28 May 2013

IDEAFACTORY_2013

What energy choices for a sustainable future?

This report contains a summary of all the content captured by the facilitation team, through writing and scribing. It is not a complete transcript and does not claim to be precise; we hope it captures the main ideas and concepts that emerged and were discussed during the session with an acceptable level of approximation.
The opinions expressed and the arguments employed in this report are those of the participants in the OECD_IdeaFactory and do not reflect the official views of the OECD or of the governments of its member countries.

Keynote Speakers

Angela Wilkinson Counsellor for Strategic Foresight, OECD • **Nikos Charalambides** Executive Director, Greenpeace Greece • **Richard H. Jones** Deputy Executive Director, International Energy Agency (IEA)

Discussion Leaders

Andrey Kuzyaev Vice-President, OAO 'LUKOIL', President LUKOIL Overseas Holding Ltd • **Bente Hagem** Executive Vice President, Statnett • **Blas L. Pérez Henríquez** Professor & Faculty Director Public Policy Center for Environmental Public Policy, University of California - Berkeley • **Carlo Sinatra** Founder, Legal Representative and Member, Global Sustainable Social Energy Program (GSSEP) • **Celine Charveriat** Director of Advocacy and Campaigns, Oxfam International • **Ernst U. von Weizsäcker** Co-Chair, International Resource Panel, United Nations Environment Programme (UNEP) • **Kåre Riis Nielsen** Director for Public Affairs and Communication, Novozymes • **Marie-Louise Knuppert** Vice President TUAC; Elected Confederal Secretary, Danish Confederation of Trade Unions (LO-DK) • **Michael Förschner** Head of Unit, Work & Equal Opportunities ZSI-Centre for Social Innovation • **Nick Mabey** CEO & Founding Director, E3G • **Paolo Soprano** Director, Sustainable Development Division, Ministry for the Environment, Land and Sea of Italy • **Pieter Cornelis De Pous** Policy Director, European Environmental Bureau • **Russel Mills** Chairman of the BIAC Committee on Environment; Global Director of Energy & Climate Change Policy, The Dow Chemical Company

The OECD_IdeaFactory invites OECD Forum participants and experts to work together and combine their experiences and perspectives so that global and complex issues can be viewed differently.
A selected number of participants take part in a three-hour immersive session where new kinds of conversations are provoked through active engagement, collaboration and interaction.

The aim of this IdeaFactory was to explore the issue of energy, and in particular to discuss the new challenges and experiments that are shaping the energy landscape both now and in the future.

The following pages capture some of the key ideas discussed during the session.

Ambassador Richard H. Jones

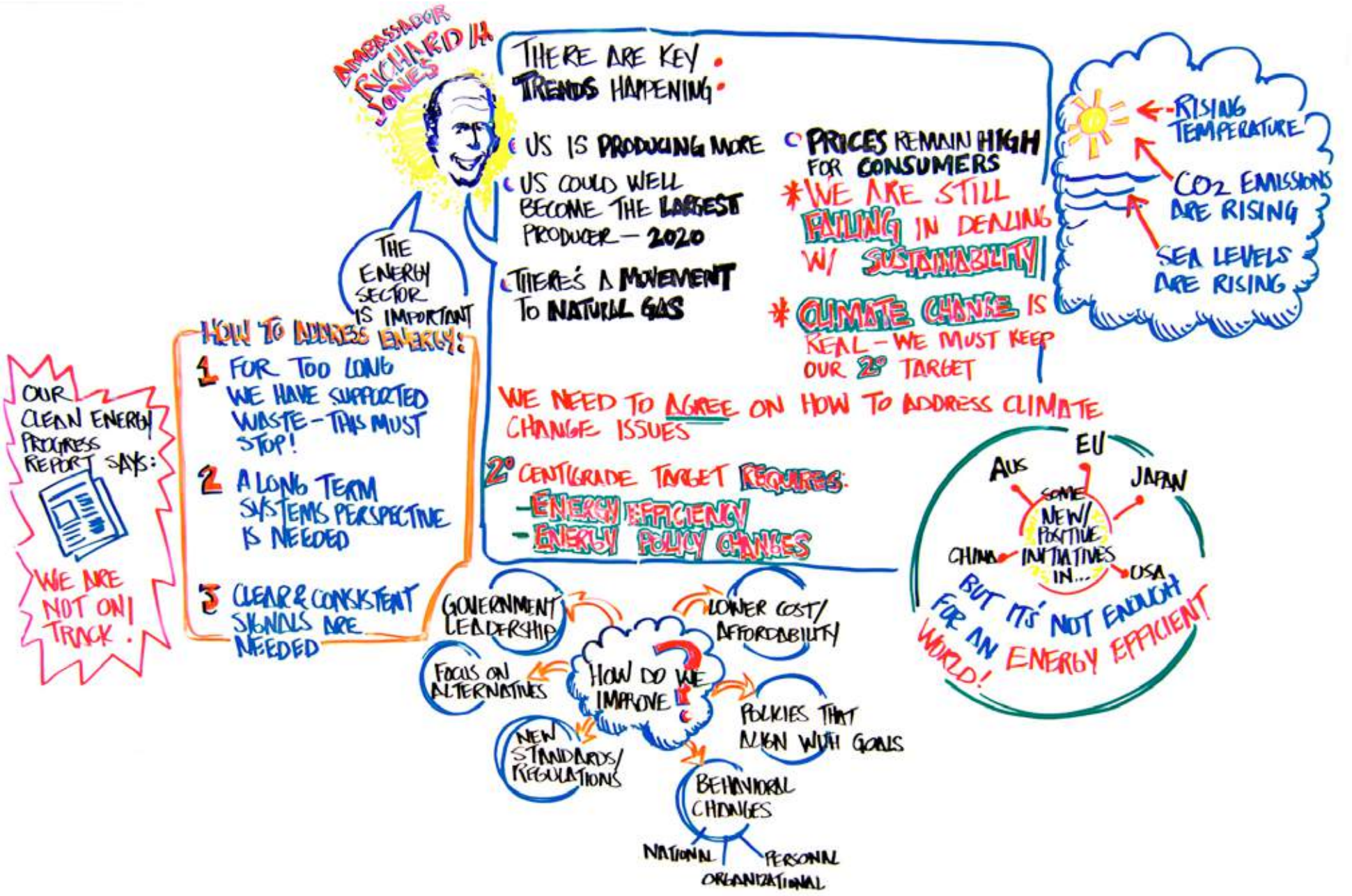
Deputy Executive Director, IEA

Every year, the International Energy Agency (IEA) publishes its World Energy Outlook, which identifies key energy issues and presents scenarios to show how the future might look over the next 25 years. Based on different assumptions, these are not pure forecasts but are well-informed projections of alternative energy futures.

By the end of this decade, we project that the United States could become, at least for a while, the largest global oil producer, overtaking Saudi Arabia until the mid-2020s. Other important developments include the on going reshaping of international markets for natural gas. As advances in production technology in the US lower prices there, shifts in relative prices for natural gas and coal are redrawing plans for power generation in several countries.

However, after taking all these new developments into account, we are still failing to put the global energy system on a more sustainable path. There is little tangible evidence of progress towards a comprehensive international agreement on climate. The renewable energy sector - such an important part of any climate change solution - is growing, but not quickly enough. Many renewable energy companies are showing significant signs of strain, while many governments have been critically reviewing their levels of support.

We believe there is an enormous potential for energy efficiency, for curbing energy demand growth, reducing


AMBASSADOR RICHARD H JONES
THERE ARE KEY TRENDS HAPPENING:
US IS PRODUCING MORE
US COULD WELL BECOME THE LARGEST PRODUCER – 2020
THERE'S A MOVEMENT TO NATURAL GAS
PRICES REMAIN HIGH FOR CONSUMERS
*WE ARE STILL FAILING IN DEALING W/ SUSTAINABILITY
*CLIMATE CHANGE IS REAL – WE MUST KEEP OUR 2° TARGET
RISING TEMPERATURE
CO2 EMISSIONS ARE RISING
SEA LEVELS ARE RISING
THE ENERGY SECTOR IS IMPORTANT
HOW TO ADDRESS ENERGY:
1 FOR TOO LONG WE HAVE SUPPORTED WASTE – THIS MUST STOP!
2 A LONG TERM SYSTEMS PERSPECTIVE IS NEEDED
3 CLEAR & CONSISTENT SIGNALS ARE NEEDED
OUR CLEAN ENERGY PROGRESS REPORT SAYS:
WE ARE NOT ON TRACK.
WE NEED TO AGREE ON HOW TO ADDRESS CLIMATE CHANGE ISSUES
2° CENTIGRADE TARGET REQUIRES:
– ENERGY EFFICIENCY
– ENERGY POLICY CHANGES
EU
AUS
JAPAN
SOME NEW/ POSITIVE INITIATIVES IN...
CHINA
USA
BUT IT'S NOT ENOUGH FOR AN ENERGY EFFICIENT WORLD!
GOVERNMENT LEADERSHIP
LOWER COST/ AFFORDABILITY
FOCUS ON ALTERNATIVES
HOW DO WE IMPROVE?
POLICIES THAT ALIGN WITH GOALS
NEW STANDARDS/ REGULATIONS
BEHAVIORAL CHANGES
NATIONAL
PERSONAL
ORGANIZATIONAL

imports of expensive fossil fuels, and limiting pollution. Unfortunately current efforts fall well short of tapping the full environmental potential of energy efficiency. Energy efficiency has been an "epic failure" of energy policy making in most parts of the world: two thirds of the economic potential of energy efficiency is left unused. This is unacceptable in a world where 1.3 billion people remain without regular access to energy; we simply cannot afford to see so much energy wasted.

In the World Energy Outlook 2012, we set out a blueprint for an energy efficient world to examine what would happen if we pushed the available efficiency buttons.

But how do we actually push these buttons?

First, there needs to be leadership at the government level. We have found that markets alone are not enough by themselves, as we should overcome existing economic barriers. Governments are often in the best position to make this happen. One of the ways they can act is by collecting accurate information, helping us to measure and understand the costs and benefits of energy efficiency.
In essence: making the invisible concept of energy efficiency more visible.

Another way is to help make it more affordable. Often the reason blocking energy efficiency is that the costs and benefits fall on different people.
We need policies that help to align incentives and financing instruments that can help prevent upfront capital costs from discouraging investments that are profitable in the long run. For too long we have supported, directly or indirectly, wasteful uses of energy. This is largely because prices did not - and they still do not - reflect the true cost of energy. Altering the cost means creating a meaningful carbon price and phasing out fossil fuel subsidies wherever it's politically possible. While this might not happen overnight, let's not fool ourselves: if we do not get prices and policies right, the transition to a clean energy system will simply not happen.

We need to have a systemic perspective with a longer-term view. By this I mean that governments must think beyond energy technologies and electoral cycles, and consider the larger picture. This includes accelerated and more strategic support for mundane things like basic research and innovation.

Finally we need to provide clear and consistent signals from the policy side. Transparent and predictable energy policies that take into account changing market conditions and the cost of technology developments are essential to keeping clean energy on track.

I also want to be clear that positive changes are taking place in the global energy landscape, but unfortunately the speed and direction of these changes are far from sufficient to put us onto a more sustainable energy path. Much more fundamental shifts are needed to help the world meet its climate change objectives.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IDEA FACTORY
DES POLITIQUES
Scientists

Silvia Terrón

OECD Public Affairs Co-ordinator

As the global energy landscape is changing, several new questions emerge: what do the latest changes imply? How can we make sense of them? How can we move towards a more sustainable future? At the OECD, we are working to understand these complex realities and to make sense of the interaction between energy and environmental, economic and social policies. This is why having you here with us today is really valuable and we look forward to learning from your insights.

Maurizio Travaglini

Co-Founder Architects of Group Genius
Idea Factory Designer and Facilitator

Welcome inside the IdeaFactory. I am an external consultant hired by the OECD three years ago to help transform some aspects of the annual OECD Forum. We have been working together to get more out of the knowledge and experience of those who are part of the OECD community, by creating a richer and more interactive experience.

One of last year's participants, referring to the IdeaFactory, mentioned Einstein's quote: "Insanity is doing the same thing over and over again and expecting different results". We want to get different results from the conversations that we will have in this room, and we will try to achieve this objective by doing something different – in terms of what we see, what we learn, how we connect to each other.

The sort of problem we will discuss is so complex, that the only way to understand anything about it is to engage in a social process of understanding. The answer to this sort of problem is often not in the data. The answer...is in the process of searching for an answer.

THE GROUP ACTIVITY

Participants were allocated to 16 break-out groups, representing 8 constituencies that are part of the energy system (a different constituency to the one they represent professionally).

Each constituency is described for its positive role in the energy debate, but also for its more negative contribution.

The next pages are a reflection of this role-playing discussion and not a reflection of the official views of the OECD or of any of the represented stakeholders.

THE LEADING QUESTIONS

What have we learnt in the past 20 years?
What have been the failures?
What choices are ahead for the future?










IDEA FACT

ACTORY





NATIONAL GOVERNMENTS

Negative

"National governments lack clarity on what the real problem is. This means that incoherent actions are taken. Energy policies require long-term investment plans, rather than short-term choices related to electoral cycles. Governments should also consider the consumption side of the problem - not only the production side. We should move from a burden-sharing global model to a benefit-sharing one."

Positive

"This is a complex issue for which there are no easy answers. The context we are living in is very unclear, and there is uncertainty on how to move ahead. Politicians are not always able to balance the interests of all constituencies involved. There is an urgent need for a new, more fitting, governance model that balances the interests of the private sector and citizens in a more transparent and meaningful way."

CONSUMERS

Negative

"The current energy market is dysfunctional: the demand side –which is crucial in driving the market and its rules/policies– does not play a decisive role, due to information imbalance and the power of vested interests. We are living in a moment of inertia, and need to make important choices to move ahead."

Positive

"Consumers are already paying high social costs for energy, apart from the price that they actually pay for the service.
The perception of this constituency is that:

- Governments already receive high energy-based taxes every year.
- The energy industry receives substantial subsidies every year.
- Society is accused of not being willing to pay more for the service.
- Some of the big companies are actually making significant investments and experimenting with innovations to move towards a more sustainable future.

Consumers cannot drive the necessary changes alone: governments must lead in this transition."

Negative

"Providers choosing to enter the new renewable energy landscape are mostly the large, well established energy corporations. There are very few small enterprises or individuals able to provide these new forms of energy. The result is a market which is free for no-one, and in which new products follow the same traditional business models focused on market share and profit rather than on energy saving. 'New energy' does not imply more energy, but rather a more efficient use due to a better choice of energy mix and better-informed users."

NEW ENERGY PROVIDERS

"This system needs both a centralised and a decentralised approach. Local and smaller solutions need to be provided in developing countries (which would also encourage the development of local skills and jobs), while large quantities of clean energy are needed in developed countries.
This means that the system can work if companies are encouraged to develop economies of scale that ensure profitability. However, there are still changes to be made to the overall system, with better integration of these new energy providers with government, policy makers and citizens."

Positive

Negative

"International Governmental Organisations (IGOs) can be more focused on procedure than on visions for the future. They can be slow to adapt to social change and innovation. Some IGOs might also be vulnerable to influence from private sector interests. This reduces the effectiveness of these institutions, their proactivity, and their ability to introduce practical solutions."

IGOs

"International organisations have the means and the legitimate power to pursue energy efficiency, if working together with national governments. Procedures are the source of that legitimacy. What is missing is better co-operation between and within different organisations. In addition, strong political courage and will are needed if we really want to implement the suggested recommendations."

Positive

SCIENTISTS

Negative

"Scientific work is still too fragmented and specialised, with a focus on incremental change rather than on transformation. We need scientists to overcome this fragmentation and develop a more systemic understanding. The findings, results, and impact of research should be better communicated, so that it can be translated into effective and incisive policies.

Another dilemma is that science can be perceived as working too much for vested corporate interests and not enough for the public interest. This link might be broken through a systemic reinvention of the intellectual property system. "

Positive

"Scientists have been experimenting with a new cross-disciplinary way of working, which implies day-to-day collaboration and virtual sharing. There is still a long way to go to be truly integrated, not only amongst themselves, but also with governments and society, especially with the younger generations. While the work of scientists is in line with politicians, thanks to a globalised approach to governance, scientists have recently started a cultural change and a change in the educational processes in schools, encouraging clean technology practices among young people."

NUCLEAR ENERGY PROVIDERS

Negative

"If we only talk about nuclear energy providers –and not about nuclear technology– there are several issues that need to be addressed:

- Safety: we should think well in advance about the long-lasting economic, social, health and environmental problems that future generations will face in case of a nuclear accident.
- Nuclear waste: how can we decommission it? We still have not found a valid solution.
- Infrastructure: considering that the infrastructure that produces nuclear energy can last 30 to 40 years, we should focus on finding solutions that allow us to have a much more flexible system."

Positive

"The role of nuclear energy should be seen within the system of energy production. If we look at the energy needed today and at the earth's resources, fusion can respond to large-scale energy needs. Security is a crucial element for this system, and we should not stop investing in it, even if a lot has been improved in the last 30 years. Clearly, nuclear energy cannot solve all our energy-related problems but, if integrated with other energy providers, it can really play a significant role in the whole energy system."

Negative

"Some NGOs can be too dogmatic (they target specific elements without considering the whole ecosystem), while others can be too idealistic (not offering pragmatic or constructive solutions, especially in the long term). NGOs have a key role to play: by opening up, and engaging more in a transparent dialogue with other stakeholders."

ENVIRONMENTALISTS/NGOs

"NGOs have learnt how to collaborate with different stakeholders; they have evolved into knowledgeable partners. NGOs are in a position to provide balance in this dialogue."

Positive

Negative

"The most common accusation against oil corporations is that they have not been paying back what they have taken from society, local communities and individuals. They are believed to have undue influence over the whole energy system. It is now time for these corporations to make better use of their power and focus their R&D efforts to achieving more sustainable solutions."

OIL CORPORATIONS

"Oil corporations might be able to lead a real change in the energy market landscape. By improving energy efficiency and supporting alternative energy technologies, and by pioneering, making mistakes and then fixing them, they have always played an important leadership role."

Positive













What are the choices available for the future?

What is ahead of us?

Final Conversation

"As corporations play a key role in this energy landscape, how do we develop new business models that allow a good match between efficiency and growth? And how do we do that together with consumers?"

"Innovation is essential to achieve efficiency. But progress is not being made since governments all around the world need cheap energy and do not have any reason to promote efficiency. We should develop a strategy to make energy more expensive and, at the same time, document efficiency gains."

"How can we move towards a low-carbon economy and society, assuming that we all agree on this objective? We should look for similarities, and not for differences. We should all stick to efficiency as a key concept. We should try to include in the price all the costs/externalities that society pays for right now. Let us not accuse energy, but let us put a fair price on it. This approach implies numerous changes in the market, and that is the difficult part."

"There are contributions that everyone can make very easily. Let us start with ourselves, in the way we consume and produce as entrepreneurs."

"New sources of energy could also provide an opportunity to create a new dialogue between developed countries and developing countries, such as in the Middle-East and North Africa region."

"Efficiency gains on the production side have been quite high, but on the consumption side they have been more or less irrelevant. We need more government activity when it comes to enabling efficiency on the consumer end (regulation, coaching, etc.)."

"When considering the renewable energy sector, we need strong policies for the whole energy network, sending clear signals both to the marketplace and to consumers. There is a lot of 'to and froing' in the renewable energy sector. But this situation can change in a couple of years - it all depends on sending the right signals."

"To pursue efficiency, economists need to take account of the true costs of energy production. An example is mining activities: if we conduct a proper economic assessment, it is not obvious that, even with the price of carbon quite high, the main component of the environmental cost is

the carbon itself. It could be water or any other part of the eco-system affected by mining."

To tackle climate change, we need three things to happen:

1) Efficiency
2) Broad take-up of new and renewable energies
3) Investment

Consumption patterns do not change overnight. At least 10 years will be needed, with adequate long-term investment in this transition process."

"The complexity of this issue goes beyond the environmental and energy sector. If we do not prepare for this transition, we will face cross-sectoral impacts. Soon we will have 9 billion people on the planet, and the issue of efficiency in energy for the agricultural sector is crucial. We need to make sure that the sources of energy we will be using will not threaten food security."

"We cannot just blame politicians, or large companies, or lobbies. Spreading the responsibility is an important part of this debate."

"Before considering the right prices, we should focus on getting the market right: in some places it is the deeper structure of markets that needs to be changed. Prices emerge from markets. Sometimes we talk superficially about politics, while we should be talking more about structural reforms."

"How can governments make the case for these reforms? As civil society, we could support governments during this transition and help them consider also the social consequences, which are always overlooked. We should try to differentiate social and environmental policies."

"Sacrifices will have to be made. We need to be honest about stating that we will need to consume less, but there are also opportunities. The necessary change will only be possible if we work together."

Angela Wilkinson

Counsellor for Strategic Foresight, OECD

During this IdeaFactory, I heard a lot about the challenges of finding the right balance, expressed from different perspectives:

- Rebalancing attention to supply and demand – it is a challenge of cleaner, affordable and secure supplies of energy and managing demand-side expectations and behaviours.
- Rebalancing in terms of connected challenges – it is not only about energy, it's also about food. And so on.

Rebalancing any system is an act that benefits from a longer-term, bigger-picture perspective. Democratic societies across the world however appear to be struggling to escape a vicious cycle created by the short-term interests of the market and political elections! Perhaps this is why we have heard less in our discussions today about the deeper challenges of renewing the foundations of modern energy systems.

One of the absent voices in the room today is infrastructure – there is the inertia of vested interests in existing legacy systems and the need to enable wider access to modern energy supplies for more and more people. This pushes questions of energy infrastructure investment to centre stage.

The push for efficiency gains is a necessary but insufficient response to these questions. Do we have the courage to rethink and dare to be different in a way that might unlock more momentum for change? Can we move energy systems faster and further by rethinking investment in energy infrastructure? Can we factor in the environmental costs of new energy abundances whilst phasing out perverse subsidies in existing energy supplies? Can we find a better balance between 'markets can solve it all with the right price and incentives' and 'the states must lead the way by clarifying

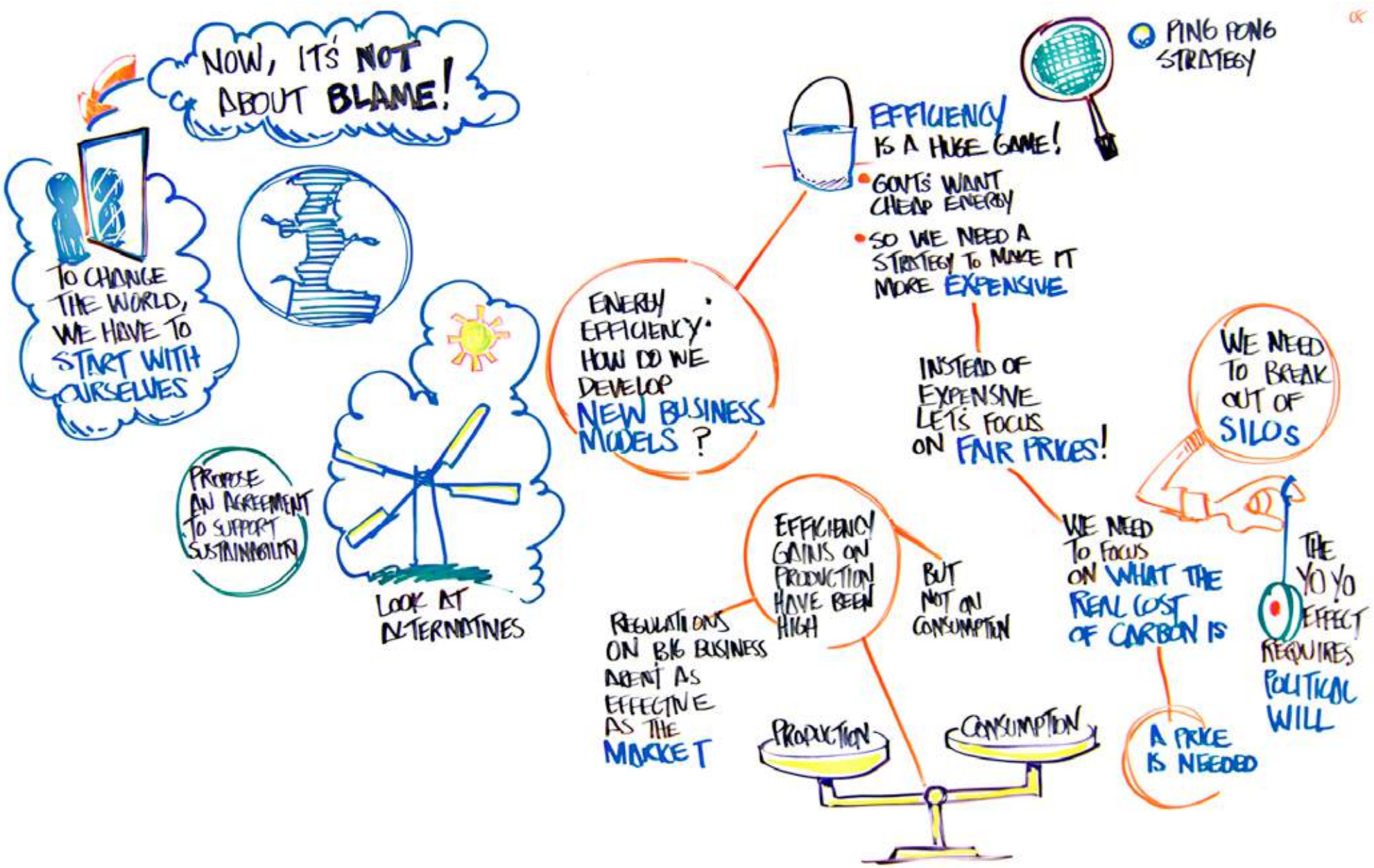
what sort of energy societies we aspire to become'?

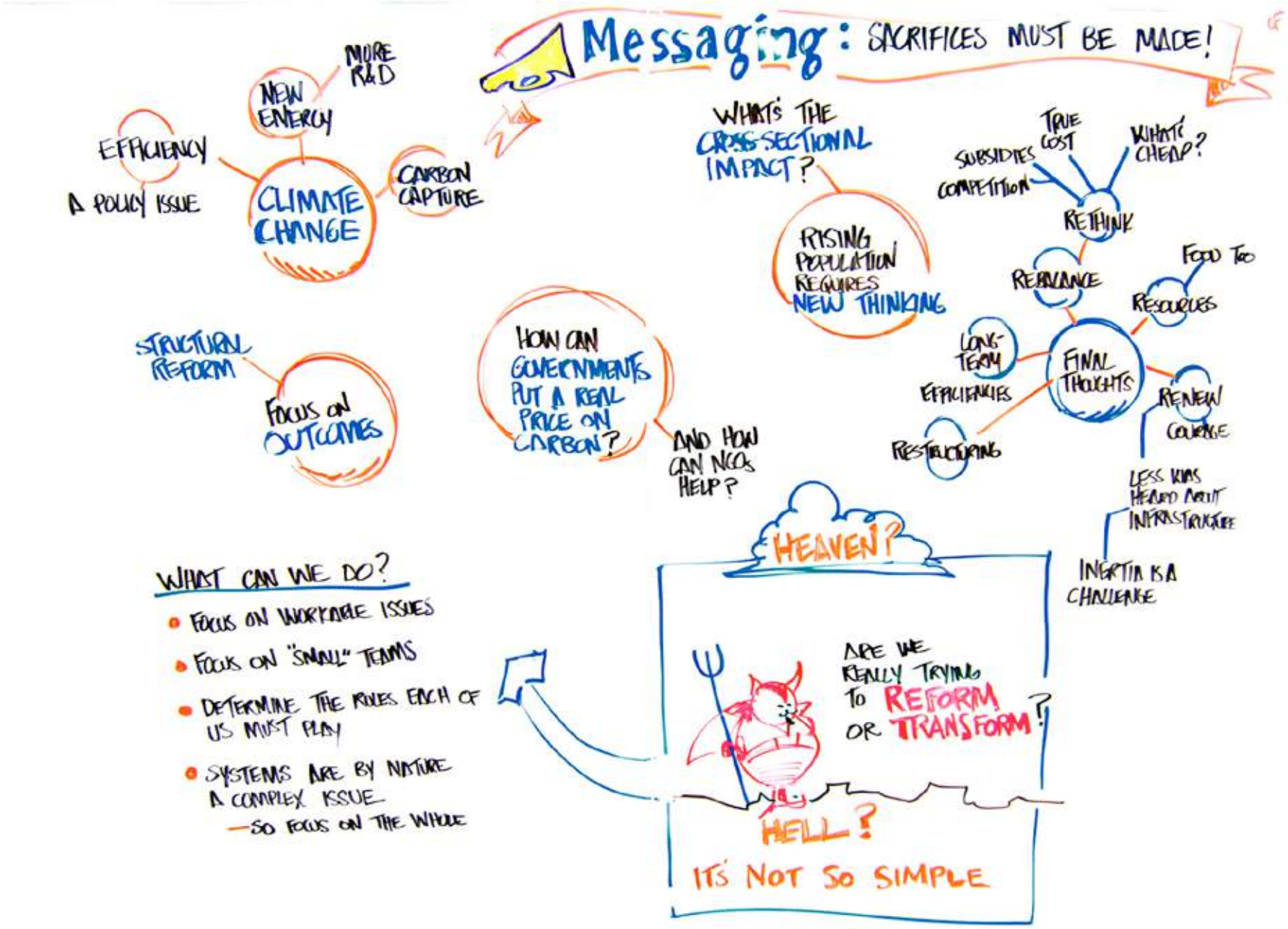
Rather than relying on techno fix, we need to find the courage to tackle the institutional dimensions of systemic innovations. We are all trying to grapple with the increasing pace of change in a more complex and interdependent world. There are no silver bullets, quick fix solutions to take any of us where we all need to go. We need to unleash an unprecedented societal energy towards a genuine transformation of energy systems and stop fuelling the politics of fear and uniting against change. Trade-offs between more energy, more environment or more society are false in the long term. We need to find a way of moving faster and further. So, the question that I leave you with is: are we really trying hard enough? Can we move energy systems faster and further and secure not only efficiency gains, but also rethink the role of energy in modern societies?

Nikos Charalambides

Executive Director, Greenpeace Greece

This IdeaFactory was very challenging, primarily because we were asked to look at this issue from a different perspective to the one we have in our daily lives. We have all realised that it is time to make things workable, instead of trying to find another global international deal that will take 20 years, cost us billions, and be inefficient. We need to identify why change is not happening and what is the role that each one of us has to play. There is no lack of technological solutions in this game. It's all about solutions. Let's move ahead.


NOW, IT'S NOT ABOUT BLAME!
TO CHANGE THE WORLD, WE HAVE TO START WITH OURSELVES
PROPOSE AN AGREEMENT TO SUPPORT SUSTAINABILITY
LOOK AT ALTERNATIVES
ENERGY EFFICIENCY: HOW DO WE DEVELOP NEW BUSINESS MODELS ?
PING PONG STRATEGY
EFFICIENCY IS A HUGE GAME!
GOVTs WANT CHEAP ENERGY
SO WE NEED A STRATEGY TO MAKE IT MORE EXPENSIVE
INSTEAD OF EXPENSIVE LETS FOCUS ON FAIR PRICES!
WE NEED TO BREAK OUT OF SILOS
EFFICIENCY GAINS ON PRODUCTION HAVE BEEN HIGH
BUT NOT ON CONSUMPTION
REGULATIONS ON BIG BUSINESS AREN'T AS EFFECTIVE AS THE MARKET
WE NEED TO FOCUS ON WHAT THE REAL COST OF CARBON IS
THE YO YO EFFECT REQUIRES POLITICAL WILL
PRODUCTION
CONSUMPTION
A PRICE IS NEEDED


Messaging: SACRIFICES MUST BE MADE!
MORE R&D
NEW ENERGY
EFFICIENCY
A POLICY ISSUE
CLIMATE CHANGE
CARBON CAPTURE
WHAT'S THE CROSS-SECTIONAL IMPACT?
RISING POPULATION REQUIRES NEW THINKING
TRUE COST
SUBSIDIES
COMPETITION
WHAT'S CHEAP?
RETHINK
RELEVANCE
FOOD TOO
RESOURCES
LONG TERM
EFFICIENCIES
RESTRUCTURING
FINAL THOUGHTS
RENEW
COURAGE
LESS KIDS HEARD ABOUT INFRASTRUCTURE
INERTIA IS A CHALLENGE
STRUCTURAL REFORM
FOCUS ON OUTCOMES
HOW CAN GOVERNMENTS PUT A REAL PRICE ON CARBON?
AND HOW CAN NGOS HELP?
WHAT CAN WE DO?
FOCUS ON WORKABLE ISSUES
FOCUS ON "SMALL" TEAMS
DETERMINE THE ROLES EACH OF US MUST PLAY
SYSTEMS ARE BY NATURE A COMPLEX ISSUE
—SO FOCUS ON THE WHOLE
HEAVEN?
ARE WE REALLY TRYING TO REFORM OR TRANSFORM?
HELL?
IT'S NOT SO SIMPLE

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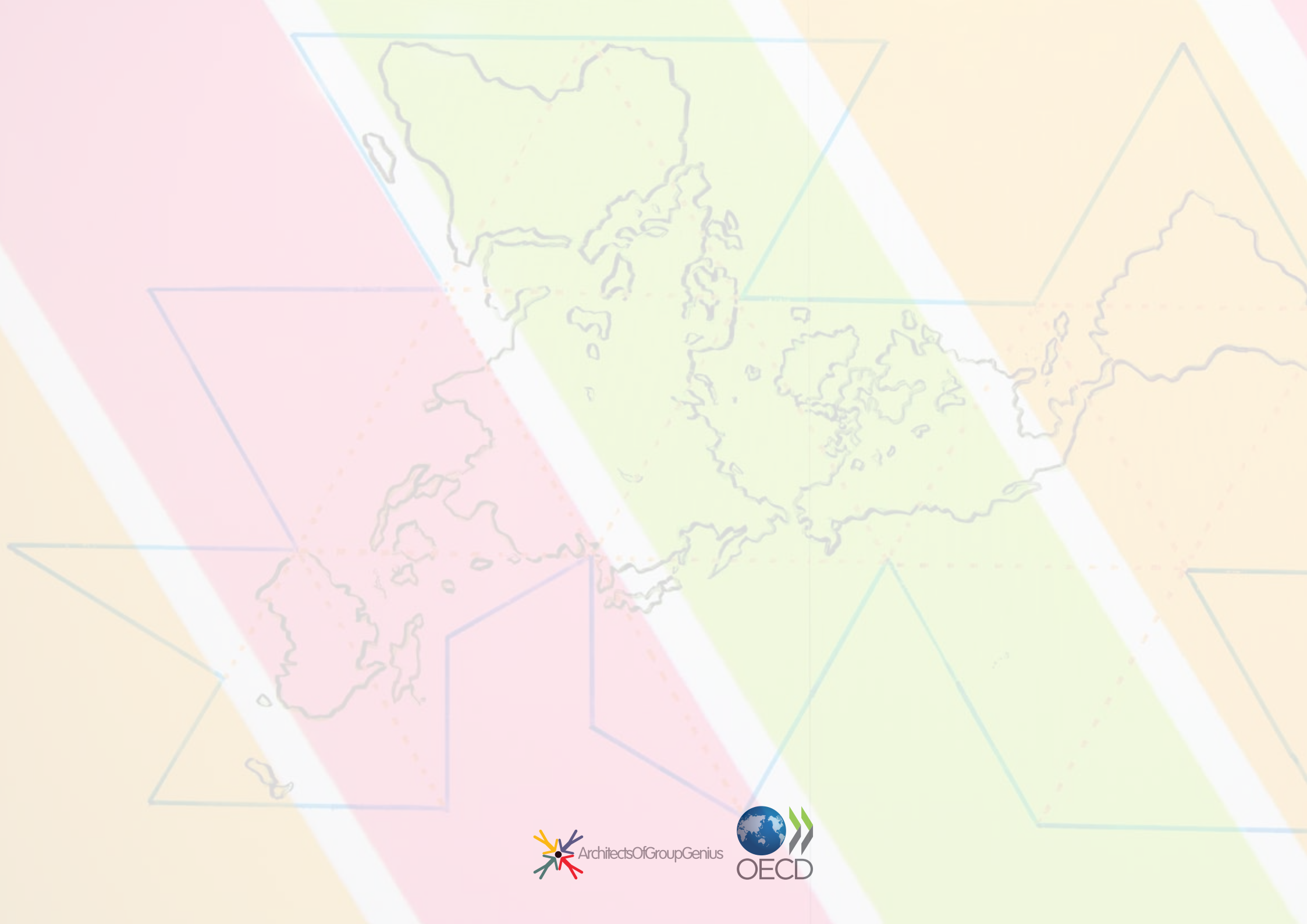
Dymaxion Projection Animation

This is an animation illustrating Buckminster Fuller's Dymaxion Map Projection of Earth. Basically, Fuller started with the data for the spherical Earth surface. He projected the data from the sphere onto an icosahedron – the twenty-sided Platonic solid – and then unfolded that icosahedron out flat.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