Appendix 2: Bluetech Award Categories

Category 1: Diesel Engine Pollution Control

Over the past few years, China is driving at an increasingly faster pace: in fact, the country is ranked first globally in terms of vehicle speed increase rate over the past five years. China is also driving longer distance: the average mileage of passenger vehicles in Beijing today is approximately 44 km per day, twice as much as that in the EU. Additionally, most cars are driven in developed urban areas, which subsequently concentrate air pollution in urban regions. In China's megacities like Beijing, Shanghai and Shenzhen, vehicle emissions have become the top local polluter of $PM_{2.5}$, contributing to nearly 30% of all local $PM_{2.5}$ emissions. Diesel vehicles are believed as the most significant problem, as they are responsible for up to 70% of all vehicle NO_x emissions, and up to 90% of all vehicle particulate matter emissions. Furthermore, diesel powered non-road vehicles, such as ships, port machinery, agricultural machinery and general engineering machinery and so on, their emissions are also believed as significant problems due to lack of control. Some advanced cities like Shanghai and Shenzhen have already begun their policy making to control non-road vehicle emissions.

We are looking for the following types of diesel engine pollution control technologies:

- Fuel treatment technologies, such as diesel fuel treatment, fuel substitutes, etc.
- Engine combustion optimization technologies, such as Exhaust Gas Recirculation, fuel injection optimization techniques, etc.
- Engine emission control technology, such as Diesel Oxidant Catalyst, Particulate Oxidation, Catalyst, Selective Catalytic Reaction, Diesel Particulate Filter, etc.

Category 2: Straw Recycling

Straw burning is a common practice in China and is one of the largest sources of airborne contaminants in rural areas. Straw burning produces SO_2, NO_x and inhalable particulate matters that harms atmospheric environment, and causes poor visibility impacting air and road traffic safety. Unlike straw burning, straw recycling technologies can reduce air pollution and generate value by producing energy, fuel, and foster economic development.

We are looking for the following types of straw recycling technologies:

- Biofuel and biomass burning technologies, such as straw biofuel technologies, biomass stoves and furnaces, etc.
- Organic construction materials, such as building blocks, furniture, etc.
- Straw-based fertilizers and feeds, such as mushroom growing mediums, silage, etc.
- Other innovative methods or solutions to utilize straw.

Category 3: VOC Monitoring, Substitution and Pollution Control

VOC is one of the main primary pollutants in various regions throughout China and is one of the major precursors for secondary $PM_{2.5}$ and ozone. VOC and its secondary products are toxic and cancerous, harming public health. As the China launches the official "war on pollution," the 13th Five Year Plan listed VOC as an important contaminant, pushing some major cities and provinces to create their own VOC control targets.

We are looking for the following types of VOC monitoring and control technologies:

- VOC monitoring technologies, such as online monitoring devices, portable devices, etc.
- Leak Detection and Repair (LDAR) related technologies, such as leak detection technology, leak repair technology, etc.
- VOC end of pipe control technologies, such as VOC recycling technology, VOC destruct system, etc.
- Low VOC substitutes, such as low VOC paint, low VOC solvents, etc.
- Other technologies that address VOC pollution.

Category 4: Indoor Air Purification

People spend, on average, 70% of their time in indoor environment and therefore are potentially more exposed to indoor air pollutants. In addition to outdoor pollution infiltration, there are also many pollution sources in indoor environments, which causes high indoor air pollution that are often more severe than the outdoor air. As people are becoming more aware of air quality and health, concerns on the indoor air quality have also been raised.

We are looking for the following types of indoor air purification technologies:

- Central HVAC system purification technologies.
- Decentralized purification technologies, such as indoor air purifiers, vehicle air purifiers, etc.