The interview highlights how the private sector can engage with the public sector to help drive investment and implementation of strategic action on climate change.

AECOM is a Fortune 500 firm that provides technical and management support services and designs, builds, finances and operates infrastructure assets for governments, businesses and organizations in more than 150 countries. AECOM serves across a broad range of sectors that include transportation, facilities, environment, energy, oil and gas, water, high-rise buildings and delivers innovative and sustainable solutions that create, enhance and sustain the world’s built, natural and social environments.

Q: Why should the public sector consider private sector investment and what makes private sector participation attractive for governments transitioning towards low emission development strategies (LEDS)?

A: The role of private sector investment in assisting the transition to low-emission development is crucial and well recognised, given that the public sector lacks the requisite finance to be able to meet the scale of investment needed by itself.

The public sector is happy to engage with the private sector, if the private sector invests the capital and also offers its skillsets and technological capabilities. Thereby, the private sector’s expertise can be leveraged in the implementation and operation of the infrastructure as well. The risks of such public-private engagement are limited from the public sector or government’s point of view - the major risk being that if the project fails or results are not delivered, then the onus is on the public sector and it gets the bulk of the blame.

The private sector will invest in low emission development if this is resulting in favourable returns and if it is able to balance the risks.

Dr. Thomas Tang, the Sustainability Director for AECOM Asia, has been working in the sustainability practice sector for over 20 years. Presently, he also serves as the Managing Director for the Kuala Lumpur Centre for Sustainable Innovation. In this capacity he is leading a team in the Malaysian city researching low-carbon and sustainable solutions, test-bedding them as innovative ‘living laboratory’ projects to demonstrate concept of proof and creating commercial opportunities to benefit the city’s economy.

He is also a member of the Social Progress Malaysia Committee, part of the global Social Progress Imperative overseeing the role of social innovation in low carbon economic growth and development. Dr. Tang is AECOM’s Asia representative for the UNISDR Private Sector Alliance for Disaster Resilient Societies (ARISE), which promotes private sector engagement in climate protection and resilience. He has relevant in-country work experience in Malaysia, Singapore, Indonesia, Vietnam, Thailand, India, China and Japan on climate change adaptation and risk projects. He has also provided inputs into the climate strategies for Hong Kong and Singapore’s national governments.
Q: At what stage of the project should the public sector approach private investors? Is there an optimal project scale to successfully engage private investors?

A: Dialogue with private investors can be generally initiated at two stages:

- Showcasing the business plan to engage private investors right from the project conception stage before the project begins
- At a later stage, once the project is operational and returns and benefits are demonstrated in practice, it is easier to get private investors interested in upscaling or replicating the project

With regards to project scale, private investment decisions are rather more dependent on the risk considerations, which might be linked to the scale of the project. Large scale projects tend to have inherent complexities and are perceived to have more risks. The risk profile of small projects can also inhibit private investment, depending on factors such as the nature of the project, the sector and the underlying investment and regulatory climate in the host country. In terms of size, the project should be large enough and well-structured to generate sufficient returns for private investors.

Q: What are the business models adopted by the private sector to invest in and implement LEDS projects with the public sector? Please state a few examples.

A: The commonly adopted models for private sector investment in infrastructure and low emission development projects are:

- **Concession based Public Private Partnership (PPP)** - Through exclusive rights granted by the government, the private sector offers its services to construct, operate, and maintain the facility or infrastructure while the public sector retains ownership of the asset. The private sector’s returns from the project are facilitated either through a concession model or other offerings by the government, such as subsidies over a certain concession period which contribute to the project’s revenue stream.

  Concession agreements are common in infrastructure sectors such as highways and rail transit system, wherein a private company builds and manages the infrastructure and is remunerated through tolls, running the risk that the revenue generated will not cover its investment and other costs incurred. It is important that the Government ensures that the concessions given to the private sector are of the right nature and scale to make the project commercially viable and to reduce the risk taken on by the private sector.

  PPPs can also be sometimes implemented in the form of the Alliancing model. Alliance contracting focuses on encouraging close collaboration between the public and private sector to ensure that the interests of all parties are aligned with the project objectives and has gained popularity in recent years. Traditional PPP agreements tend to focus on transferring most of the risks to the private contractor. This is counter-productive since this can impact transparency and trust, lead to increased pricing to absorb the risks, and inhibit private sector engagement. The alliance contracting model helps address such issues through sharing of risks and rewards between parties. Alliance contracts are designed to promote a culture of cooperative decision-making, risk sharing, no blame and no dispute, and financial transparency. Alliance contracting model has been used in high-risk projects such as oil and gas exploration and projects using novel construction or technology and thereby requiring greater collaboration. Alliance contracts have also helped successfully deliver road, rail and water projects.

- **Performance Contracts** - Performance contracting helps to achieve improved service delivery and efficiency, with the private sector investing in the capital expenditure and guaranteeing performance in terms of outputs or savings. A performance-based remuneration is paid to the private agency for the guaranteed savings such as reduced costs for energy and water.
Creating the right incentives for the private sector to invest in performance contracting for LEDS is crucial. The true cost of commodities or resources such as energy and water should be considered and reflected in the performance contracts. Government support can often play an important role in overcoming various barriers. In China, access to finance was a major constraint hindering the growth of the energy service company (ESCO) market, since domestic banks were unwilling to underwrite the risks for commercial loans given to ESCOs for implementing energy efficiency projects. To overcome this barrier, the ESCO Loan Guarantee Program was developed to cover risks of default and provide loan guarantees for the ESCOs.

- **The Design, Build, Operate, Transfer model** - The private sector puts in equity finance and also designs, builds and operates the project. The private sector retains revenues generated by the project and owns the facility or infrastructure, with the ownership subsequently transferred to the public sector at the end of the contract period. The Design, Build, Operate, Transfer model is commonly used in waste landfill or processing, water, sanitation, renewable, and transport projects. This model is very much similar to a PPP - instead of a partnership as in PPP, this model is driven by a contract and the public sector has to uphold the contract. If there is certain guaranteed revenue on the investment which cannot be met, the public sector has to bridge the gap through its own funds.

To address specific challenges and opportunities, innovative variations of the conventional business models have been developed across different low carbon sectors in recent years. In the waste sector, the conventional ‘tipping fee’ model is being replaced by other non-tipping fee based models to incentivize minimization of waste going to landfill. Payments or incentives to project developers are being linked with the use of sustainable waste processing methods or are based on the performance of waste processing facilities.

Under the Operational Expenditure (OPEX) model for solar projects, the private project developer makes the capital investment for the renewable energy system, installs the system on the end-consumer’s property or rooftop and often is also responsible for its maintenance. The consumer has to enter into a long term (15-25 years) power purchase agreement (PPA) with the developer to purchase and consume all the power generated by the system. The long term PPA shields the host from escalating grid-based power tariffs and provides the host with assured power supply at a fixed tariff. Project developers often want to lease out the roof or the space on which the solar project is built, to address risks of non-payment by consumers and to help secure finance for the project through the lease rights.

**Q: What are challenges that the private sector faces in terms of viability for different types of LEDS projects? What can be done to improve project viability?**

**A:** Low emission development, most of the times, is linked to infrastructure investment and implementation. It is often difficult to assign an economic value to infrastructure such as sea walls or drainage channels. Therefore, the private sector generally avoids investing in such low-end infrastructure projects which does not always guarantee high returns. A key challenge is that the private sector at times looks for short-term lucrative returns while most LEDS projects will have a longer duration and tend to generate returns gradually.

The return-driven nature of private investments can come into conflict with the wider social and environmental goals of low emission development. Projects in sectors such as transport and waste are important as a social need but such projects do not necessarily have the best business models and returns for private investors. For instance, insufficient supply and quality of waste and lack of supporting...
infrastructure are key risks that can undermine successful operation of waste-to-energy projects. Therefore, such sectors are not very attractive from the private investment perspective. Sectors such as energy and water are deemed to be more attractive in comparison, though this is dependent on the concessions that are offered by the public sector entities involved.

The public sector has to structure projects and make use of available resources and policy tools and prepare equitable concession agreements to help the private investors get better returns on their low-emission investments. Co-financing approaches can help mitigate risks for private investors by distributing the risks between different parties such as public sector institutions and financial institutions, as is being done in hydropower, waste-to-energy and geothermal energy projects.

Q: What are the barriers towards private sector investment in LEDS?

A: A number of barriers can hinder the private sector from investing and engaging in LEDS implementation by the public sector, such as:

- The public sector needs to have well-structured bankable projects with a strong business plan which provides clarity on key questions such as: “What is the investment needed for?”, “How will the investment be utilized?” and “What will be the resulting returns and benefits”. Most governments are unaware of how to apply for private funding and rather than asking for help, they decide not to apply and maintain the status quo.

- Political interference or political pressure is often out of the control of the private sector and often undermines investment from the private sector. Governments often expect new infrastructure or projects to benefit the local economy and markets. LEDS projects and technologies often target achieving outputs with efficient use of available resources and the corresponding infrastructure creation may not necessarily lead to notable co-benefits such as job creation. In order to meet the political demand that local economy and jobs should benefit from the project implementation, local manpower has to be hired for such projects. However, the local workforce may not be at par with international standards and not best suited for the job, thereby negatively impacting the project.

- Technology related barriers such as the lack of experience and confidence of the public sector in new and unproven technologies and business models which are being tested in their countries based on success in other regions of the world, as seen in the case of biomass, ground heat pumps and energy efficiency projects.

- The private sector intends to reduce risks and protect its investment by taking due care while drawing up contractual agreements to cover liabilities, personal indemnities, ensure timely payments and returns. In some cases, once the private sector has deployed its investment and is expecting guaranteed returns, enforcement of the contracts becomes a big challenge due to the public sector not withholding the agreement, or due to malpractices. There is little the private sector can do to protect itself from such risks, except avoiding to engage in such countries in the first place. Therefore, although there is willingness of the private sector to invest, at times the challenging political, regulatory and financial environment in some countries and the reputation for corruption overrides this sentiment.

- The way the public and private sector operate can be notably different. Unfamiliarity of the operational modalities and lack of mutual understanding can lead to tension and frustration on both sides.

Q: What do you suggest should be done to mainstream private sector investment in LEDS?

A: A few key steps that can be taken to lower the risks and develop the right environment to boost private sector investment are as follows:

- In any project, investment decisions are made by the private sector based on the risk-return profile. Measures taken by governments to address political and regulatory risks such as breach of contract,
corruption, changing PPP legislation or tariff regulation can create a more conducive environment for enabling private investment. Public intervention through instruments such as policy support and financial contribution or incentives is needed to leverage private capital in low emission development areas or sectors where an acceptable risk/return profile cannot be reached.

- The public and private sector need to talk the same language and find common points of interest, in terms of the goals and principles for low emission development. Platforms that bring the public and private sector together are needed. Increased clarity and transparency, from both the public and the private sector, can help overcome the lack of trust and promote better public-private co-operation.
- Recognition of the impact of climate change and its externalities on business can bring about a paradigm shift in private sector investment in LEDS. Factoring externalities into the cost of resources such as water and electricity and conventional technologies will help drive investment from the private sector.

**Q: AECOM is an active member of the UNISDR Private Sector Alliance for Disaster Resilient Societies (ARISE). Please tell us more about this network and how AECOM is contributing to it.**

**A:** ARISE is a UNISDR-led network of private sector entities, looking at climate resilience in cities and communities. ARISE members share information, experience, activities, and projects, while the level of involvement and resources is at the discretion of each member. Most activities and interactions are at the local and regional level, and ARISE is structured accordingly.

ARISE is a vehicle which will allow the private sector to fulfil the expectations articulated in the Sendai Framework for disaster risk reduction and overall commitment to enhance preparedness and to build back better when appropriate. ARISE will, expectedly, take time to gain enough traction to sufficiently influence private investment in climate protection. Currently, ARISE is a collection of companies who look at climate change as a concern and an opportunity.

ARISE does bring together unusual partners, one being the insurance sector which has an interest in disaster prevention to avoid huge payoffs due to asset damage. Another member that stands out is SM Prime Holdings Inc. from the retail sector in the Philippines. SM Prime Holdings has witnessed that displaced communities seek refuge in supermarkets and malls during disasters in the country and wants to invest in building disaster resilient malls and properties which can act as disaster shelters for the community and help avert loss of life and business.

As part of ARISE, we have been using the UNISDR scorecard designed by AECOM and IBM to assess urban vulnerability and to develop means of disaster prevention. The city disaster resilience scorecard has been applied in the Asian cities of Da Nang, Bandung and Makati in a series of workshops involving government and private sector participants.
The Asia Low Emission Development Strategies (LEDS) Partnership is a voluntary regional network comprised of individuals and organizations from the public, private, and non-governmental sectors active in designing, promoting, and/or implementing LEDS in Asia. For more information, please visit www.asialeds.org.

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