

Concept: In order to capture the economic upside of the growing solar industry, the University of Arizona Science and Technology Park envisions the development of a solar business zone within the Tech Park. The zone will be dedicated to the creation of a competitive environment for companies in the sector to rollout current and create next generation new energy products, attract key suppliers and talent in order to promote industry success and advancement. Ideally, companies will work not only on their own business interests but also team with the Tech Park and key regional partners to influence the solar strategy of the region. Lastly, the zone will be one of the regional showpieces for solar application and promotion in order to demonstrate and educate the community on solar energy.

Vision: To create an integrated business park with world class companies and organizations working to increase southern Arizona's renewable energy capacity, develop world class solar products, create imaginative next generation technology and establish a model solar demonstration campus for metro-Tucson. The end result will be the attraction and development of successful companies in residence, substantial economic impact for the region and increased capacity and usage of renewable energy throughout southern Arizona.



Campus: The 200+ acre Solar Zone will be located within the University of Arizona Science and Technology Park along the north-central part of the park allowing for generation, assembly/manufacturing, R&D and classroom/training and office uses.

SEBZ will be situated in one of the fastest growing business centers in the metropolitan region with substantial employment center, residential neighborhoods and planned development to include retail, commercial, hospitality and recreational centers. Currently residing in the Tech Park Corridor are Global Solar Energy, Target Fulfillment Center, La Costena, Offshore International, Direct TV and more. Additionally, the corridor expects to see new commercial development to commence in the near future. Also, we expect new road improvements to Rita Road and the proposed Julian Wash linear park to make the Tech Park Corridor a destination location for new industry and talent. The SEBZ will clearly complement this area of metro-Tucson.

Components: The component parts of the Solar Zone include, but are not limited to: generation, storage, manufacturing/assembly, supply chain, research and development, education, workforce training, demonstration center.

- Generation- Suitable for multiple generation technologies. Tucson Electric Power is required to meet a threshold of 15% of energy from renewable sources by 2025.

- Manufacturing/Assembly- Designed for manufacturers of solar power panels, solar cells, module assembly, systems integration and assembly, concentrators, frames, etc.
- R&D- Leveraging the UA's Arizona Research Institute for Solar Energy for investigation and development of next generation solar technology. Potential industry/university collaboration.
- Education- Students working hands on with industry to learn real world application and problem solving for companies and organizations in ASBRP.
- Workforce Development- Potential for institutions like Pima County Community College to develop workforce training and retraining programs for the solar industry in southern Arizona. Technicians, installers, etc. Industry input into curriculum.
- Solar Start Ups- University research combined with innovative talent and industry input can create spin out opportunities for new companies to grow up in the zone. The Arizona Center for Innovation, located at UASTP, can provide incubator services to spin offs.
- Public Awareness Center- Showcasing the community how solar energy works, how it can be used, how it helps our environment, etc. The Zone intends to stimulate public interest and awareness of clean energy.

Value: The Solar Zone can contribute significant value to the region economically, environmentally and much more. Some examples of quantitative value -adds are:

- Competitive Location for Industry- Abundance of sunlight, availability of land, talented workforce, rapid permitting, connection to university assets, regional commitment to solar/ renewable energy make southern Arizona a frontier of the future for clean energy technologies built around solar. First movers can help shape the southern Arizona solar agenda to ensure a sustainable environment for the industry into the future.



- Positive Economic Impact- Investment in solar technology will create positive economic impact through high wage job creation, tax base enhancement, research grant opportunities, mix of companies and technologies. The overall solar industry market is estimated at \$70 billion in revenues for 2008. In 2008 domestic PV cell manufacturing capacity grew 65 percent to 685 MW and production grew 53 percent to 414 MW (Source- Greentech Media). The US is currently ranked fourth in the world behind Germany, Japan and Spain for solar capacity, even though solar accounts for about 1% of the US energy mix. Clearly, market opportunity exists.
- Workforce Preparation- Potential impact includes preparation of the local workforce for clean energy jobs expected to emerge in the next decade. Training and re-training courses centered in the business park are a natural fit. The industry estimates

employment growth to reach 1.2 million by 2020 (Source- Solar Energy Industry Association).

- Environmental Impact- Increasing the solar energy capacity in southern Arizona means more renewable energy used in the region. Additionally, Arizona Corporation Commission mandates that electric utilities derive a minimum 15% of energy from renewable sources lowering dependencies on fossil fuels. A potential 12 MW of solar energy means a reduction in carbon emissions at the rate of 26.4 million pounds annually. That is equivalent to removing 64,000 cars from the road over a thirty year expected useful life of a 12MW plant. (EPA estimates which are based on a 3.5MW facility, provided by Dr. Gary Pivo).
- Publicity, Acceptance and Usage- Park impacts can include a visible showcase for solar energy, expediting the acceptance and usage of renewable energy region-wide. Wide-spread publicity will support the overall marketability of the park and the region as a one-stop shop for clean energy technology.
- Global Connectivity: We will work proactively to connect the Solar Zone to selected and prequalified research centers internationally and create productive global partnerships with relevant solar centers. A first example will be the expansion of relationships with Adlershof Science City in Berlin, Germany. A globally connected park will open up new inward investment opportunities that compliment rather than compete with existing residents while offering R&D collaborations between research institutions. Joint marketing and business development functions can be pursued to increase visibility of UASTP.