

Artur Bobovnický, chairman of the panel SMART ENERGY: intro to the panel.

Good afternoon ladies and gentlemen,

Well know futurist Gerd Leonhard is saying that our world will change more in the next 20 years than in the previous 300 years.

What is behind this expectation? A whole bunch of new terms: Virtualization, personalization, augmentation, automation, robotization, simulation, platformization just to name few of them. But there are three that I would pick up as the most important from the prospective of our conference (but not limited to it):

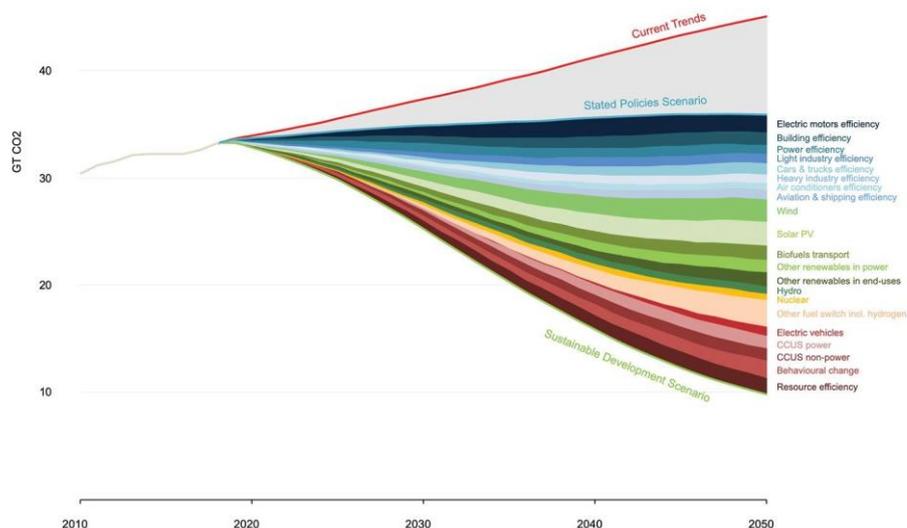
DIGITIZATION, DATAFICATION and CLIMATE CHANGE MITIGATION. There are generally no disputes on first two, but the third one is often undermined.

Nearly 4 years ago, high representatives from 196 state parties adopted the Paris Agreement, in pledge to keep the increase in global average temperature to well bellow 2°C above pre-industrial levels by the end of the century, with efforts to limit the increase to 1,5°C.

On this 12 December 2015, hopes were high that human kind could transcend its first ever existential challenge uniting global efforts across nations.

But despite Paris Agreement promises, global emissions have continued growing relentlessly. Current policies are putting earth on trajectory towards over 2 °C warming by the end of century.

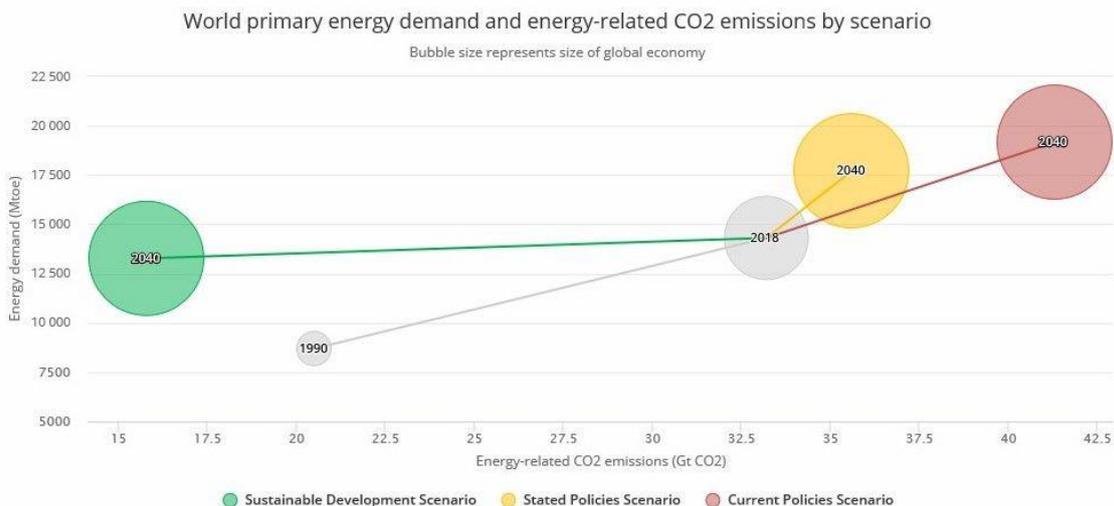
Energy-related CO₂ emissions & reductions in the Sustainable Development Scenario by source
World Energy Outlook 2019



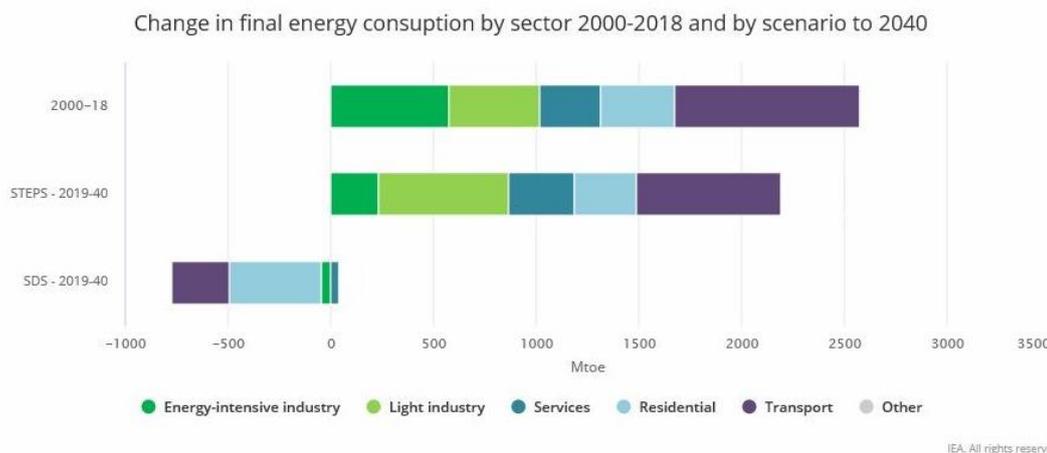
International
Energy Agency

Even in overly optimistic scenario (Stated Policy Scenario) were CO₂ emission would be kept to their current levels, warming to 1,5°C with 67% probability will be blown in 2030. Less than 2,5 times the period that was already wasted since Paris Agreement was adopted!

As you can notice our energy demand is growing together with CO₂ emissions.



Only real change in final energy consumption could put the trajectory in the so much needed direction to 2DS target.



While solar PV and electric mobility are moving fast, their impact at the pace projected in the Stated Policies is not sufficient to force a peak in global emissions. Energy and climate policies in this scenario are not strong enough to overcome the effects of population and economic growth on energy consumption. There is no single solution that can be deployed to turn the emissions trend around. We need multiple measures and holistic approach.

Today, more than any time before in human history, the pace of scientific development and scale of technological development has been mind-blowing. Every day science fiction becomes science fact. Many renewable technologies considered only 10 years ago as mere unrealistic engineer's fantasies, have become competitive mainstream energy technologies.

For instance, cost of photovoltaics decreased by 85% over last 8 years, and by 50% just during the last 4 years, making it highly competitive technology, as is already on-shore wind.

Others are on a fast track to competitiveness. Beyond these known – now mainstream – technologies, scientists think the unthinkable. For instance, leading European research centers and

universities are working on the promises of artificial photosynthesis, allowing direct transformation of sunlight into chemical fuels and net climate neutral feedstock.

Since the „age of enlightenment“, man has consistently relied on scientific and technology development to overcome – or displace – the challenges of human society. But can technology now alone save human life on earth?

In our panel we will discuss the part of smart everything – smart energy. In the race to reduce emissions, technological development is a key enabler, but reaching climate neutrality is calling for actions far beyond technology. It is about how human activity can fundamentally restructure itself towards climate neutrality and how technology can be put at best use to support this transformation.

We will discuss topics like climate neutral society that is not possible without social and lifestyle innovation in key areas as are the buildings and mobility, and the fact that governments have a historical responsibility in redirecting funding. Why buildings? 30% of total EU energy consumption used to heat and cool our buildings, 36% of the EU's carbon emissions come from buildings and 70% of an average households' energy bill is spent on heating and cooling.

Why transportation? The transportation sector is the second largest source of anthropogenic carbon dioxide emissions. Transporting goods and people around the world produced 22% of fossil fuel related carbon dioxide emissions in 2010. This sector is very energy intensive and it uses petroleum based fuels almost exclusively to meet those needs. Since the 1990s, transport related emissions have grown rapidly, increasing by 45% in less than 2 decades

Road transport accounts for 72% of this sector's carbon dioxide emissions. Automobiles, freight and light-duty trucks are the main sources of emissions for the whole transport sector and emissions from these three have steadily grown since 1990. Apart from road vehicles, the other important sources of emissions for this sector are marine shipping and global aviation.

We need to undertake holistic approach, bearing in mind the needs of planet, people prosperity and purpose and goals. European commission already in its budget planning exercise acknowledge this responsibility. Budget for R&I is planned at the level of 100 billion of € and at least 35% will be dedicated to R&I linked to climate change mitigation measures.

Although I mention smart of everything, smart cities will be key player in the smartening – cities are responsible for 75% of the world's energy consumption and they emit between 50 and 60% of the world's total greenhouse gases, but only occupy 5% of the earth landmass. Thus cities are among the biggest opportunities to mitigate climate change. Today cities increasingly combine the physical and digital worlds to transform services and improve the lives of citizens.

So smart cities in which smart buildings use energy delivered and managed by smart grids and smart micro grids and where smart mobility is supporting the needs for transportation of goods and citizens will become soon reality. Or again science fiction become science fact.

In our panel we will be discussing how EU, national governments, cities and local market players are coping with the challenges of near future.