Interview with Mr. REN Desheng, General Engineer of Jiangsu jiangnan environmental engineering design Institute and Dr. ZHU Fahua, Deputy Director of Guodian Science and Technology Co.Ltd

Q: Are energy-generation products related to Synthetic Biology available in the market?
A: I'm not so sure about that…but I haven't heard of any Synthetic Biology products in this field. The conventional ways to deal with organic waste are sedimentation with flocculant (physical method), oxidizing the waste into carbon dioxide and water (chemical method), and utilizing microbes to decompose the waste (bio-chemical method). Researches are still in progress and I hope that they are soon to come.

Q: Can our MFC products generate enough energy for practical use?
A: I'm afraid not because…you know, we need about 50W just to power a light bulb. Currently the energy-generation capacity of MFC products is measured in '$\mu W/cm^2$', that's very little energy for practical use. Generally the solar panels made in China can generate electricity at 150-200w/m^2 and solar cells have already been regarded as power cells with very low energy-generation efficiency.

Q: How to reduce the production costs?
A: Firstly, if more companies invest in the area, the manufacture line will be optimized and the cost naturally reduces. For your project, well…I think you can try to fill the anode of MFC with industrial waste water. Waste water is actually not useless, but it contains abundant carbon sources and valuable minerals and ions. There are loads of heavy metal ions in the waste water that we deal with every day and these ions may help with facilitate the electricity generation (like acting as a cofactor to electron transportation). If it works, it will definitely be an excellent reuse of waste water and will also reduce production costs.

Q: What is the hotspot of new energy nowadays?
A: Hydrogen Energy and Bio Energy, I think. Loads of our researches are in the field of Hydrogen Energy these days because hydrogen energy is clean and efficient, ideal energy to use. Bio energy also overwhelms other energy sources in high efficiency, and I think that will be the future trend as the technology develops.

Q: Will our project prospect be attractive in this industry?
A: Yes, definitely. It's an environmental friendly cell. It's clean. It's safe if you restrictedly follow all the protocols. Just focus on lowering its costs and improving its electricity output.

Q: What's the future developing trend of new energy?
A: Renewable energy will gradually replace traditional forms of energy. Our researches are mainly focused on renewable energy and environmental friendly energy these days.