

## Engineering and Project Finance Competition

The energy sector thrives on innovation. We continue to face new and ever evolving challenges within oil and gas, and the energy sector in general. As discoveries become more challenging and sparse, technology continuously adapts and litany of new techniques are employed. The oil and gas industry supply a prime example of what needs to take place throughout the energy sector. With Texas being very dependent on natural gas power generation, consumers are constantly exposed to market fluctuations. So, the question is “How do we, and the global population, reduce our dependency on conventional power resources such as coal and natural gas?” I ask you; why not tap into the tremendous power held by our oceans, lakes, and rivers? Why not truly tap into the potential our own sun offers?

Cameron Industries has given the Energy Association a tremendous opportunity. Two projects which are under heavy consideration for development are a water turbine and a Stirling engine, both of which yield a great potential. Both components exist and are currently in service, so this is not simply theory. Your task is to design a more efficient, cost effective product for both cases, and deliver a well detailed market analysis, ultimately defining which product you would produce. You will provide a detailed report, no longer than 20 pages, discussing product costs, market prospects, market size, discounted cash flows, and design, as well as an executive summary. Not only will this need to be in a paper format, but you will also be required to present your findings in person to the competition judges.

Since this is a very involved competition, the deadline for your paper submission is March 20<sup>th</sup>, and the presentations will follow shortly. Competition results will be announced at our end of semester banquet, yielding \$4500.00 to the winning team. Teams are to be comprised of no less than 2 persons and no more than 5, with at least 1 engineering student and 1 business student per team.

Some subject matter to consider:

- Power generation
- Cost/kWh
- Discounted Cash Flow
- Product Life Span
- Target Markets (locally and globally)
- Product Design & Description
- Market Size
- Maintenance Costs
- Servicing Agreements
- Selling Price and Profit Margins
- Existing Power Supply Grids
- Product Use

The above are not listed in any particular order of precedent, nor are you limited to only including this material. They are listed simply to provoke thought and give all contestants an example of what is being asked. If you feel compelled to add additional information, please feel free to so.

I urge each member to become involved in every aspect of this competition. Not only will you gain invaluable real world business experience, but your solution could quite literally jump start the next wave of energy production. There is no other competition of this nature within the Bauer College of Business, and all who participate will set themselves apart.