**SDG 9 Industry Innovation and infrastructure transcript**

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**Introduction**

Good morning! Good day and good afternoon! Today is another session that we're going to address the SDG 2030 and it is our great pleasure to have Mr. Frank Van Rompaey to be our speaker of the day.

Let me sort of start with the PowerPoint so we can see better and this as I mentioned Frank he's the representative to the UN and other international organizations in Geneva representing the UNIDO, United Nations Industrial Development Organization. I'm Lichia Yu and I will accompany you through today's discussion and interview.

**Speaker**

Let me say a few words about Frank is a head of the United Liaison office in Geneva I mentioned that already. In this capacity he engages in policy advocacy for Inclusive and Sustainable Industrialization this is a very important topic as we know that without industrialization there won't be much possibilities for export so in this context of trade to investment and employment discussion in Geneva is very central for his work and he also develops partnerships with Geneva-based institutions in support of countries industrialization effort. Frank has been with UNIDO for close to 30 years working in various capacities including in research and policy advisory functions so his main area of interest and expertise lies in industrial policy and in the strategy and policies for environmentally sustainable economic transformation and today as it is very central to the 2030 Agenda. He has published also on the topics of environment and industry in in developing countries. As a representative of UNIDO he has served in several African countries, he worked on technical cooperation programs promoting Sustainable Industrial Development and before joining UNIDO he worked in the private sector.

**UNIDO: A Specialized Agency**

Let me say a few words about United Nations in Industrial Development Organization , UNIDO in based in Vienna. It is a specialized agency and it has its own governance structure and relationship with the member state so it has 170 member states and has its own policy making organs that means they have annual conference, Industrial Development Board Program and Budget Committee and also of course independently elected director general by member states. Its budget and also managed mandate in terms of its mission and activities. If we sort of present in an overview in this visualization you could see that UNIDO is has been established in 1966 and currently have 168 staff members and Mr. Gerd Muller has just been elected as the new Director General and started in office since beginning of this year. Notably the budget of UNIDO which is at the bottom left you could see that it's not as well indulged in as many other UN agencies and it has its own historical reasons which we will not go into today but I think through the course of discussion of Frank you and let you will see some of that but it is very important to note that you need help it's not only looking at industrial development but its work actually touches on all 17 SDGs. And of course SDG 9 is the area of core activities however it is impressive to see that UNIDO work it's also contributing to SDG 1 in terms of poverty reduction, SDG 8 which is very much concern of everybody it's decent work and employment and the rest of the field is yes you can see on this chart if you're interested to know more please reference the UNIDO annual report 2021. With this few introductory remarks I would like to hand over the lecture to Frank today he will be looking at SDG 9 in terms of Infrastructure Industry and Innovation.

**Lecture Overview**

And the lecture overview will cover these four areas which I would use a question and answer format and to take you all through this.

**Q1a**

So let me start with a question number one so **what is SDG 9 besides that what we just heard about Sustainable Industrial Development why is this so important?** Frank, the floor is yours.

**Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**

Thank you Lichia, good morning or good afternoon to all, well as you just introduced the Sustainable Development Goal 9, this goal seeks to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. This and SDG therefore encompasses three important aspects of Sustainable Development, infrastructure, industrialization and innovation. And why is it important well to start with infrastructure as most of you know the infrastructure provides the basic physical systems and structures which are essential to the operation of a society and indeed to the operation of enterprises and the economy so it goes without saying that this is a key element in any Sustainable Development process.

The second element,the element that detains most directly to the mandate of UNIDO is industrialization to clarify industrialization by that we mean the development of manufacturing industries on a wide scale in a country or in the region. Now industrialization historically drives economic growth it creates job opportunities and in doing so reduces income poverty now I want to stress also that industrialization is a driver of prosperity and it allows for rapid and sustained increases in the living standards of all people.

It also provides importantly the technological solutions for green growth and I would like to emphasize also that the industrial sector has strong linkages to other parts of the economy to agriculture and to services and in that way it serves as an integrator between economic sectors.

The last element of this SDG 9 goal pertains to innovation, innovation advances that technological capabilities of industrial sectors as well as other sectors and prompts the development of new skills so that is why SDG 9 is important why it matters but perhaps I could say a few words on industrialization more specifically I already refer to it but many might think that industrialization is a thing of the past certainly those who are based in the northern hemisphere in the industrialized countries.

**Why Industrialization? Is it not something of the past?**

So a few words perhaps on this people in the developing world are aware of the importance of industrialization, they fully realize that not a single country in the world has reached a high stage of economic and social development without having developed an advanced industrial sector. So manufacturing matters especially for the growth of developing countries there are a number of economic reasons for that I don't think that I have to go into any details if you're interested most of these arguments you'll find on in UNIDO publications so it matters especially for developing countries and notably for the least developed countries. However manufacturing industry matters at all levels of development, manufacturing industry can be an important driver in fighting poverty in ensuring good security very important these days and in preventing social polarization. It's for that reason that countries that previously had actively promoted the relocation of their industries to other parts of the world like the US, the UK and indeed to European Union, they are rethinking their approach to Industrial Development and they're actually coming up with Industrial Development strategies. An important element that I need to mention is the environmental dimension, as we all know a consequence of past and still of current patterns of industrialization is the considerable environmental footprint just talking about climate change manufacturing represents 30% of global CO2 emissions 30% we're not even talking about other environmental impacts so it is clear that if we want to further grow economically and particularly stimulate manufacturing development, industrial development as developing countries one, particularly African countries and least developed countries that there will be an urgent need to decouple economic growth from environmental degradation. There are technologies existing to already meet most of these expectations but more still needed. Next please.

I have to check and see whether recording is on well I'm relieved it is okay because I couldn't see so let's get back sorry about this. (no problem)

**Linkages to other SDGs**

So the next slide a few words on the linkages that SDG 9 has two other SDGs because SDG 9 is important, in its own right but arguably, it is as important as an enabler to achieve other SDGs. All SDGs are integrated but as the G9 fulfills a particular role because of infrastructure, because of industry, and because of innovation so there are clear linkages with goals SDG with SDG 8 on decent work and on job creation, on ending poverty and sustainable livelihoods as the SDG 1 and 15. On improved health particularly important in the context of the current Covid pandemic and on the education particularly the skills development part as well as on Gender Equality and as I mentioned before food security and SDG 2 and climate change as SDG 13, next please.

**Q1b**

So what does it matter what does it SDG 9 actually includes because it covers a broad range of possibilities so **could you tell us a little bit about the targets and the indicators.**

**Targets & Indicators**

Yes in terms of the targets you will see here that there are all in all eight targets it's divided into five what are called output targets, outcome targets rather outcome targets, and three means of implementation targets. These means of implementation targets which are listed on the bottom row have been included in SDG 9 as well as in many other goals to address concerns by developing countries of how to meet certain Sustainable Development Goals so these are basically ways in which developed industrialized economies are called upon to support developing countries in achieving these goals that typically relate to providing financial resources through official development assistance they relate to technology transfer and to capacity building and to fostering more conducive policy environments so in terms of the specific targets for SDG 9.

**Industry-related indicators**

Yes I don't need to go into them you think further Lichai because you move to the next slide. Do I need to further elaborate or not? I cannot hear you no.

I think that's enough because otherwise you just have to read it off so (okay) what do you prefer that's why your explanation was great.

That's good okay. So I move on then in terms of the indicators I will focus here on the six indicators that relate to the industry part of SDG 9. The others if you have an interest I will briefly mention them but you can always refer to the relevant UN pages. You need is a custodian agency that is to say they are called upon we are called upon to basically collects data and compile the relevant statistics for these six indicators that I have listed here on the slide, they can bebroken down into the three pillars of Sustainable Development.

The first one the economic pillar you see that there are indicators pertaining to manufacturing value added manufacturing value, added is actually the net output of the manufacturing sector. So the share of manufacturing value added as a in gross domestic product in GDP that's one indicator, another indicator is the level pertains to the level of industrialization that is to say manufacturing value added per capita so what a country produces in terms of its manufacturing sector divided by the population that indicates the level of Industrial Development.

Then you also have an important indicator to capture the degree of technological sophistication of the sector so it relates to the proportion of medium and high-tech in industry the value added of medium and high-tech industry in total manufacturing value added gives you an indication of how advanced an industrial sector is in the country.

Then the second pillar relates to a prosperity essentially evolving around employment and the participation of small-scale industries in the total industrial fabric in a country. The last dimension relates to the environment very important and the indicator there is related to the CO2 emissions per unit of value added, next slide

**Q2**

Well, Frank that is indeed very impressive to look at per unit of value added and its and carbon emission the calculation must be required a lot of advanced methodology perhaps later on we can talk about this but **what do you think in terms of the current progress things that 2016 in terms of curbing emissions and creating sort of a transition in terms of our industry to more green and sustainable oriented manufacturing method.**

**Assessment made by UNSDSN (2021)**

Perhaps I could start with given a general overview of where we are drawing on the report that is referenced, here it gives you a visual representation of the progress that countries have made and how close they are to achieving the SDG targets. You'll see in green the ones that have achieved its the targets and there's only one country that's Japan. And you see in indicating in red as well as in orange the countries that has have still a long way to go and you'll see that most of the countries in Africa are colored in red or in orange so that's there's quite a way to go for countries in Africa as well as a number of other countries for various aspects of the SDG 9 goal but that's just to have a general overview perhaps we can pass through the to the next slide

**Infographic**

Where you see this is an infographic, on this infographic a number of key elements have been highlighted to start with the industry part of SDG 9. Well global manufacturing plummeted in 2020 because of the Corona pandemic meanwhile manufacturing has picked up albeit not uniformly across the world the industrialized countries are faring particularly well but manufacturing production in many developing countries particularly in notably analysis has stopped not country like China but or in some more advanced industrialized developing countries but in the manufacturing production has taught.

One of the factors that were that was driving the recovery in manufacturing was the dynamism in medium and high-tech-industries, not in the least the production of vaccines and pharmaceutical products but other products as well.

Another element that is that is important to highlight is the need to address the infrastructure gap particularly when it comes to rural roads here we're really behind a target and much more is needed by way of investment in terms of this secondary road so as to make sure that rural populations have access to markets and indeed to health centers and into schools. And last aspect that I want to highlight is that is much more investment is needed in research and development that caters now to the innovation part of the SDG 9 so there is more investment needed and more researchers are needed particularly because we need more innovation. Covid has brought us to the fore but climate change is another area in which much more innovation technological innovation is needed.

**Are we on track to meet the SDG 9 industry-related targets by 2030?**

So a few more words on the industry specific targets in general we are seeing a shift this is a trend that has been going on for quite a few years even more than a decade, two decades actually there's a relative shift of manufacturing production to the developing world particularly to China but also to the countries in Southeast Asia. So that is very positive so these countries have tremendously increased their manufacturing production their share of MVA in GDP, their MVA per capita but as I said African countries, Latin American countries, some South Asian countries still have some way to go.

When it comes to LDCs, progress there is rather diverse with the Asian LDCs doing particularly well in terms of manufacturing related targets however as a group, the growth base of manufacturing and LDC's is far too slow to achieve the target by 2030. Then you mentioned Licia about the CO2 emissions these emissions they are decreasing, they're decreasing globally in industrialized countries as well as in developing countries with a strong industrial base like China, like India but it's not because the rate of CO2 emissions is decreasing that we are there in absolute terms there's still a notable increase in CO2 emissions in the manufacturing sector so much more is needed to decouple economic growth, manufacturing growth from environmental degradation.

**Q3**

So the message Frank that you gave is not about from now on we should not go into manufacturing but stick to the sort of a practice the reservice side but rather is to say it has to be much more ~~strategic~~ in terms of selecting the sectors of manufacturing to go into and the kind of technology that will be invested in so that we will benefit from the productivity without necessarily suffering from the negative environmental impact. **Thinking about this transition I wonder what's your view in terms of the key challenges in implementing SDG 9?**

**Key challenges**

Yeah well the key challenges revolve around building back better hardly surprisingly it has particular implications for the manufacturing sector because things are being reshaped you might have heard of your audience might have heard of a reshoring of near shoring of… (yes) and shoring so distributing manufacturing activities around the world as an objective is has been is being reconsidered regions and country groups talk about strategic autonomy so the whole idea is basically to make sure that you have access to key commodities and to key supplies as the Covid pandemic really on the court, the need for this. So this is the wider context in which countries will have to development it offers challenges but it also offers opportunities particularly for Africa, the African Continental Free Trade area is not something that was initiated because of the pandemic it was obviously long in the making but it has gotten a special significance because of the pandemic so there is greater opportunities for notably countries in that region to produce medical supplies, to produce food in the context of food insecurity so there's a greater focus of producing in the region so that you're no longer dependent on far away suppliers so that is a key challenge but at the same time an opportunity.

I listed there as a second bullet, the changes in trade this has been with us for some time and basically has taken on this new dynamic during the Corona pandemic as I said near shoring will become a trend and having supplies within the region is important.

Small-scale industrial enterprises there, there's a key challenge there, they are crucial given their large numbers, I mean they basically account for the bulk of the share small-scale industrial enterprises but more generally in developing countries that they typically have limited access to financial services, to markets as well so there is a greater need to provide them with access to in particular to financial services. Environmental impact and sustainability as I mentioned you were inquiring about this much more needs to be done we need new technologies, we need the transfer of existing technologies, 2 countries that are embarking on in industrialization effort on the industrialization strategy that will be very important that we don't lock in old technologies into this new production facilities that will be built many developing countries so that is very very important.

And then lastly that relates directly to the mandate of not just UNIDO but all those agencies that are working in supporting the achievement of SDG 9, as the SDG9 is one of the most underfunded global goals. Most of the of the goals that receive a good amount of funding are those in the social area, economic development goals and particularly SDG 9 is not one of these goals that receive a lot share of official development assistance so that is a challenge.

**Q4**

Yeah well thanks for the summary of a very broad topic about challenges and while you're talking I also reflected on the role of the developed countries to transfer appropriate technology which is not fitting for the past but fitting for the future then the role of intellectual property comes into play and I think we have not really within the context of SDGs really address that sort of hiding somewhere in SDG 17. So I think what you have highlighted it really bring out the critical role of in terms the definition of intellectual property and we have seen that debate during the pandemic concerning making vaccine available for these developed countries for example, where people already of the countries just simply couldn't afford. So I think here it's another driver for developing manual factoring capabilities at different level, at different stages to ensure basic security could be another reason why country wants to go back to manufacturing and industrialization rather than try to skip it over and go straight into post manufacturing or industrial age so.

But it's not we think our conversation today so let me come back to where we are going is to really c**ould you give us a good example in terms of implementing SDG 9 and also where the young people are implicated.**

**A good practice example in implementing this SDG goal**

Yeah well Lichia I want to essentially refer to a model that you need or developed a conceived soon after the 2030 Agenda was adopted, the model is called “The Programme for Country Partnership”, it has been held as a good way to achieve SDG 9 but other SDGs as well. In essence it seeks to youth official development assistance to mobilize public resources and private resources to achieve greater impact, it's fully within the spirit of the Addis Ababa Agenda for action. UNIDO has been implementing this in several countries in a pilot phase and we're now rolling this out. Key elements of this, PCP model are government ownership so the government really has to drive the process, high-level political commitment particularly for SDG 9 if you talk about industrialization you need to marshall resources in the main way and for that reason top level government commitment and inter-ministerial coordination is very important: Ministry of Finance, Ministry of Industry, of Trade, of Agriculture, of Education, of Health, they're all very relevant for this drive and not only to refer to the government. The government is to work in partnership with the private sector and with civil society as well as with the development partners so multi-stakeholder partnership are our key to this.

And the last element facilitation of public and private investment as I just mentioned the whole idea is that we use official development assistance to basically prepare bankable programs for mobilizing particularly investment for infrastructure, I grew industrial parks, eco-industrial parks but infrastructure that facilitates, the attraction of a small and medium scale enterprises into manufacturing. So that is the approach that we've been pursuing, we've been implementing this in several least developed countries, Senegal Ethiopia, Cambodia, Rwanda, Zambia we're starting now but we're rolling it out to countries that do not belong to the LDC categories countries that are more advanced like Morocco, like Egypt, Peru even it's a country that is close to accessing to the OECD so it is relevant for a wider range of countries.

**Youth Employment and Entrepreneurship**

And this PCP model puts a particular focus on youth employment, youth is an asset but youth unemployment is a big challenge in a number of countries. Now there are only a limited number of jobs that are created because of lack of economic dynamism, many people in certain parts of the world look to the public sector for employment this is not a way to go so you need to actively supporting youth employment schemes by either stimulating a greater match of demand for skills and supplier skills and on the one hand we've got a learning and knowledge development facility I believe that there is a link on the slide to this, that's an important drive to promote public, private development partnerships to make sure that there is match making between the new skills that will be demanded in particularly in the context of Industry 4.0, the fourth industrial revolutions with the new technologies that are going to come. o the demands are going to be a radically different yes from now so we are trying to make sure that there is a good match between demand and supply so that's with respect to skills development and creating employment opportunities for youth.

We also have an important program that seeks to stimulate entrepreneurship and enterprise development, young people who are recent graduates who would like to set up their own enterprise they need to be accompanied and we have various schemes through which we do that in partnership with several reputed private sector companies. So I welcome everyone to have a look at that, you need a website and familiarize themselves with the schemes but I want to stress again that for us creating jobs particularly for youth is key.

**Q5**

Yeah well yeah as we know that for example what is happening is that a huge percentage of unemployed use are actually with higher education with high degree so this is really sort of a creating huge amount of social tension and also from a sort of broader perspective a waste of human talent. So in some ways I would like to ask you **what do you consider to be possible channels or mess or entry points for young people to get engaged and to make a contribution that could be sort of contributing to the larger collective good but as well as perhaps creating opportunities for themselves.**

**Recommendations**

Yes thank you that's a very important question in terms of what the youth can do to engage with the SDGs, particularly this SDG. I would first think that youth activism in general would be very important why because of this needed green economic transition, climate change is arguably the most important challenge of our time now much more is needed not just in in the industrial sector but as I mentioned the industrial sector provides technological solutions for all the sectors. Think of renewable energy it's produced in the industrial sector so we need a lot of activism particularly for to basically address this challenge, raising awareness, inciting action and stimulating change. Consumers you can also vote with their passer making sure that enterprises engage in good corporate social responsibility practices that's very important as well.

A second area is the deployment of ICT technology for public interest, by generating data as a basis for monitoring and reviewing SDG progress but also for future entrepreneurial initiatives all this this data that is being generated through social media comes in handy and has to be tapped to create new enterprises so that is very important. But ICT technology can also be used for collective action so such as to reduce carbon footprints.

And the last area that I want to stress I already hinted at, more R&D is needed. So steam competency so science, technology, engineering, mathematics combined with the arts, these competencies are key to basically innovate and to develop the technologies that will be required in the context of the pandemic but especially in the context of the green transition generating science and nature-based solutions for the current challenges that is very much needed.

**Recommendations**

And this slide serves to basically illustrate this okay the data here is from the beginning of the SDG of the 2030 Agenda of the year 2015. But the figures haven't drastically changed you see that much more is needed in terms of actual researchers, R&D workers per million inhabitants that is the indicator. R&D workers are typically concentrated in OECD countries, there is a greater need to distribute this around the world and to even increase it worldwide so this is an area that I think is particularly important for you to be aware and to engage in so thank you.