

**Digitalization and resource efficiency.**  
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**1.-The Carbon Budget is the compass for significant (global agreement/metrics/commitments. Not the only material at critical levels) dematerialization and according to the carbon Budget we have an environmental space of 22 years to cross the threshold. Depends heavily on China's behavior, India, US and EU. We have been fluctuating for 3 years around 36 gigatons.**

- Population will only level off by 2100 in 11 billion.**
- LAC emits around 4.5 gigatons and increasing because of fossil fuels in energy, mobility, waste and deforestation.**

**2.-LAC Unstoppable trends**

- Overall in the last decade, LAC carbonized and renewables participation fell from 25 % in 1990 to 23% in 2015.**
- Since 4 to 5 years ago renewable energy has reduced its cost dramatically. Energy costs are so far, 70-75% lower than 5 years ago in the wholesale markets: enables new industrial processes and enables industry in now renewable rich countries.**
- Overall, LAC is highly urbanized with close to 80% urban population. Change has been dramatic in the 20<sup>th</sup> century**
- Cities extension grow faster than population growth and population will be urbanized over 90% by 2050**
- Automobiles are growing more rapidly than GDP. Expected to double or triple the stock, depending on location and mobility policies.**
- Quantity growth beats efficiency gains in energy and mobility. No change is more significant in mobility than modal change.**

- Deforestation is determined mostly by what happens in Brazil, where it had a brief respite and has resumed.
- Population in LAC will be out of the demographic transition and much older.

### **3.-Areas of potential impact: change of scale.**

- Enabler to manage big material flows (on which LAC depends heavily): renewable energy and fossil energy, water and wastewater treatment, solid waste, mechanized agriculture, mechanized mining, traffic.
- Therefore, could contribute to easier penetration of renewables (supply, distribution and pricing). Energy production and Access: sophisticated grid management for balance and pricing.
- Adaptation: monitoring of extreme conditions and chronic change like sea level rise. Mass Communications and routes of escape with big data.
- Cities digitalized operation: risk, services efficiency in mobility, waste management, water treatment and delivery, public goods quality (air, public space and congestion), security, recognition
- Natural resource tracking and monitoring
- Ubiquitous successful agriculture and aquaculture
- Enforcement operations (if ahead of crime)
- Public participation in strategic evaluation processes and conflict prevention.
- Display of the digital support of the Care/health sector.
- Digitalize Cities (smart cities):
  - integrated management of all public services and private traffic flows, land use and land property taxing.

- Public goods management, such as security/survey/recognition, air quality, public space and mobility space.
- Regulation that favors industrial development
- Industrial policy for low or zero emission vehicles (buses, cars, bikes, air vehicles), waste management infrastructure, renewable energy chain of supply, metals smelting and refining in-country and commoditizing minerals, agricultural machinery.
- Big risks:
  - Losing the development potential of emerging consumption and production patterns.
  - Fiscal weakening
  - High tech crime.

#### **4.-Suggestions**

- 1. This resembles the state of discussion on climate change pre 1989 with no IPCC report...We need a state of the art report, which should be global and should include new trends in digital technologies and their convergences, public policies and scenarios. ECLAC is doing it without scenarios.**
- 2. There must be a common metric to report the net impact on environment (such as formal employment seems to be on social aspects). Decarbonization is what mostly matters. If there is evidence of other net dematerialization, welcome.**
- 3. Some level of regulatory coordination is important to address taxing issues, privacy issues, waste management policies or life cycle policies, and other issues where information asymmetries and power asymmetries stall standards. ECLAC has also opened a regional discussion space.**

**4. This space should be extended to working groups with cities/health/energy, to match regulatory demand of better public goods and the new industrial supply (result of deliberate industrial policy) in LAC. This is one of the key aspects of the big environmental push.**