

Ravi Seethapathy, Executive Chairman, Biosirus

Tell us about Biosirus and the products it brings to the marketplace.

Biosirus is a small Canadian company with a global footprint that looks to the future and tends to shape best practices and solution-sets in the energy area. We tend to look beyond today's horizons and offer insights which makes business sense. Energy efficiency, renewable energy integration, energy storage and microgrids frame our near-term focus.

Our mainstay is our advisory practice to utilities, government and industry, but we have in the recent past influenced very advanced technologies in the above areas from the best of such minds globally. We firmly believe that conservation does not mean lower quality of life or sacrifices, but rather wise choices for one's own use and the greater good of this planet.

Today have a suite of technology solutions in industrial, commercial and municipal lighting, achieving up to 75 per cent energy savings, and HVAC-R, achieving up to 45 per cent energy savings, mostly all aimed at the retrofit market. This year, we introduced small pico and nano off-grid systems for rural applications. These can seamlessly integrate solar PV, small-wind and batteries and can be "daisy chained" for power scalability as the need grows. Each of these solutions have been carefully thought out with the future imperatives in mind.

A very recent development is in the area of demand-controlled ventilation or indoor parking garages which manages air-changes based on real-time CO emissions, as against fixed air-changes. The energy savings are huge when there is little traffic inside.

We think of small differentiated details from the global customer's perspective. Non-traditional partnership channels offer best business prospects and ideas. We scout the world for such best technology partnerships. Often, small is beautiful.

What does your work with the Toronto Atmospheric Fund involve?

The Toronto Atmospheric Fund is a non-profit corporation of the City of Toronto. It began in 1991 as a bold idea in Toronto to look for solutions to reduce GHGs and air pollution. TAF has grown substantially today, co-investing in practical aspect of understanding community needs, introducing pathways to new technology implementation, overcoming traditional barriers, undertaking pilot projects, and new ways of socially-responsible, risk-adjusted market-return based investing.

This unique understanding and experience paves the way for global smart cities programmes, that is, where people spend less time commuting, spend less money on energy costs and the fallout of extreme weather events, and breathe cleaner air.

Why is the World Future Energy Summit an important event?

The WFES brings together the world's thought leaders on energy and its nexus with other linked industries such as water, effluent treatment, buildings, societal development and health. Each year, it

emphasises certain areas of focus which requires attention. In the past, despite the MENA region being low-cost oil and gas producers, WFES has pushed for a renewable energy focus. This year, the focus is on energy efficiency, smart cities and COP21.

What will you be talking about at the World Future Energy Summit?

I will be talking about the importance of MENA region adopting the best of renewable energy and energy efficiency. The MENA hot climate, together with its large commercial spaces, currently have

The single biggest GHG emitter in the energy sector is fossil-fueled generation and fossil-fueled utilisation, such as transportation and heating. The maximisation of much more renewables in our energy mix will be required to achieve our collective goals for our planet. It will not be easy, but we must try.

What future plans does Biosirus have?

Our future plans are to continue down the path of technology solutions and development in the bigger, wider energy eco-system and its connected nexus, such as water, buildings, garbage, transportation. Any



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a large cooling and lighting load. Both these energy footprints can be reduced through new technologies, primarily in retrofit. New building codes merely influence upcoming buildings, but existing stock needs to be dealt with immediately. Retrofits can save up to 75 per cent energy and have a very quick paybacks. The rising electricity tariffs in MENA region now makes such technology adoption invaluable.

Another focus is the introduction of hybrid renewable energy solutions in our everyday use. The fossil displacement is now much more pronounced with renewable energy mix. Just as weight loss is essential for good health, energy efficiency and conservation are essential for sustainability.

What role can governments play in increasing the use of renewables?

Policy, and hence governments, play a vital role in shaping the future needs of communities and societies. Major infrastructure like railways, airports, roadways, buildings, waterways, transportation vehicles and other such common elements have always been a subject of vital policy requirements. Over the last 100 years, this planet has been influenced by many such policy changes, mostly good but some retrograde. Thus, despite the explosive growth in global populations we have managed to keep this planet from bursting at its seams, until now.

Reducing carbon emissions in every which way from our lives needs to become our number one priority. This will mean changes in our lifestyle, changes in urban designs, changes in mass and personal transportation and in water use – all with a view to cut GHG emissions and hence energy use. To meet these objectives, very unpopular policy changes may need to be enforced by governments.

cost-effective hybrid solution that intersects with energy efficiency, renewable or bio-waste integration and real-time control will be interesting to us. The smaller the unit size the better, as it can be distributed easily with little common infrastructure.

We are working with partners in the development of very low cost revenue grade smart meters, primarily to meet the needs of sub-metering systems, as well as smaller, utilised bio-waste generators for load displacement, cladding materials for building envelopes for the hot climatic areas of the world, and lightweight structural materials for cheap housing.

• Ravi Seethapathy is the Executive Chairman, Biosirus Inc (www.biosirus.com) and a board member of Toronto Atmospheric Fund (www.taf.ca)

