

The Golden Triangle is Green

'With great power comes great responsibility'

Introduction A. Nicolai, President DSM in the Netherlands,
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Ladies and gentlemen,

It has been said that no matter how big an issue, people will always find a way to get round it...

Understandable perhaps, but when it comes to the future of our planet I would be inclined to look for better, more constructive ways to move forward. The most effective driving force in this respect is not walking away..., is not just competition..., but cooperation among those parties which have the power to contribute and make a lasting difference.

These parties are often referred to as the Golden Triangle: the government, companies and knowledge institutions. My message is a fairly simple, twofold one. First: the challenges this world faces are too big for any single party and thus call for joint responsibility. And second: this Golden Triangle must transform into a Green one... .

There is a general guiding principle to achieve progress which really matters. Whether you have governments, companies, universities or mortals like you and me at the table - if either of these want to be a *bit* better, just competition is the route to follow.

But if you want to be *exponentially* better, the way forward is to be cooperative and take joint responsibility.

I believe it was Bismarck who once said 'Der Starke steht am besten alleine'. In today's world, with all its complexities and interdependencies, going alone is a dead end street, a cul-de-sac in the language of Voltaire, the man who first expressed that great power calls for great responsibility.

None of us can really say what the future holds in store. Fact is that a number of global mega trends and challenges clearly indicate the direction we should be taking. Two elements are certain beyond a shadow of doubt.

First, the future must be green, not by default but by design.

The world in which we live has mainly been built on fossil carbon sources (oil, gas and coal). Yet the host of challenges we have on our plates - such as climate change, resource scarcity, population growth and geographical shifts - have completely undermined the long-term viability of fossil carbon based economic models and societies. What we need is a transition from fossil carbon sources towards a more sustainable bio-based economy.

That does not mean, by the way, that traditional chemistry will soon disappear into a museum. 80% of global energy production and over 90% of chemical industries revenues today come from fossil based production. Our society is powered by fossil carbon sources. So for the foreseeable future, fossil-based production will remain important to the global economy. But if we are serious in tackling the global challenges I just mentioned, we need to understand that waiting for the bio-based economy is not a sensible advice. Because it's the only viable path to feed and fuel the future.

Second, the way forward is paved with challenges no single party can resolve.

The current global issues are just too big and complex to be solved by any single party. It is not possible for the Dutch government to announce the establishment of the bio-based economy at Prinsjesdag. Nor is it possible for any single company to take up all the challenges. And no matter the scientific prowess build up by any university or research organization, the bio-based society can never be the result of the efforts of just one party. To achieve progress, not just making things a bit better but really better, cooperation is indispensable between the public and private domain.

What is going on in the world? Mega trends such as climate change, the shortage of fossil fuels, continuing globalization, mega urbanization, increasing consumption and waste production due to the upcoming middle-class in Asian countries, or high-growth economies on the look-

out for a fair share of global wealth - these are main developments we have to deal with. It's a mix of bold challenges which need sustainable solutions. In many respects, the globe needs more balance. Companies have to play a role here.

At DSM we say that business cannot nor will be successful in a society that fails.

Next question. Who has the power to change?

It goes without saying that any government has the intrinsic responsibility to use its powers to help building a better, more sustainable society. Any government has an obligation to find new, smart ways to help and encourage others to take responsibility and to find sustainable solutions for the issues we are facing. Should governments simply lay out the red carpet for companies? Of course not! They should help to facilitate a greener future by ways of market creation, incentives and appropriate legislation. I'll come back to this in a minute to dive a bit deeper into the government's position and role with regard to sustainability.

Looking from another angle: sustainability cannot be referred to as a 'political hobby'. It simply is the only way to secure our future. I therefore call upon all politicians, left or right, progressive as well as conservative, to take this responsibility.

Second, let's have a look at the role of companies. It was some 15-20 years ago that companies maintained a fairly low profile. The scores on societal trust barometers were not encouraging (you can take that as an understatement). Companies were hesitant to clearly express their ambitions and show their muscle. Today, this situation has been reversed. In fact, companies have more power than they sometimes perceive themselves. They have the power to improve and to change. In fact, whatever a company does, has its consequences for society anyhow - intended or unintended.

And what's the meaning of power when you don't use it in the right way? This power entails the responsibility to contribute to the solutions we need to address the challenges I just mentioned. And in today's stakeholder society we have the responsibility to take part in the debate, to open up and help to get us closer to this green future.

Do we have examples of where the responsibilities of governments and companies met, and together indeed made things not a *bit* better but *much* better?

More than we may realize. Would the transition from the old-fashioned light bulb towards LED lighting have been possible without the contribution of either Philips or the Dutch government? The clean detergents today used in every household would have been non-existent if companies and (European) governments would not have joined hands. Another example from the chemical industry: combating the well-known 'schildersziekte' (painters illness) would not have been possible without new sustainable resins developed by the industry, while the government took its responsibility by implementing forceful legislation aiming to stimulate the transition from solvent-based products such as paints to waterborne. Legislation in the Netherlands and Europe is quite strict in this respect, as on the European level the allowed amount of solvents has been reduced from 500 to 300 gram per liter over the period 2007-2010. And the Dutch Arbo-wet is very clear about indoor use of solvents: it's forbidden! Yet many professionals in the painting industry consider solvent-based products still of higher quality than water-born, even though they are very much aware of a potential health threat. That's why we at DSM now organize trainings with these painters. To improve awareness and to learn from them how we can further improve the quality of our waterborne products.

Co-operation and joint responsibility pays off. Look at what the Netherlands has in store. In fact, this tiny country of merchants and vicars is the home base of various global companies who actively engage in making a sustainable difference. Think of TNT and the World Food Program, Unilever and its Base of the Pyramid activities, Philips and its EcoVision program, KLM and its far-reaching CO2 reduction program. Four so-called Super Sector Leaders in the recently published Dow Jones Sustainability Index' Top 15 are 'Dutch': KLM-Air France, Philips, PostNL, and let's not forget DSM. Specifically in the chemical domain the Dutch are also well represented in this Index, with our colleagues from Akzo-Nobel as prime example.

What I am saying is: the power of the Dutch is everything but a paper tiger.

Furthermore, while the Netherlands was not exactly a high-flyer on international competition rankings over the past decade, the country regained a solid position on the Global Competition Index of the World

Economic Forum. Improvements have been realized in terms of market efficiencies, innovation and governmental policies. The cooperation between companies and universities has been improved and companies better exploit their innovative potential in competition with the fast-growing economies. If these trends continue, this country may be back in the Global Top 5 within a few years.

If so, it's not the amount of euro's but the combination of ambition and willingness to cooperate which made the difference.

Let's turn from companies to governments. Sure, sometimes it's difficult to get to agreements. Governments may now and then get lost in their own 'paper reality'. Yet it is possible to take care of smart solutions, both in rules and legislation as well as in stimulating measures that help society and enable good companies to create new sustainable markets, products and services. How? By creating incentives. By improving the investment climate. Governments should stimulate the right competition through legislation, thus enabling good companies to become even better. Stimulate the best companies without spending a single euro.

Smart market forces can and will create a better world.

And, crucially important, by helping to create a market. It's difficult for companies to invest large sums for markets that don't exist yet or are too small. But looking at markets that clearly contribute to a more sustainable world, the government can stimulate, with legislation, with co-investment programs, or take position as a launching customer.

I have been active in the political arena both here in the Netherlands and in Europe for quite some time - so I am very much aware of the mechanisms in play. Agreed, less complexity and higher speed would be more than welcome. But I have also noticed that relationships between the government and Dutch companies are significantly improving. There is growing awareness that the challenges we face are simply too big for any single party. We can have a long debate on when and how the transition from a fossil-based towards a bio-based economy will take place. Instead of waiting for such a transition, it's better not to shy away from taking concerted, mutually reinforcing action.

Let's have a brief look at the third party in the Green Triangle - the science and knowledge community.

We see knowledge institutions taking their responsibilities as well. Various parties have put their shoulders under the New Earth, New Chemistry Agenda of the 'Topsector Chemie'. They do so, first, by stimulating multidisciplinary research at the cross roads of chemistry, natural sciences, biology and a range of design and construction sciences such as nanotechnology. And second by targeted investments in addressing relevant societal challenges and promoting public private partnerships. Thus scientific boundaries are pushed back in order to both tackle societal issues and to ignite new economic activity.

Of course, the Netherlands is not a country for large-scale production of corn or other materials used to fuel the bio-based economy. But where it comes to bio-based fine chemicals for food, pharma and advanced green materials, including the required technology and scientific knowledge, we have a number of great trump cards in our hands.

The value is where the knowledge is, and that's right here in the Netherlands.

The sharing of risks, resources and rewards is where public-private partnerships come in. We have 10 TTI's in the Netherlands, including the Top Institute Food & Nutrition, the Dutch Polymer Institute, BE-Basic, the Kluyver Centre for Genomics of Industrial Fermentation, but also organizations focusing on for instance water or biomedical materials. At DSM we have good experiences with these ventures. These institutes foster co-operation, stimulate concurrent innovation, take away barriers and contribute to economic progress and prosperity. They demonstrate the stimulating effect of government's contributions to private investments. They serve to speed up the innovation machinery and help to unlock new markets. In fact, they represent showcases of this much needed spirit of cooperation and innovative co-makership.

The bio-based economy is a typical example where responsibilities must be taken by the Green Triangle, where interacting strategies are required to execute a shared vision of the future. Realizing the bio-based economy in a way involves a new model value chain - wherein the partners in the Triangle engage. A lot of homework is to be done, no matter from which perspective you look at it. Let's take just one: the market perspective.

It should be acknowledged that the markets which constitute the bio-based economy are still in their very early stages. A host of developments is taking place - ranging from new production technologies to e.g. second-generation bio fuels and advanced bio-plastics. Yet, we can hardly speak of mature, well-developed markets. And at DSM we notice that various industries experience a challenge to maintain their sustainability strategies in the current times of economic uncertainty, euro skepticism and adverse sentiments. Realizing the bio-based economy will thus take time and perseverance.

At the same time, there are more than enough opportunities to take action right now and stimulate market development.

The government can help create a green market, for example by introducing incentives to use the waste produced by the Dutch agro-food business. This sector produces 1,5 times more waste than food. Why don't we agree to use this staggering amount of waste as a base for the development of new materials and bio-plastics?

As I said, it's still early days for the bio-based economy. It's a concept often confined to the periphery of the public debate and a handful of specialists. That must change. It is vitally important to support wider understanding of the issues at stake, to foster an open and constructive dialogue.

Because the bio-based economy will imply drastic change. Products and processes will be completely overhauled. Traditional businesses may either disappear or re-invent themselves. Looking at the bigger picture, profound changes in macro-economic and geopolitical settings may be eminent as well. Various Asian countries demonstrate deep pockets when it comes to investing in the bio-based economy. What will in 10-20 years the implications be for this grand old lady called Europe? Or look at Brazil. This country is one of the most advanced countries for bio-fuels and a global leader in industrial enzymes required for greener production technologies. Should we expect a drastic shift of economic powers in this respect?

Instead of painting doomsday scenarios we should focus on the competencies we have in store and on the increasingly co-operative spirit wandering through the Netherlands. This same spirit also seems to have touched base in Brussels. On a European level the importance of technologies which pave the way towards the bio-based economy (think e.g. of industrial biotechnology) have been clearly

acknowledged. Initiatives such as the upcoming Horizon 2020 program and the new European Bio-Economy Strategy clearly point in the right direction.

And this afternoon at DSM's site in Delft, a number of NGOs and good (or even best) companies will sign a joint declaration expressing their strong intention to work together towards the Bio Based Economy.

Yet, and here is the vicar disguised as a merchant, it is vitally important to remain on par with other regions. The USA, Asia and South America demonstrate strong commitment towards long-term research and funding of the biotech sector and its applications. Europe must step up by introducing even greater incentives to create a level playing field for bio-based products, and to facilitate market development which is required for Europe's bio-based economy to take off in the coming years.

Ladies and gentlemen, power brings responsibility. Great power brings great responsibility. At the same time, optimism is a moral obligation for those who lead. The bio-based economy still has a long way to go, but since no partner in the Green Triangle has the crystal ball supplying all answers to all questions, it is indispensable to team up and move forward shoulder to shoulder. We have seen that cooperation fuels significant progress in various domains. I don't see any good reason why we should wait for the bio-based economy. I sincerely hope you don't either!

Thank you for your attention.