

Mastering the Future with Scenarios

Report of 3-day Masterclass with Ulrich Golücke
September 11-12-13, 2015





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EXPLORATORY SCENARIOS: STORIES OF THE FUTURE

What if, for one year, we dedicated all our research capacity to predicting what the world will look like in 2050? Surely, we would have many advanced estimates like we have for

Despite these uncertainties, we still want to anticipate, prepare for, and influence this future. To make this possible, we need a tool that helps us to collectively imagine and make sense of this uncertain future. One powerful tool that has been around for centuries we can use is: storytelling.

Humans need stories, because of the way our mind works. According to Nobel prize winning economists George Akerlof and Robert Shiller: “The human mind is built to think in terms of narratives, of sequences of events with an internal logic and dynamic that appear as the unified whole. In turn, much of human motivation comes from living through a story of our lives, a story that we tell to ourselves and that creates a framework for motivation.”

So, if it is stories that motivate our actions, how can we collectively create stories about our future that are not just fiction, but can give us something tangible to make sense of our future?

The exploratory scenario method helps to systematically create these stories that can make sense of our future. The stories it creates, are not meant to predict one future with an uncertainty range, but it embraces the largest uncertainties and creates stories of possible futures that cover the extremes of these uncertainties. This allows users to test strategic actions against these possible futures.

them experience when this method could be useful in their professional lives, and how they could set-up sessions to work with this method themselves. This report is based on the proceedings of this workshop and is meant to explain the method and uses of scenario planning in general, and illustrates the possible uses, benefits, and outcomes of using the scenario planning method with the results of the workshop.

“The exploratory scenario method helps to systematically create these stories that can make sense of our future.”

This method was used in September 2015 by a group of students and recently graduated young professionals to think about the question: “How do I create a sustainable business?”. The three-day workshop they attended was meant to introduce them to the method of scenario planning, make



TRULY

INTERNATIONAL

INTERDISCIPLIN-

GROUP OF PARTICIPANTS

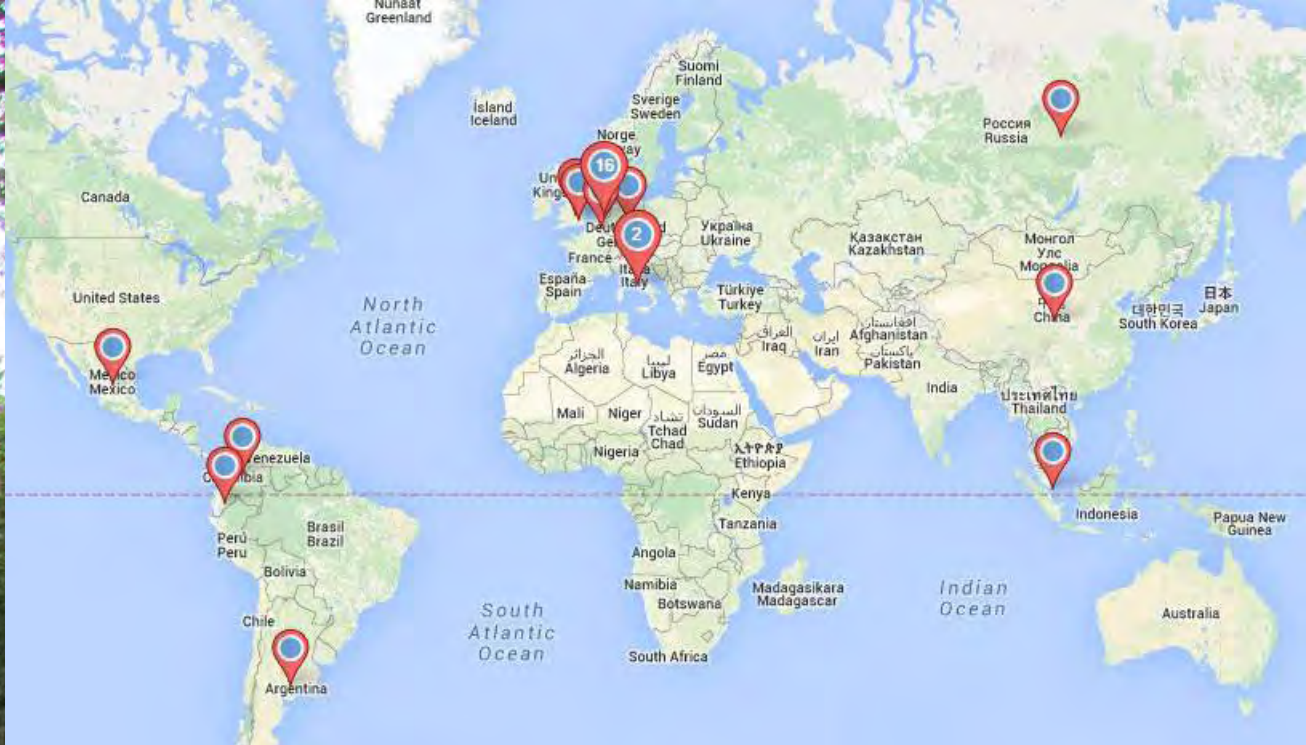


PARTICIPANTS AND LOCATION

The masterclass was attended by a diverse group of 29 students and young professionals, in Bredenbroek - East of the Netherlands

The future is known to be uncertain. We can shape it only through decisions made in the present. While prediction is impossible, a vision of the future helps to foster desirable scenarios and avoid undesirable ones. Therefore, the invitation to know more about a tool to create scenarios and how to use them for orientation in the new paradigm of sustainability engaged many participants. The whole event took place from September 10th to 13th, 2015 in de Küper, a campsite in a beautiful pig farm in the Achterhoek. The Kuper offered us suitable facilities to work in a creative and natural environment, with the possibility to work outside on the sunny days.

The participants, 29 people from diverse nationalities, have different academic backgrounds, which included natural science, social sciences, and



Although I am not sure about what to work on after finishing my studies, I do know I want to contribute to a more sustainable future.”

engineering. Nearly 50% of the participants were from outside the Netherlands, from heterogeneously distributed nationalities as can be seen on the map. While the most popular current occupation is the Master of Industrial Ecology at Leiden University and the TU Delft, 28% per cent of the participants added diversity as students of other Master programs, doctorates, corporative workers and entrepreneurs.



A BRIEF INTRODUCTION TO EXPLORATORY SCENARIOS

ORIGINATING WITH THE US MILITARY, MADE

FAMOUS BY SHELL, INTRODUCED TO US BY ULRICH



We all make decisions that were, in retrospect, turning points in our lives. Sometimes we remember them with satisfaction, because the decision we took was the right one. Sometimes, however, we look back with regret because we missed something or judged wrongly. We could have taken a better decision - but didn't. We could have chosen a better future - but did not.

On the basis of our mental models of the world around us we make decisions about the future in the present. We should be fully aware that we can understand the real overall context only partially. As a result, our mental models inevitably have gaps and are subject to our incomplete and at times faulty assumptions.

However, if we consistently and continuously examine our mental models and the assumptions on which they are based, we are better equipped to take the right decisions more often. We recognize faster when events begin to contradict our assumptions. This allows us to respond earlier and quicker as well as adjust our new decisions to the new circumstances. Often this is the crucial difference between right and wrong decisions, between ultimate satisfaction and eventual regret.

In order to perceive important information and to correctly

interpret the context in which we act, we need to understand as much as possible. Exploratory scenarios are one way to do that. At best, they show new and unconventional ways to create different futures. A scenario process is not a process of the lowest common denominator, rather it integrates divergent, but plausible views and ideas in a future landscape - from which more robust options for action can be derived.

Scenarios are inductive work

Since the future is not deterministic, the work must be an inductive process. Inductive, yes, but not without rules or methodology: To move from the particular to the general, to generate at least hypotheses, if not theories, the scenario process moves back and forth between stages of opening, i.e. creativity (solid line) and phases of closure (dashed line). All this in preparation for the last phase of application (dotted line) - see chart on the next page:

In today's world, three days is a very long time. Nevertheless, we are convinced, and are encouraged in our belief by the feedback we get from participants, that it takes this time to develop the necessary skill and confidence to create and apply scenarios in real life.

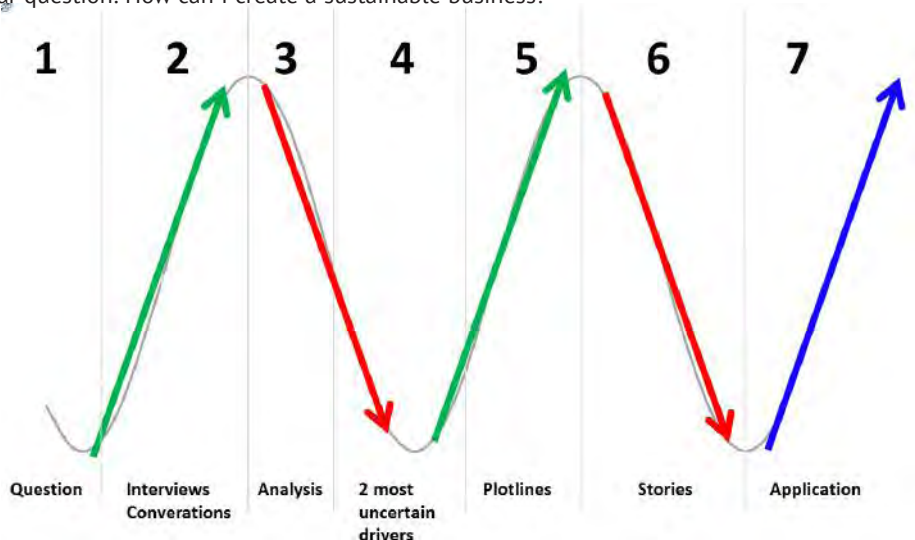


STEP 1: THE DRIVING QUESTION

The most important requirement for a good decision is a good question. So the time at the beginning of each explorative scenarios process should be used make clear what you want to have actually answered by the end of the session. This driving question must:

- Be about the future (if you ask questions about the past or the present, you will spend a lot of time merely to identify irreconcilable differences and you have no time left to shape the future)
- Be something that can actually be influenced the participants
- Be something the participants care about deeply

Our question: How can I create a sustainable business?



The most important requirement for a good decision is a good question. Our driving question: how can I create a sustainable business"



THE LEAD FACILITATOR

The masterclass was facilitated by lead facilitator Ulrich Golüke. He took the participants through all seven phases of the explorative scenario method, using a previously chosen 'driving question' for the three days. Concurrently, formal and informal meta-conversations about the method and its application in real life settings of the participants take place.

Ulrich is by training a systems dynamist, and has worked extensively with scenarios and how sustainability extends our current economic myth. With others, he built up and ran the Scenario Unit of the World Business Council for Sustainable Development.

Furthermore, Ulrich has consulted with many Fortune 100 companies, universities and foundations. He design, manage and deliver projects and workshops, give

sspeeches, facilitates and writes. More information and resources at: www.blue-way.net

With the support of Aachen Foundation Kathy Beys he introduced the exploratory scenario method at four high schools and a secondary school in the Aachen and Cologne region. The method is used regularly in these schools. In the process, we have worked with over 500 students, and over 100 teachers were trained in the method - amounting to 2,500 hours of teacher-training. More info at (German only): <http://www.szenarien-in-schulen.net/>



One of the things I liked best was the facilitator and how the process took more and more shape from his guidance and the teamwork." - Participant



STEP 2 AND 3: INTERVIEWS & ANALYSIS

To prepare the scenarios, participants interview 'remarkable people' about different aspects of the driving question. The interviews are open-ended and are more like conversations in which the interviewer speaks very little. The purpose is to bring the full range of concerns, views, hopes and fears of the interviewees with respect to the driving question to the forefront. In this case, participants interviewed each other,

To analyze the interviews, it is very important to remove preconceptions so participants often work with direct transcripts of taped interviews, removing the identity of the interviewee and even the questions from the text. Each paragraph is boiled down to one or two words, which are then "inductively clustered" with others to form themes.

These themes form the backdrop for the identification of main drivers. Each group

discussed the themes arising from the interviews separately and then presented to the plenary.

The main themes identified by the groups after their separate interview analyses were:

- Technology: is it business as usual or a revolution?
- Will the economy be linear or circular?
- Will society be organized from the top down or the bottom up?
- Will people judge success in terms of money or happiness?
- Will laws and regulations support or constrain sustainable initiatives?
- Will there be an "ecosystem" of sustainable businesses to cooperate with?
- Will policies be determined by global institutions or pluralist national governments?

WHAT DO YOU
THINK WILL HAPPEN
IN THE FUTURE
OF SUSTAINABLE
BUSINESS?





STEP 4:

TWO UNCERTAINTIES

The two drivers of the scenarios are those that are at the same time the most uncertain and the most important ones for the driving question of the scenario exercise. We are conditioned to be highly suspicious of uncertainty - not to know is considered a weakness. However, for what we do to have an effect we must embrace uncertainty: if everything is already certain there is, quite literally, nothing you can do to make any difference! While we have become “list generators” wanting ever more options, choices and action items, we have forgotten that some things are more important than others, and being busy is not the same as being effective. This is why we work hard to identify just two main drivers to generate scenarios.

In our Masterclass, Ulrich facilitated a group discussion to identify the two most important, most uncertain drivers of the 16 themes identified in the previous step.

The group finally settled on the following two drivers:

1. **Power: where does power lie in the future, whether it be economic, political, or social?**

This will have a major affect on how to create a business. Just think about here would we access capital, for example: big banks or crowd funds? It is vital for the sustainable side of our business too: will change towards sustainability come from government regulations and global infrastructure, or grass-roots groups and visionary individuals?

It is very uncertain where power will lie in the future. Major-power governments, multinational corporations and supra-national institutions manage resources that previous generations would scarcely have imagined, yet social networks and rising awareness are giving individuals and spontaneous movements more power to change the world than ever before.

2. **Attitude: do people in the future care or not about sustainability?**

Society's attitude is crucial for a sustainable business. Will people demand products aligned with the needs of the planet, or simply choose the cheapest option? Will there be an “ecosystem” of sustainable businesses? They will be competitors, yes, but they may also provide business-to-business services, supply chains, and regulatory and financial services tailored to the unique needs of a sustainable business.

This is uncertain because society stands at a crossroads: a growing global sustainability movement exists, yet powerful vested interests and daily preoccupations such as the economy cannot be ignored. Many people the world over may simply not have learned of the scale of the challenges facing humanity.

Power

Top Down: power is concentrated in few, centralized structures. Change depends mostly on those structures and the people at their summit.

Do care: sustainability plays a key role in most people's decisions.

Society

Don't care: sustainability takes a back seat to many other concerns when people make choices.

Bottom Up: power is decentralized, held by many individuals and organizations. Change could come from any of them.

INDUCTIVE CLUSTERING

One powerful method to narrow down the 16 axes chosen by the four different groups is inductive clustering. This type of reasoning “involves the search for pattern from observation and the development of explanations – theories – for those patterns through series of hypotheses” (Bernard, 2011, p.7). Thus inductive clustering seeks the evidence for a certain conclusion, rather than considering the conclusion for an argument as certain. In the process the aim is to go from individual observations, stances, or conclusions, to general conclusions that can be supported by all participants. The outcome is a concept with a certain degree of support. with a certain degree of support.

“I liked how we had one driving question that guided us in this workshop. I enjoyed hearing from 30 different minds & backgrounds. I enjoyed the process of inductive clustering and seeing it how it works in this situation.”





“It was important have a trust area where you feel comfortable to say any idea that comes to your mind for the future. I liked the way the group finds their own path saying the ideas without judging.”

STEP 6 & 7 PLOT- LINES & STORIES WITH

SCENARIOS

COME TO LIFE

Based on the key uncertainties or drivers, stories for the future are created

Developing plotlines

Within each scenario quadrant, a sequence of events is thought of that describe a possible path of future developments following the extremes on the axis of that quadrant. Starting at the center of the axis, each of the four groups takes a quadrant and works its way to the edge of the quadrant – i.e. through- out the entire time-space.

Developing stories and clear titles

The key to a good story is the switch from chronology to causality. The chronology from the plotlines is further developed with adding reasons and logic that explains why the path develops the way that was imagined. Each bend in the path is fleshed out so it becomes a plausible story. Why did it bend this way, and why not any possible other way? What actors played a role in the developments, what events influenced each other? What are the dilemmas the people living in this age face, and what are the givens they have to deal with? To finish, a title catching the essence of the story is added and drawings that visualize the story can be made.





PIRATES IN THE OCTOPUS

POWER: BOTTOM-UP

SOCIETY: DOES NOT CARE

In the year 2045 the trees hadn't changed, apart from 30 rings that had formed around the core of the trunk, only I was much more aware of their presence and could hear the sound of the wind whispering through the leaves with more detail than before. Not only they provide me with a feeling of comfort, they also are one of the most important building materials for the communities we live in, even in the cities. Metals, traded in a recently developed trading system, provide the means to produce longer lasting open source low-tech solutions for decentralized water filtration and energy production as well as the details in our atmospheric homes.

It all started with energy technology [wind mills, biogas production, solar panels] becoming more important than food production on European agricultural land due to higher profitability for farmers and an increasing distrust on the source of food from consumers which led to governmental stimulation of decentralized food production. A new regulatory framework provided the standards for this new kind of production and created opportunities for innovation at household level resulting in a gradual decrease in processed foods due to dropping demand. (2015-2020)

Open source hubs and decentralized ways of producing spread out from energy and food industry to other sectors. A dramatic shift in the major traditional industries occurred because people started to feel empowered and spent less income on manufactured products. The availability of resources dropped due to the self-organizing transportation system that had not fully developed yet and the collapse of economies of scale. Lifestyles changed quite drastically because some services and products became less available and more expensive. Quite some people lost their jobs initially, so they lost income and started to produce more themselves in order to provide in their basic needs. Makerspaces and online databases provided them with the means to do so while the education system became increasingly adapted to these new developments teaching children from a young age to be solution oriented.

Bigger companies realized they were losing power resulting in

Bigger companies realized they were losing power resulting in a lot of court cases and fierce lobbying while simultaneously people gained self-confidence and started pirate enterprises that ended up as decentralized well/self-organized cooperatives starting in the field of trade and transportation. Regulation was supportive of this development. The industries that survived were the ones that decided to adapt and adjusted their business model to the newly emerging need for coordination and more complex technological innovation. They engaged with startups and the smaller decentralized initiatives, finding ways to support them and cooperate, enabling larger investments in more uncertain technologies. New businesses are characterized by a shift from product to service oriented business models.

Europe is the starting point of all this, the psychological crisis is now starting to spread throughout the world. The octopus is extending its tentacles.

Some other characteristics:

- Internet plays an essential role along the entire story. People are very aware about their dependence on this and this causes serious concern.
- Global issues are tackled through crowdfunding, larger resource investments, collective investments, based on real needs and common vision or values.
- Businesses are not resource but mean-

ing constrained: looking to create meaning in life and to contribute, as the incentive, risk spreading. E.g. desalination is fundamental in some regions.

Incentive is not money but the basic needs & environmental problems.

- Would Creative Commons and information sharing be counterproductive to innovation? No

certified information streams through university media and trustworthy information channels. How to know which information is true/what to believe?

Self-emerging credibility creation e.g. review system or voting system, mentality shift: critical inquiry, the means are there to check credibility. Global and well-coordinated information sharing is established.

- Through networks the issue of isolation can be resolved. Global cooperation of people in the same

- The EU stimulates bottom-up initiatives: provide funding for decentralized food and energy production

(subsidy to agricultural transition, not to sustain the old industrial system): smoothing out the

transition

- The unified currency (euro) is absolved as the main trading currency within country borders, and a global exchange rate is determined to allow the trading system



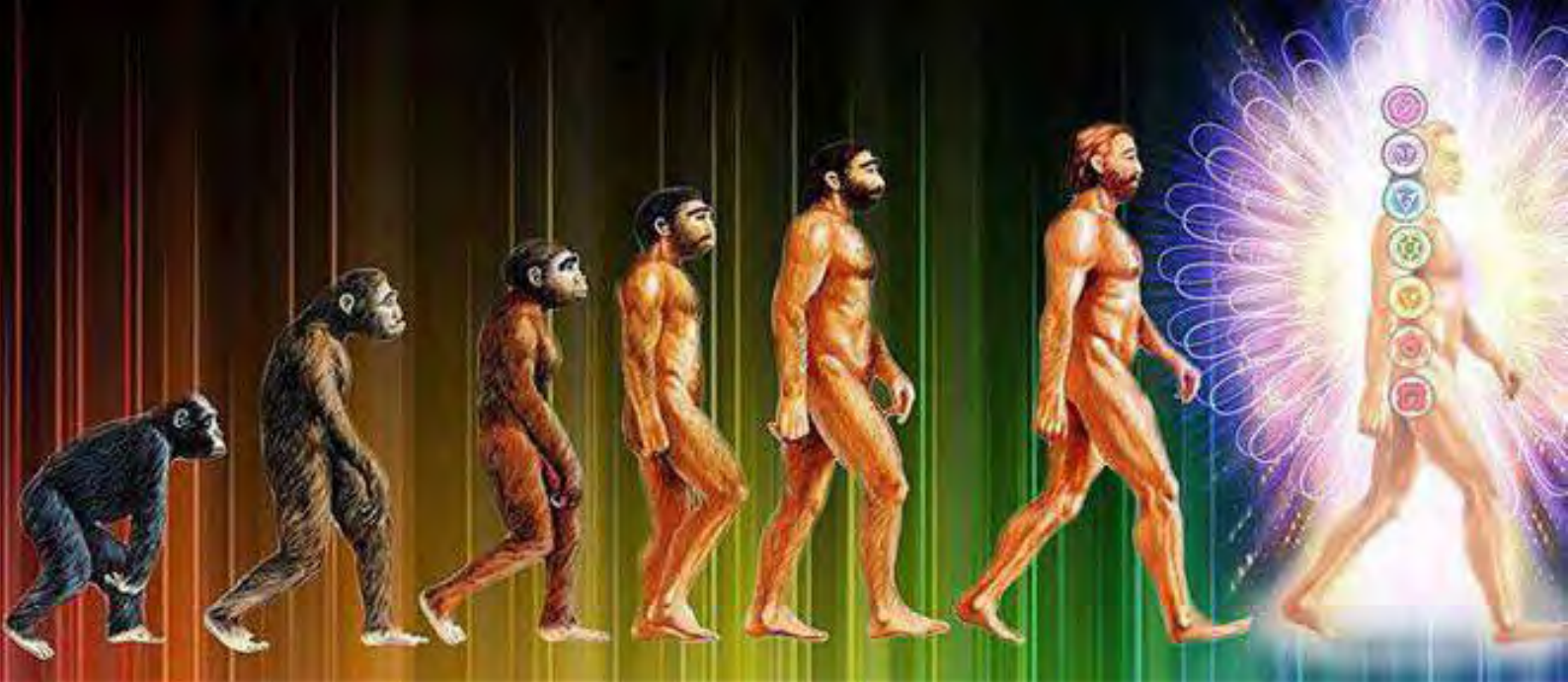
Open source hubs and decentralized ways of producing spread out from energy and food



A new regulatory framework provided the standards for this new kind of production and created opportunities for innovation at household level

“





EVOLUTION SPEED UP

POWER: BOTTOM-UP
SOCIETY: CARES

[Fade in: four figures huddled around a strange heating device]

In 2015 everyone thought that evolution no longer existed among humans. In 2045 we know they could not have been more wrong. The diversity among communities is enormous: technical, cultural and economic innovations abound. Selective pressures are tough: owing to climate change and the accompanying waves of migration, resources are scarce. Reproducing and sustaining your community are by no means guaranteed. Could anyone have predicted this back in 2015? As fate would have it, yes: a small group of students, of which I was one, made a series of frighteningly accurate predictions.

I experienced the last thirty years in several stages. In 2015, society reached a sustainable peak. Though you may not believe it now, at the time the state of the environment was on almost everybody's mind. I was just twenty three then, and there were any number of bottom-up movements growing, many concerning the natural world around us. The sustainability movement was its strongest, and it felt like technology became cheaper and more diverse with each passing day. Start-ups and social media movements proved too fast, innovative and flexible for the crumbling dinosaur companies and political parties whose names you probably wouldn't even recognise nowadays.

By 2020 however, society felt like a rollercoaster on a track to nowhere. Coalition governments, fledgling companies, and grass roots movements did their utmost to solve the problems of the

day, but events simply moved too fast and always seemed to overtake them. The lingering effects of previous economic crises, ideological and military struggles you might have read about online, all shifted our focus first one way, then the other, so they - we - were unable to respond to, let alone anticipate, the first large-scale changes in our climate. Harvests failed, and in the Netherlands we experienced floods and tropical storms. Similar events in Bangladesh provoked mass migrations and humanitarian crises the world over, from India to Canada.

Faced with these unprecedented challenges, many people lost their businesses, their homes, even their lives. As always though, we did not take this lying down. People adapted almost as fast as their circumstances changed - one of my fondest memories will always be swimming with the dolphins whilst honeymooning in Utrecht, which inspired your father and I to open our dive centre and beach bar for tourists spending Christmas in Schiphol. We endured through crises, and had to watch many species die: just ask anybody of my generation where they watched the webcast when the last elephant perished.

For a time in the late 2020s, when times were at their hardest, societies around the world blamed the crises on the power vacuum and fragmented responses of our bottom-up society. People turned in droves to charismatic, unifying figures to lead us out of the desert: former musician and diplomat Kanye West used his international profile to build a movement that was global but, ultimately, short-lived as society was now segregated



global but, ultimately, short-lived as society was now segregated along almost every dimension imaginable. A vegetarian alliance held sway over millions of people for a time, before a coalition of Manchester United and Ajax fans came to prominence, people's allegiances shifting as fast they could update their status.

So began an era of hardship, yes, as people turned inward and looked after their own. But it was also an age of unheralded creativity in the arts, sciences and technology as people could exchange ideas faster than ever before without the shackles of top-down international borders or corporate considerations: they could, indeed had to, make it on their own. Anybody could be an artist, a poet or singer for a week in this world of one-hit wonders.

The world has changed dramatically since 2015. The climate is unrecognisable. Lakes have dried up, or become seas. Society, too, has transformed into what was once known as a "wild west": with the crumbling of old power structures and climate crises, people have become distrustful, even aggressive, inward-looking, tribal. You know too well the consequences of our daily skirmishes. At the same time, this has led to many of the things you take for granted: an open source technosphere, an explosion of art, music and literature at your fingertips, crowdsourcing solutions to problems as quickly as they arise. I am very lucky to be here to tell you this story, and if I've learned anything since I was your age, it's that only the fittest and the most ingenious survive. Now run for cover! [Sound of sirens]



"People adapted almost as fast as their circumstances changed - one of my fondest memories will always be swimming with the dolphins whilst honeymooning in Utrecht, which inspired your father and I to open our dive centre and beach bar for tourists spending



LIFE.GOOGLE

It is the year 2025

Over the past years, global governance actors were not able to prevent the predicted resource crisis: Talks about resource efficiency and promises of ambitious and cross-border collaboration did not convince in their weak attempts. The ongoing pursuit of economic success has led to a global resource crisis. Prices skyrocket, global unrest and inequality grow steadily.

Due to the persisting short-sightedness of decision makers, food security and environmental quality are highly endangered. The inability of states to appropriately deal with issues such as IS, ongoing rushes of migrants and the financial imbalance combined with the individual's feeling of being disconnected and powerless have corrupted national coherence.

Riots sprout up around the globe but they cannot be resolved by national authorities. Initially, grass-roots movements tried to supply communities with their needs, for example with providing fab labs to manufacture their own goods without the need of global production chains. This gave hope to the people, but in the end, these local organizations did not develop into a larger connected network because of the lack of an overall vision. Therefore, its impact remained moderate because no major investments were acquired. In the end, it did not succeed to compete with the rising power of the big players...

POWER: TOP-DOWN

SOCIETY: DOESNT CARE

[It is the year 2030...]

[news feed, presented on all international news]

"Join the Life.google movement: Google streets, google complex, google glasses... This was only the beginning. After receiving 3 billion likes on Facebook, both from persons and organizations, Google goes from viral to real. Like, REAL.

Creative developers, high-tech artists, social inventors, and community innovators join forces and give rise to a new dimension of digitality. Digitality meets reality. The first urban realization of the google civilization is about to settle in the former Caribbean."

Under pressure of the resource crisis, automation steadily progressed. By now, mass production of food is solely designed, coordinated and performed by farming robots in order to guarantee maximum yields at least energy costs. Most people were forced to move to cities to improve robot efficiency. Mega agglomerations of humans come into existence, being sustained through the resources that the robots mobilize from the surrounding region.

The capital-rich, well-connected companies did their homework before the dawn of disaster.

They founded their own cities that people were allowed to join when working for them. When living in such a city, citizens could be sure they would be taken good care of, contrary to the citizens living in the cities still ruled by public government. One of the biggest new cities was founded by Google and got the project name life.google.

[In the year 2040...]

Welcome to life.google, the Global Omni Optimized Glorious Life Experience.

Look around, your work, your leisure time, your life - all happens in your city. You are part of the city and everything is better connected, smarter and with a purpose.

Nobody needs to worry about environmental disasters and global issues any more. Back in the days, the young google professionals have integrated a smart data collection and processing system that enables optimal decisions, allocating goods according to a grounded cost-benefit analysis that takes social, environmental and economic feasibility into account. Decisions are made for their best outcome; no citizen has to waste his or her energy on it.

In work life, you do what you are good in. For a reason. Everyone contributes to the common life in our beautiful city by getting the opportunities they deserve. In early childhood, personal character traits and skills are identified and according to this your personal education training is customized.

You can constantly develop yourself according to your uniqueness, in a learning environment that fits you. The "work" that you do - is you. Manual work is mainly outsourced to robots. They take care of the energy production, food growing and processing, and health care. Only for personal wellbeing, some physical features are maintained in order to guarantee a balanced life. You rate how you feel and life.google suggests what you

do on that day. You do not feel obliged to do it, you take it as a great opportunity to spend your time (of which by now you have abundant) to create something you can be proud of. Peer reviews further define what you are good in, giving you immediate feedback on what to improve and what to refine. You can work as developer, food engineer, animal inventor, virtual artist, weather manager; creativity does not have borders in the real world any more.

By this, the citizens of Life.google all contribute to the city in their own way. Their daily activities to contribute to the community are decided upon by google based on the data they have about your constitution for that they. Maybe today, although you are a CEO, you clean the nearby railway station to clear your mind.

Most events get voted for in a democratic way. Even the weather is voted for. If, for example, 10.000 people like rain on Facebook for a certain moment in time, the Google engineers will make it rain. The same goes for example for city planning and engineering priorities for further life.google development.

Worrying about life and daily issues is a problem of yesterday. You wake up at the time that your body is most comfortable with the experience of leaving sleep. This is guaranteed by monitoring software that exactly knows your sleeping patterns and needs. Schedules of the day are harmonized in order to guarantee interaction is only happening when people are at their best. ...Enabling effective communication and a pleasant experience for everyone.

Health issues lie in the past. The body is continuously checked in order to be optimally supported according to its individual needs. Nutrition is custom-

made providing the body with what it needs for the next tasks on the personal agenda.

By monitoring your needs for personal development and comfort, Google suggests you to meet or video call friends or people still unknown to you when they can contribute to your personal wellbeing. These people are suggested to you by giving you advice or because they share your frustrations and experiences.

The city is linked to its surrounding through several bridges to production, processing and treatment islands. Centrally in the middle lies the city itself, representing the heart and the brain.

Of course there is not only one big city. Specialized cities are spread across the whole globe, according to its citizens' aggregated and normalized preferences. Each city with its unique features adapted to its environment. People can travel to other floating cities. However, they commonly do not do that. Why should they? Everything is at your service exactly where you are. Always.

Like this, no citizen has to care about sustainability, because the system is optimized to take care of sustainability without the average citizen noticing.

"Welcome to life.google, the Global Omni Optimized Glorious Life Experience."





BRAVE NEW WORLD 4.0

POWER:

TOP-DOWN

SOCIETY:

CARES ABOUT

SUSTAINABILITY

September 2015

In the present day and time, mistrust is a common feeling although not directly exposed. It is seen in a lot of conspiracy theories, the fear of the elite (the 1%) that is running the world, the mistrust in (multinational/global) companies that are accused of obscure activities. A lot of people have also lost their sense of their purpose in society. The sky is the limit, freedom has climaxed, everything is possible, but people are cannot find meaning. Where previously they found meaning through religion, institutionalized religion is losing traction as a guide. The scandals in the Catholic Church, the radicalism expressed by minorities in the Islamic cultures followed by continuous technological advancements have created a lot of friction. These things allow for a trend in where people think (or truly are) individualistic, stressing for decades that freedom is the highest achievable goal. Freedom that comes with responsibility, inexplicable and unexperienced only rarely before these times. And the transformation seems to be uneasy. It is much easier to have trust in something

bigger than you (government, spirit, state of mind), to shift responsibility.

In addition to this growing unease, the sense of being lost in such a vast global society, struggling with your own freedom, apocalyptic stories are common place. Global warming has been proven, extreme poverty is still a genuine issue and wars are raging. Climate change becoming visible, together with widespread pollution, destruction of natural habitats, erosion, natural disasters, and so on, creates a deep sense of unease. Several media channels eager to misuse this unease. Movies for example, are responding and contributing to apocalyptic feelings by showing and displaying these in a multitude of versions.

Having solved much of the local issues in the Western World, there are more resources (time, money) to learn about the global problems. But these are, in 2015, inconceivably complex and big. A general unease in society splits up the population. Some start taking action, some are paralyzed by fear and some

simply just don't care. The split in populations within society and between countries also has an effect on the governments. Especially Western governments that have the ability to focus a part of their attention on these issues, start doing so in a mild format. This is much to the unease of some governments that, overrun by the struggle with local issues, are unable or unwilling to respond to any of these global calls to action. This is highly understandable.

Unquestionably, a global response to the issues at hand will remain postponed for some time to come. This restricts top-down government action to small localized efforts and pushes a larger portion of the population into taking action as the urgency of addressing the problems becomes more apparent. It is a truth among climate change specialists that without an urgent response, disaster will strike.



Summer 2020

Due to the lack of a global response, a multitude of the global issues have reached an inevitable turning point. One disaster after the other happens, stressing and collapsing socio-economic systems all over the globe. People die at a rapid pace, especially in disaster prone areas, such as flood plains, tropical regions, etc. It is at this point in time that the people get awoken everywhere. A wakeup call of gigantic proportions. As one person, they put their shoulders into communal projects. Bottom-up initiatives pop up everywhere. People are giving and solidarity reaches levels never seen before. Out of the sheer fear of the consequences, which are apparent now, they have no time to invest in malicious activities. Criminality drops in most parts of the world and a trend towards a fully bottom-up community based world is almost inevitable. Businesses start popping up everywhere. One after the other, small entrepreneurs try to develop the tools necessary to cope with the current world. Mistrust is a defining aspect for society. People feel the government has not taken its responsibility to take action. Therefore, they reject any form of government, and this creates an almost lawless society, only stabilized by the caring mentality present in society. Politicians, religious, and economic leaders realize mistakes have been made, they turn the tide. Completely ignored by society, plans are made for large scale projects to help. Showing remorse these leaders turn to a totally different operating style, showing solemnness in living and action in their words. But for some time, they can't find any constituency at all. The world seems to be plunging in a fully individualized and anarchic hole.

2030

The combined effort of people that was put in from in the beginning seems to take effect. Technological innovation peaks and tools for survival and counteracting global warming are invented. Creativity and innovation are most sought after. Never before was flexibility and creativity so important in society. This quickly changes the pace of

work, life, and society as a whole. Initially these developments created hope in 2020-2025. But almost as quickly as hope grew, it was destroyed. Although bottom-up initiatives are trying to address the issue at hand, they lack the constituency needed to realize effects that are big enough. Seemingly, it takes large coordinated action to tackle the problem. It is at this point in time that hope is lost again. Appealing to this loss of hope, a green movement arises. As a new form of governance, the green movement combines religious, governmental, and economic leaders into a party that, by lack of better definition, seems to resemble a Democratic Party lead by willing and capable minds that quickly take action and do that thing that the people want. The party has a strong leader, that has much of a following of a Green Pope.

2035

The green movement has spread at a dazzling pace. Fully transparent, they start elaborating and implementing plans at a fast pace. People seem to have trust in them and support them every way they can.

2038

The green movement's projects are successful. But the consequences of climate change are still apparent. People are still dying in some parts of the world, floods happen frequently, and prove to be uncontrollable. The beneficial effects of the projects seem to be limited to local areas alone. And these are mostly measurements, the people remain wary. Other projects of the green movement, focused on the survival and welfare of people are effective and can be seen by the population on a larger scale. The coordinated efforts between government, private sectors, and citizens are fully transparent and the people feel they can trust the Movement.

2040

The green movement has implemented so many projects that the effects are unquestionable. Trust in the GM spikes. Because of this, the constituency of GM spreads quickly over vast parts of the world and



enables them to implement vast coordinated top-down projects. All major sectors of society are now in centralized areas. This was made possible by the surge in technological innovation brought about in 2020-2030. Vast areas of the planet are now in isolation, made into nature resorts. The world population stabilizes and new forms of living arise. People are happy and are not afraid to deliver part of their freedom to the GM to gain even more freedom in other parts of their lives. Being able to put their trust in GM, fear subsides and opens up ways for people to even further explore creativity, life, and the universe.

“All major sectors of society are now in centralized areas. This was made possible by the surge in technological innovation brought about in 2020-2030.”

STEP 7: APPLICATION

USING THE SCENARIOS FOR CEO

DECISION MAKING

We do scenarios to make better decisions here and now for an uncertain future. Using our map of possible futures, we have two choices:

1. Adapt our strategies to the future landscape, so that we succeed by adapting better than others;
 2. Shape the future landscape to play to our inherent strengths
- The second route is the more difficult, requiring a keen understanding of one's strengths and weaknesses, but the potential rewards are also higher, much higher.

In our masterclass, we first split into groups of decision makers, representing different people's functions within a sustainable business: the CEO, human resources, financial backers, and an intern. Here we take a look at the application of the scenarios to the CEO.

You are the CEO of a start-up whose USP is to give more back to the environment, society, investors, and customers than it takes from them. A 'giver', not a 'taker', to put it succinctly. The first 18 months were creative, chaotic, exhausting, yet exhilarating. You plan now to take the company public, but you are concerned that even though a corporate officer doesn't not have a legal obligation to maximize profits, they have an economic imperative to do so, or at least to be profitable enough to continue to draw investor support for their enterprise.



Each group then generated a list of the most important decisions that person could take in the here and now. Here is an example:

- You don't go public, choosing instead to remain a niche player true to its ideals
- You go public in order to use your enhanced visibility as a moral pulpit from which to lobby for a revision of corporate law to make running a business sustainably easier
- You go public, cash out and start a foundation
- Crowdfunding
- Franchising
- Joint-value venture

We then, in our groups, discussed the likely future effect of taking each decision for the business under each scenario. The effects ranged from very negative, through neutral, to very positive. This allowed each group to generate a decision grid like the one below:

We could then analyze the grid in different ways, corresponding to the two choices outlined above.

To adapt our strategies to the future landscape, we simply assessed how each decision was most likely to affect the business, looking across each row:

If it was likely to have a positive effect in all four futures, we recommended going for it;

Conversely, if the decision did not come out well in any possible future, steer clear!

Where a decision had a broadly positive result unless one particular future comes to pass, we recommended taking the decision but preparing an exit strategy; If, on the other hand, the decision only had a positive result in one of four possible futures, we recommended not taking it now but keeping it in mind.

To shape the future landscape to our own strengths, we just looked down the columns to see which possible future made the most decisions likely to succeed. If most of our decisions succeed in this version of the future, then we recommended taking what steps we could to make it a reality.

	Pirates in the Octopus	Life.Google	Brave New World 4.0	Evolution Speed Up
You don't go public, choosing instead to remain a niche player true to its ideals	++	+	- -	0
You go public in order to use your enhanced visibility as a moral pulpit from which to lobby for a revision of corporate law to make running a business sustainably easier	++	++	-	--
You go public, cash out and start a foundation	++	+	0	--
Crowdfunding	++	0	--	0
Franchising	++	+	--	-
Joint-value venture	+	+	++	0

Adapter

	Scenario A	Scenario B	Scenario C	Scenario D
Option 1	++	0	-	-
Option 2	+	0	+	++
Option 3	-	--	+	--
Option n	-	--	--	++

Shaper

	Scenario A	Scenario B	Scenario C	Scenario D
Option 1	++	0	-	-
Option 2	+	0	+	++
Option 3	-	--	+	--
Option N	-	--	--	++

We do scenarios to make better decisions in the here and now for an uncertain future. Thus a scenario exercise proves its worth in the application step, which gives the entire exercise its purpose."



SCENARIOS HAVE
MANY USES IN DAILY LIFE,
BUSINESS, SCHOOL,
BELOW ARE EIGHT USES
CAN YOU THINK OF
OTHERS?

MAKING USE OF SCENARIOS

Scenarios are useless without their application and putting them to use for personal or business decisions. Below are other possible uses.

1.

Talk to those who shun you: scenarios allow the engagement of outsiders in constructive conversations that they would otherwise not participate in. Why? Because one is shaping the future, rather than arguing about the present.

2.

Get inside the strategic conversations: similarly, scenarios allow one 'to get to the tables' from which one may have been excluded because of a lack of credibility.

3.

Get everyone on the same page: scenarios are one of the better mechanisms to align stakeholders with different perspectives of the same subject towards a common purpose.

4.

Improve strategy: one can use the set of scenarios to challenge and improve strategy, at whatever level of business responsibility one chooses.

5.

Tell a convincing story: since scenarios are rigorously researched and carefully constructed stories one has a rich communication tool. The real value of the tool is to engage others in open de

bate. One will always win, because one knows more detail, and one has all the 'red threads' necessary to convince.

6.

Design the playing field: by making scenarios public, one forces the market, all stakeholders and critics to react to one's own views. One is framing the conversation and regains the offensive.

7.

Get ahead of the pack: No one can predict the future. But one has a far better understanding of what might be than competitors, regulators and even customers.

8.

Rehearse the future: far too many resources are spent on worrying about the question: will it happen? A better use of the – always – limited resources is to answer a different question: what would

one do if it did happen?

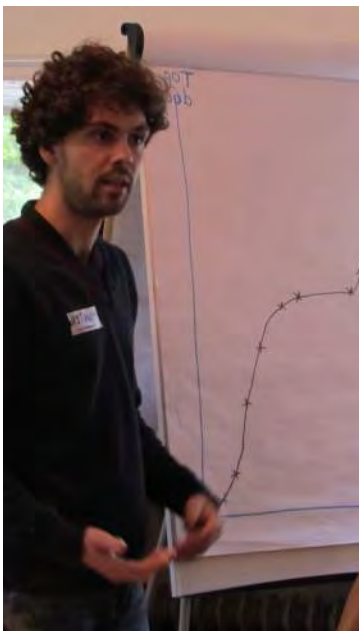
By Ulrich Golücke, November 2002





EVALUATION & REFLECTION

The Masterclass was a great success. Outcomes from the participant survey are shown here and future prospects discussed on the next page.



The Masterclass experience was overwhelmingly positive, according to the detailed feedback survey filled out by 24 out of 29 participants. Quantitatively, the survey used a 5-point scale to rate the experience from 1 (excellent) to 5 (very Poor). The average of all indicators was 1.8, between excellent and very good. It is encouraging to note that 88% of respondents would use this methodology in their future work, 58% in their studies and 63% in their personal lives.

The group dynamic was key to the positive experience of almost all respondents. They praised the chance to exchange ideas freely in a fun and natural environment away from the stress of their everyday lives, resulting in increased creativity and bonding between group members. This suggests that the format is extremely useful in building a team and getting the best out of its members. The survey also highlighted the clarity and usefulness of the scenarios methodology - participants felt empowered to use their imaginations but simultaneously were impressed by the power of the process to generate concrete results and a sense of closure.

Typical comments:

"I liked best the amazing group dynamics which continuously formed... the brainstorming and ideas coming from different people"

"It was a great combination of using creativity and reason"

"The way abstract, uncertain and concrete things came together"

"The methodology was able to open up so many options and then come down to concrete stuff"

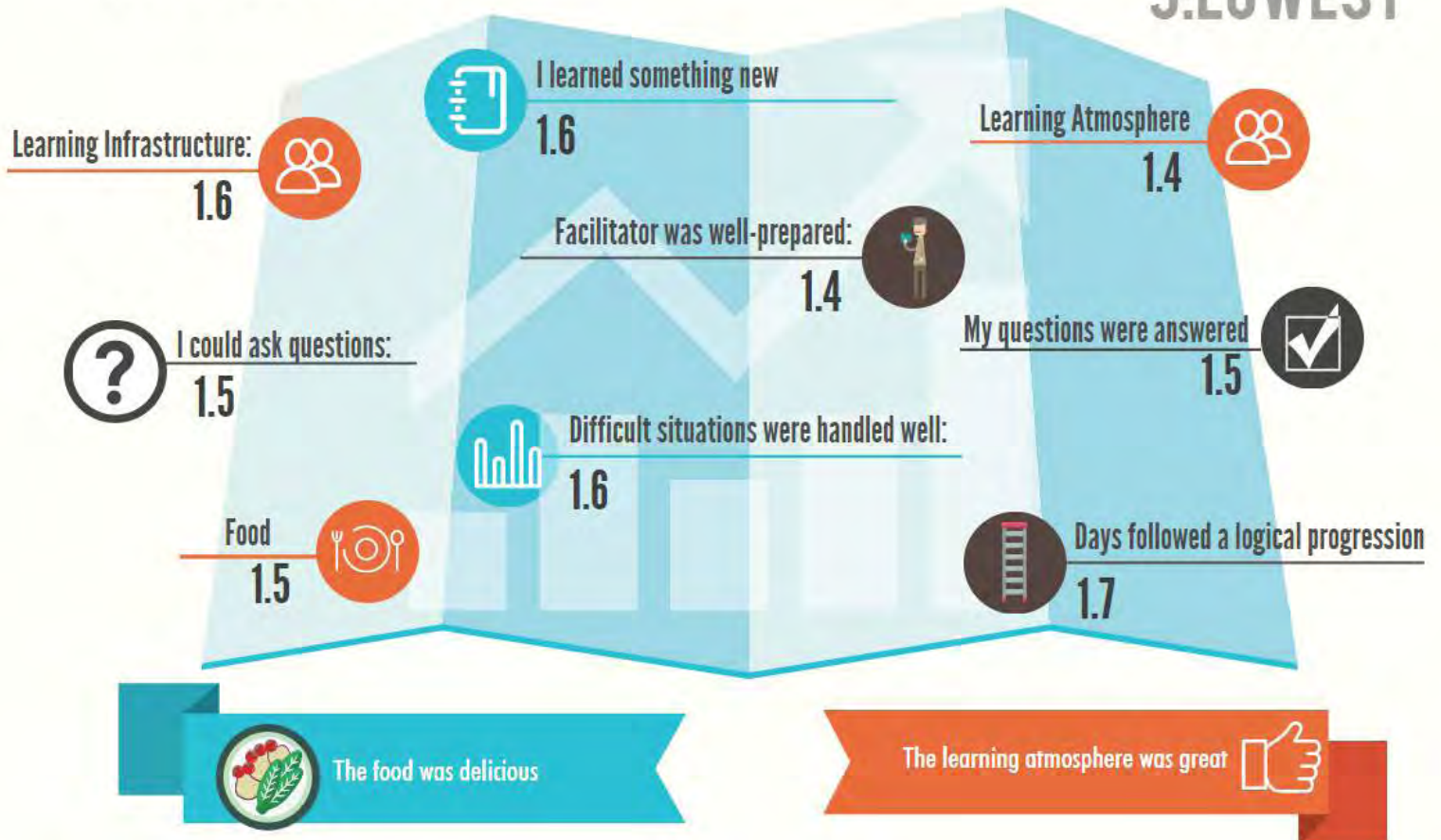
"Specific exercises on uncertain questions brings people together on a mental level. They can understand each other and communicate ideas that would normally, when discussed explicitly, not be easy"

With respect to quantitative survey section, participants indicated that they had learned something new, suggesting that the Masterclass added value to their professional and personal skill sets. Participants viewed the facilitator as very well-prepared, able to handle difficult situations, and ready to take and answer questions throughout. This was also reflected in the excellent ratings of the learning atmosphere and infrastructure, demonstrating that the Masterclass fostered an interactive, professional and challenging learning environment.

To improve the Masterclass, several participants raised the issue of time pressure in

PARTICIPANT FEEDBACK

SCORING 1-5
1: HIGHEST
5: LOWEST



both the qualitative and quantitative survey sections. This may have impacted on the slightly lower (though still good) perception of the ease of following explanations and the logical progression from one session to the next, with several people reporting difficulties following the last, application stage in particular. Participants emphasised the importance of explaining the overall process without rushing, suggesting the use of more visual aids and real-world examples. They also suggested reducing the amount of time devoted to discussing relatively vague or small issues among all 25 - 30 participants, and mixing up the groups during the Masterclass more to bolster people's energy and creativity.

Typical comments:

"With each phase: show how this is done in real life and with whom"

"More visuals"

"Long whole group discussions results lost concentration and tiredness"

"More guidance in the process - the dense schedule was hard to manage in time"

"A large part of the time was spent discussing rather vague ideas and suggestions from everyone"

In terms of the organization of the Masterclass, the stars were the food, which received one of the highest ratings of all indicators, and the natural setting away from normal life, which helped people relax and think outside the box.

// The methodology was able to open up so many options and then come down to concrete stuff"

FUTURE PROSPECTS AND APPLICATIONS

THE MASTERCLASS CAN BE TAKEN TO THE OUTSIDE WORLD & LEARNING SHARED

An initiative like this masterclass finds its truest expression in follow-up activities, that translate participants' experiences into lasting and meaningful impact in the wider community. The participants and organizing team have identified four main avenues to apply the skills they developed, and contribute to the vision for a sustainable future that drew 29 young people to a Breederbroek farm on a sunny September weekend. These four avenues are explained below.

1.

Local Companies, Start-Ups, Schools and Universities

Masterclass participants, having enjoyed and engaged with the experience, can give lectures, run workshops and even organise masterclasses for companies and start-ups in the Leiden and Delft areas and beyond.

Scenario planning is a particularly useful tool for future-oriented companies and young people at different stages in their academic, professional and personal development. By harnessing the power of stories in a rigorous analytical framework, it can help people and organisations adapt and innovate in the here and now.

The scenario workshops bring a diverse community of people together, using their knowledge, creativity, and innovation ideas to tackle climate change challenges. The workshops unite the community further by creating common futures and thereby a common language and understanding in an inclusive environment for three days. Scenario planning is an outstanding example of a tool that can be used to come up with novel ideas and sustainable solutions to grand challenges. Without tools that enable us to escape our current views on reality, we can only come up with solutions that fit the current situation. However, the future will be vastly different, and the created scenarios offer alternative stories of possible futures within which innovative business ideas can be generated.

Summed up, these are the benefits:

- Binding together of a diverse, highly motivated and skilled group of students, entrepreneurs, and young professionals to generate new business ideas to tackle climate change
 - Teaching them scenario planning so that they can afterwards apply it to their own life story, businesses, organizations, and projects
 - Enable participants to teach or lead scenario planning in other organizations
 - The scenario planning workshops revolve around a driving question. These questions can be set so that they answer challenges that concern organizations, businesses, or individuals
 - Project can be extended to be given in other places in Europe. As workshops and masterclasses multiply, their insights can be combined to create common narratives across an organizational network
 - Scenario Planning is not only intellectual exercise; it unites the community and through three intensive days of working and living together, creating lasting ties and networks.
- We look forward to working with you!

2.

Annual Masterclasses for Industrial Ecology Students

The student body of the Industrial Ecology MSc. represents a dynamic group of young people committed to creating a sustainable future: in other words, an ideal set of candidates for training in scenario planning. By replicating this masterclass in the future, we can create a self-replicating stream of energetic, intelligent students to build a lasting hub of scenario planning in the local and international sustainability sector.





3.

Annual / Quarterly Meeting or Tribal Gathering

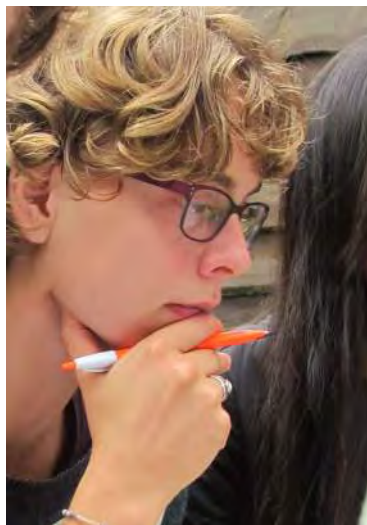
As the workshops and participants multiply, we need an annual event that: 1) gives participants the feeling of being part of a larger and special group (a.k.a. “tribal gathering”), 2) showcases excellent scenarios created by students, 3) continuously increases the quality of scenarios, 4) and demonstrates to third parties that scenarios which have been created by young people have important consequences for society - simply because young people, by living out their dreams and ideas, will create the society of the future.

The annual event distills from all the scenarios that stand out. The aim of the event is commitment, motivation, exuberance, joy, and curiosity. This can only be realized if trust is given and received in a circular process. “Distilling” and “standing out” bears the danger that the vast majority of participants and their scenarios are not invited which may result in more frustration and disillusionment than intended. We are working on it!

4.

Applying Scenarios in All Walks of Life

Having participated in this training, Masterclass participants can apply scenarios in their future studies and professions. To follow up on the Masterclass alumni’s successful applications of scenario planning, we could exploit the ongoing initiatives explained above by inviting previous participants to future events to explain how they have applied scenarios to better adapt to the future.



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Masterclass participants, having enjoyed and engaged with the experience, can give lectures, run workshops and even organize masterclasses for fellow students, NGOs, companies and start-ups.”



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