

Summit on Science and Technology Enablement for the Sustainable Development Goals



November 29, 2016

New York City

URBANIZATION Scope and Opportunity

Definition: Cities are complex but important ecosystems to realize the SDGs. **This is an opportunity to rethink the meaning of livability.** A livable city includes a focus on the **sharing economy becoming the norm**; radical resource efficiency; technology-enabled infrastructure but **not forgetting the other SDGs like human rights**, no hunger, poverty, clean water and access to healthcare and education.

Key Points:

- Opportunity must be framed in economic terms for corporates to understand, commit and pursue
- Financing is an issue – need a better model to **blend the public/private financing model**
- **“A city is an ecosystem”** – change must be a collective effort – avoid silos
- **It cannot be “technology vs. something else”** – Human rights can be enabled via technology as well as policy and governance

Summit on Science and Technology Enablement for the Sustainable Development Goals



November 29, 2016

New York City

URBANIZATION Research and Data

Key elements of vision of sustainable cities: Mobility, health, education, energy, green buildings, land use.

- There is a lot of data out there (i.e., mobility from Verizon or AT&T or Uber) that could be used to model mobility habits and reduce congestion. **How do we access private data for public use?** Data is the new gold – how can it be turned into a revenue model for data generators (i.e., cities)
- We know that technological change is coming (i.e., driverless trucks). What is not known is the **impact of that change** on truck drivers (the social change)
- **Creation of a working group** to establish research needs for each SDG and disseminate it across other SDGs (no silos)
- KPIs, data sets available vs. needed and who funds it? Then **how it is disseminated into actionable items** for individuals, companies and governments to strive for?

Summit on Science and Technology Enablement for the Sustainable Development Goals



November 29, 2016

New York City

URBANIZATION Implementation and Partnership

Key Points: What does an effective **public/private working model** look like?

Getting outcome-driven research right

- Examples: Larger scale PV installation – **incentive and policy (guaranteed payment) drove success**; is that the only model? What about **social and economic changes** driving model changes? i.e., Zipcar
- Mobility: What is the model? **More energy efficient cars or less cars**? What is the social context (sharing vs. ownership)
- New models for energy consumption: **Why A/C at all?** (wrt middle class)
- **Expanding refrigeration in developing nations to reduce food waste** (UTC/Carrier); customers demand efficiency gains – demand driven
- Retrofit opportunity: **“The greenest building is one that already exists”**
- **“City planning through the eyes of a child”** – looking at cities from a human perspective and even a child’s perspective so that they are more liveable

Summit on Science and Technology Enablement for the Sustainable Development Goals



November 29, 2016

New York City

URBANIZATION Roadmap

Priorities:

- **Planning, planning, planning** (to what end, identify KPIs)
- **Circular economy** mindset
- What is the **value** for cities, others, to share information with others – what is the value – patterns and opportunities?

Key Activities:

- NYAS could convene a follow up discussion with other similar scientific academies with cities' representatives with private sector, business and academic reps
- NYAS event on science and technology enablement during UN STI Forum 2017
- **Knowledge sharing platform** – both data and human interaction
- Master calendar of events – engage with relevant events (Smart Cities, Resilient Cities)

Summit on Science and Technology Enablement for the Sustainable Development Goals



November 29, 2016

New York City

URBANIZATION Roadmap

Key Activities: Partnerships

- **Public/Private partnerships can be the most effective implementation agreements** to get things done that benefit the most
- **Tools to help** enable these partnership to show benefit and to show that it is in the interest of the citizens
- Cities play a key role as **matchmakers** in pulling companies, universities and others together to realize a particular vision
- **Regional consortium of mayors**, etc. are key stakeholders to engage with

Summit on Science and Technology Enablement for the Sustainable Development Goals



November 29, 2016

New York City

URBANIZATION Roadmap

Proofs of Concept: Roadmap

- Key is the need for **a common framework**, based on good planning, that articulates and defines key areas like land use, energy use, mobility, building and zoning codes, etc. that prevent the worst from happening – **but not static** – needs to be self-generating from data available
- What is outcome? → **A reference architecture** for a modern, sustainable city that encompasses all important urbanization aspects
- **City/industry/NGO partnerships to exchange data and monetize it** to share risk and reward for highly capital intensive projects

Summit on Science and Technology Enablement for the Sustainable Development Goals



November 29, 2016

New York City

SUMMARY

- **Planning, planning, planning** and develop KPIs for cities that link to larger country SDG goals
- **One common, open, data model** – not a single city model – but a open data (collection, analysis and use) model that is an open platform
- **Don't forget the individual** – what does a livable, sustainable city mean to a common person
- **Integration** with existing urban discourses
- Having an image like an all-electric city that **people can relate to** and see the benefits
- How to **leverage (scale) disruptive technology** and how to leverage academia to assist in framing and addressing large research topics