by "sources of energy selection and on-site renewable energy production" and how are we going to implement them?

Energy source selection refers to the types of clean energy sources that can be employed for producing the community's energy. The choice of technology, capacity and timing will be driven by factors like efficiency at the location, demonstration value, and economic value.

What do we mean by "built-in adaptability to technological changes and innovation throughout the community"?

This refers to Urban Metabolism - a systems approach to designing and implementing communities that will allow for their adaptability and scalability to new technologies.

How are we going to "promote alternative transportation options (low or zero carbon)"?

A main goal of the Algarve Energy Park is to be implemented as a zero carbon community. This will include EV internal transport only, and a close collaboration with the evolving mobility industry.

In view of the significant social, economic, and academic expected impact the Algarve Energy Park will have, local, regional and national authorities are actively engaging in supporting the project. Opportunities exist for the project to become a show case for European and Portuguese efforts in the areas of renewable energy and health care, which in turn should allow for more investment, visitors and knowledge workers to be attracted to the region. At the local level, the project's ability to create new high qualified jobs, provide access to the MIT Portugal program, and attract additional investment make the project a priority for local municipalities involved, as well as regional authorities. The strong involvement of academic institutions allow the project to create further spin off benefits at both the local and national level. Ongoing discussion with foreign industry and academic institutions should allow the project to become a truly international collaborative platform.

Economic parameters of community sustainability are important factors along with the design principles and master plan approach principles. The Algarve Energy Park is designed to provide regional diversification and seeks to attract growth sector industries to the region supported by local and regional government. It will form and expand the economic nucleus with the neighboring developments. Multiple functions, such as the Energy Experience Park, the Preventive Health Care Cluster and the Clean Tech village will complement each other. Regional diversification, together with the year-round activity scope within the park, educational excellence and representation of growth sector industries, will be integrated within meaningful public spaces.

