BIG BET INITIATIVE

TOWARDS A BETTER WORLD

Dalberg
TOWARDS A BETTER WORLD
In 2015, all 193 member states of the United Nations (UN) agreed on 17 Global Goals for Sustainable Development (SDGs). The Global Goals are to be realized by 2030 and constitute the perhaps most ambitious agenda that the international community has ever agreed on. The goals cover everything from gender equality to quality education, combating climate change and creating inclusive, sustainable cities. The SDGs superset the Millennium Development Goals (MDGs) that had constituted the overarching framework for global development in the period 2000-2015.

Now the daunting challenge of realizing the goals and securing implementation lies ahead. It is an enormous task, that is not only costly and resource-intensive, but also requires that people all over the planet act in concert. Furthermore, the goals are not only meant to guide the work of politicians, NGOs and public or privat organizations. The goals are meant to guide everyone. Every human in every country around the world.

In the book 17 Big Bets for a Better World, thought leaders and global decision makers present innovative thinking and entrepreneurial ideas that they believe can change the world. The 17 bets are wide-ranging in scope, exactly as the 17 Global Goals are. Common for all 17 bets is that they are ambitious, yet realistic suggestions as to how to shape a better future for us all.

The mindset behind 17 Big Bets for a Better World is fully unfolded in this educational material. Based on five articles from the book, the intention is for you as a reader to dive into the task of developing innovative and creative solutions for global development while growing an understanding and an appreciation of the Global Goals.

Enjoy,

Stig Tackmann
Editor-in-Chief, Dalberg
Sustainable Development Goals: Who, What, Where?

The Global Goals were adopted by all 193 UN member states at the UN General Assembly in New York on September 25, 2015. A long process of stakeholder consultation had preceded the adoption of the goals to ensure that not only governments, but also civil society, NGOs, corporates and an array of other actors had been heard. Even individual citizens were consulted. For the first time in history, a global questionnaire was conducted to inquire into what individual citizens believed to be the most pressing issues to act on before 2030. All these perspectives were collected and summarized in 17 goals and 169 targets.

The Global Goals replaced the Millennium Development Goals (MDGs), which in the period from 2000 to 2015 were primary driving forces in global development. The eight goals gave direction for governments and international donors across the world and during the 15-year period they were set to last, substantial progress was achieved.

Examples for developments from 2000-2015

<table>
<thead>
<tr>
<th>Goal Description</th>
<th>2000</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant mortality in Sub-Saharan Africa</td>
<td>16 %</td>
<td>8.6 %</td>
</tr>
<tr>
<td>Average life expectancy in Sub-Saharan Africa</td>
<td>50 yr</td>
<td>57 yr</td>
</tr>
<tr>
<td>Primary school enrolment in Burkina Faso</td>
<td>70 %</td>
<td>97 %</td>
</tr>
<tr>
<td>Infant mortality in Liberia</td>
<td>17 %</td>
<td>7 %</td>
</tr>
<tr>
<td>Education (enrolment in primary schools)</td>
<td>83 %</td>
<td>89 %</td>
</tr>
<tr>
<td>Undernourished (percentage of population)</td>
<td>15 %</td>
<td>11 %</td>
</tr>
<tr>
<td>Transit rate of primary schools</td>
<td>81 %</td>
<td>92 %</td>
</tr>
</tbody>
</table>

Kilde: The World Bank, OECD, Gapminder, Sustainable Development Goals

Despite the massive progress made, the MDGs did not achieve everything intended. The goals for cutting mortality rates for children below the age of 5 years in half and for achieving universal primary education were not realized and in several other instances the realization of goals – such as reducing extreme poverty by 50% - were driven by rapid growth in some regions and enhanced poverty in others. As such the growing Chinese middle class can take a great part of the honor for cutting in half extreme poverty, while populations in the Middle East and Africa witnessed further deteriorations in their relative level of wealth. However, the MDGs, as a whole, were considered a success – and rightfully so.
Despite progress since the turn of the new millennium, the world today still faces a wide array of problematic and complex challenges:

- More than **800 million people** continue to live in extreme poverty.
- **783 million people** do not have access to clean drinking water.
- Almost **2.5 billion people** do not have access to proper sanitary conditions.
- In 2015, a daily average of **42,500 people** became refugees, asylum seekers or internally displaced.
- **Inequality increases** and 62 people now own as much as half the world’s population together.
- In 2015 only **four out of ten** women and men at the age of 15 - 24 years were employed.
- Since 1990 global CO2 emissions have grown by **more than 50 %**.
- **57 million children** in primary school age are out of school.

These are the types of challenges that the Global Goals seek to address. The question is: How do we create the best possible platform for success, when we know that the will is strong but resources are limited?

The Challenge: How Do We Achieve the Ambitious Goals?

The question everyone is asking in the global development sector these days is: “Now that we’ve got these ambitious goals, how do we realize them?”

This is a key question and very few have a clear-cut answer. With 17 goals and 169 targets the complexity is almost unfathomable and it can be very difficult to get a clear grasp of what is going on, what is needed and who should do what to ensure action. One thing is certain: An approximate of USD 3,900 billion annually is needed to be able to implement each and one of the goals. That corresponds to the total GDP of Brazil and India anno 2015 together.

<table>
<thead>
<tr>
<th>Amount in billion USD</th>
<th>Total annual need for investment</th>
<th>Current annual investment</th>
<th>Current annual lack of investment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3900</td>
<td>1400</td>
<td>2500</td>
</tr>
</tbody>
</table>

And the money is hard to find. Even if all the resources currently employed in the development sector are included, the world will still be short of USD 2,500 billion. That corresponds to 18 times more than what is currently given in overseas development assistance annually from all donors together.
An Alternative Way to Realizing the Goals

A multiplicity of actors – governments, internationals foundations, corporations, NGOs and civil society organizations along with a wide variety of international organizations dedicate an enormous amount of resources towards the achievement of the massive ambitions surrounding the Global Goals. They make an impressive effort that will take us a considerable part of the way towards achieving the 17 Global Goals. But as citizens and individuals we cannot just lean back and wait to see whether the ambitions are realized by 2030. A concerted effort not just by traditional stakeholders, but from the entire global community of citizens is needed to ensure necessary and sufficient progress.

And while traditional stakeholders do what they are good at, thinking innovatively and creatively is also required. Historically, innovations and ideas have been instrumental in ensuring human progress. The ideas have often been simple but have nevertheless played a role in pushing global development forward. There is a need for finding new solutions and for creating novel and alternative partnerships. In other words, our common future needs creative minds that can put together some of the solutions that can make progress towards the Global Goals both easier, smarter and more effective.

Which role can you as a student play in the achievement of the 17 Global Goals?

Edward Jenner

When Edward Jenner introduced his idea of taking matter from cowpox and inserting it in a boy’s arm, he was ridiculed, and his idea was called pagan. But the smallpox vaccine became the first vaccine ever and has since then saved millions of lives.

Nikola Tesla

Though his own teacher, Edison, insisted that the technology of the direct current was to prefer, the Serbian scientist Nikola Tesla kept faith in the abilities of alternating current. Tesla developed an induction engine that was run by a new alternating current system. This made it possible, by means of high voltage, to lead the current across large distances without great loss. This is why it is alternating current that comes out of our electric plugs today.

Mohammed Yunus

Mohammed Yunus furthered the simple idea of lending money to people, who did not qualify to take up traditional equity loans in the bank. Yunus lent US$ 27 to 42 different women in a small village, who then profited on the loan and were able to pay it back. The idea was scaled and inspired approximately 100 countries to establish similar models, all contributing to giving the world’s poorest people opportunities, they would otherwise never have gotten.

Boyan Slat

During a diving vacation in Greece, the Dutch student Boyan Slat discovered that there was more plastic than fish in the ocean. Only 18 years old, he proclaimed to the world that he had gotten an idea to cleanse the oceans of the 8 million tons of plastic annually left there. A simple filter collects the plastic and makes reuse possible. The project is currently tested as a prototype in the Northern Sea, but a scaling of it in the Pacific Ocean in 2020 is already planned.

Sara Naseri

The Danish student Sara Naseri pursued something that at first seemed like a crazy idea: If the sun is stopped by the ozone layer, then why don’t we use it as a protection against burns? Just 16 years old Sara succeeded in developing a chemical molecule that is able to protect the human skin against 99.9% of UV radiation. She now lives in Silicon Valley and her next great leap is to cover the entire world in her lotion.
Cases and Exercises

Across the following pages you will be presented with five very different bets on how to make progress on the Global Goals. We have asked five global experts, from very different fields, to give us their bet as to how we move towards a better world.

Our request to them was simple: If you had the opportunity to bet on one idea or one innovation that can make the world a better place within the next 13 years, what would it be?

The responses have been interesting. And now you get the opportunity to join in. For each contribution you will find a number of questions and tasks that will improve your understanding of the different bets. Once you are through and have become acquainted with the others’ bets for a better world, we ask you to join in making your own. At the back of the material, you will find a guide to create your bet for a better world and a number of tools to help you improve and shape your idea.

Julia Gillard
Julia Gillard was the first female Prime Minister in Australia and is today Board Chair of the Global Partnership for Education.

Annie Leonard & Daniel Mittler
Annie Leonard & Daniel Mittler spearhead Greenpeace as Executive Director of Greenpeace USA and Political Director of Greenpeace International respectively.

Dan Barber
Dan Barber is chef and co-owner of the restaurant Blue Hill. In the bestseller The Third Plate: Field Notes on the Future of Food, Barber investigates how we can reshape our ways of eating and farming to maximize the quality of agricultural land.

Fabiola Gionotti
Fabiola Gionotti is the first female Director-General of CERN, the European Organization for Nuclear Research, that among other things stands behind the discovery of the Higgs particle.

Olafur Eliasson
Olafur Eliasson is a world-renowned Danish/Icelandic artist, who, in tandem with his work as an artist, is very involved in the global development agenda. Amongst other things he has created the New York City Waterfalls, Ice Watch in Copenhagen and the social enterprise Little Sun.
Can the Appearance Industry Do a Makeover of Girls’ Education?

Julia Gillard

Julia Gillard was Australia’s 27th Prime Minister between 2010 and 2013. She is now the Board Chair of the Global Partnership for Education and a Senior Distinguished Fellow at the Center for Universal Education at Brookings. Before becoming Prime Minister, Ms. Gillard was Deputy Prime Minister and Minister for Education, Employment and Workplace Relations and Social Inclusion. Ms. Gillard also served as Shadow Minister for Health, Shadow Minister for Employment and Industrial Relations and Social Inclusion, and Shadow Minister for Population and Immigration. Prior to entering politics, Ms. Gillard worked as a solicitor in Melbourne with the law firm Slater and Gordon and became a Partner in 1990. Ms. Gillard retired from political life following the 2013 Australian national election.
Julia Gillard focuses on the appearance industry. The big bet is to enable this growing sector to use its strength as a force for good by becoming a major funder of girls’ education in the poorest parts of the world. Adding a small voluntary levy on fashion products as donations to girls’ education would not deter purchasers. Rather, it would be an enormous step towards gender parity in education. Making sure that all girls receive a quality education is not only a fundamental right but also the most effective way of bringing about positive change.

Australians love to travel. Last year, the population of just 23 million people took more than nine million trips overseas. Given our geographic position in the world, travelling Australians quickly become aficionados of major hub airports. Singapore, Dubai, Hong Kong, Doha - seasoned Australian travelers can spend hours discussing which is best.

But while fine distinctions can be made, every major international airport has a similar look and feel. Every one is a gleaming citadel of shopping with the allure of duty free electronics, liquor and, for those determined to do themselves harm, cigarettes. Each has acres allocated to the beauty and high fashion industries - the appearance industry - and its lotions, potions, perfumes and branded clothing and accessories.

Of course, there is no need to be wheeling carry-on luggage to see the appearance industry on display. The ground floor of any major department store flaunts the same beauty elixirs, and around the world major shopping centers are home to stores dedicated to brands which are synonymous with luxury.

The appeal of the counters and stores is just one aspect of the marketing genius displayed by the appearance industry. Over decades, glamour, sex appeal and pseudo-science have all been employed to persuade women that they just cannot live without that cream, that hand bag, that brand on their clothing.

Yet all the billions of dollars spent by the appearance industry on promotion has not left it unblemished or scandal free. Witness the backlash that has been associated with the use of under age and underweight models, the successful campaigning that has occurred against animals being used in testing and the growing recognition of the environmental problems caused by micro-beads. The appearance industry continues to weather social media-fueled storms.

But overall, its image in the eyes of consumers is positive. Indeed, the appearance industry is dynamic, valuable and growing. Industry estimates are that the hair care, cosmetics, skin care and fragrance industry will hit a global value of US $265 billion by 2017. Growth rates in the premium end of the market are running at almost five percent.

The fashion industry has been discussed in United States Congress Joint Economic Committee documents and is estimated to be worth US $1.2 trillion globally per annum. Some estimates range as high as US $1.7 trillion. Clearly, the luxury fashion market is one component of these broad industry valuations and defining and quantifying it is not an easy task. However, the fact that Vuitton, Gucci, Hermes, Coach, Cartier, Prada, Chanel and Burberry all appear in the Forbes top 100 companies list gives a sense of the dimensions of the luxury market.

So my big idea is: to enable the appearance industry to use its strength as a force for good by having it become a major funder of girls’ education in the poorest parts of world.

Why pick this industry? And why girls education?
First, because it is an industry which predominantly focuses on sales to women. Supporting girls’ education is a natural fit.

Second, because it is an industry where image and reality blur into one. In any major international airport or luxury shopping centre, you can buy a scarf worth US$1,825, a handbag worth US$5,750, a 20 millilitre (0.68 oz) jar of eye cream worth US$380 or 14.79 millilitre (0.5 oz) of perfume for US$200. Have some fun, try to guess the brands of these items. They are all well known. None of these items costs anything like their sale price to produce. What’s selling is the image and promise associated with the brand.

That means that in the appearance industry, campaigns that affect perceptions can have real impact. It also means that demand is inelastic, meaning it is not sensitive to increases in price. For the kinds of goods whose prices are disclosed above, it is fanciful to imagine that adding a levy of up to 5 percent for donation to girls’ education would deter purchasers. Indeed, according to the US Bureau of Statistics, the price of luxury goods has risen 60 percent over the last decade and economic research about luxury branding, shows higher prices fuel perceptions of exclusivity which pique demand rather than suppress it.

Third, because the appearance industry is an eco-system. The fashion industry
gives birth to super models, who become so iconic that their endorsement or repudiation can make or break a product. The film industry gives us accomplished and beautiful actresses who become brand endorsers or creators of their own perfume and clothing lines. The fashion magazines skilfully seek to hold our attention on the articles and the advertisements with super models, actresses and other celebrities woven in to both. A campaign for girls’ education can appeal to many players in this ecosystem and therefore change the whole of the environment.

The start of the girls’ education levy could be small but the spread of the idea could be quick. The ground is fertile with some brands already voluntarily associating with philanthropic causes.

Imagine this: a supermodel and two female global celebrities announce that all the appearance industry products produced in their name or with their endorsement, will initially have a girls’ education levy of 1%, which will rise over time to 3%. One of the major integrated beauty and fashion brands which sells clothes, shoes, handbags, perfume and cosmetics makes the same announcement. A major fashion magazine joins the campaigning saying it will publish each month a list of products its readers can buy which have the levy in place.

Social media snowballs the campaign and quite quickly it becomes a competitive disadvantage in the eyes of consumers for a product to be levy-free. Suddenly, support for girls’ education has a sizeable and growing new revenue stream. No government regulation would need to be involved. Rather, the levy would emerge as an industry standard because of the preferences of purchasers and the social awareness of those in the appearance industry.

Where would the funds go? It would be vital for the credibility of this levy that the money raised went to organizations that have the ability to make a real difference to girls’ education. The Global Partnership for Education stands out as the only multilateral organization solely dedicated to education. There are a number of high quality non-government organizations, including Camfed (the Campaign for Female Education), which have a strong track record in supporting girls’ education. UNICEF also does wonderful work and already benefits from purchases of a specially designed Vuitton pendant and bracelet.

But the larger question is why should girls’ education be the target of the funds? The answer, put simply, is because investing in girls’ educations is the most effective way of causing change in our world. An educated girl is less likely to be forced into early marriage or to contract HIV/AIDS. An educated woman will choose to have fewer children and those children are more likely to survive infancy, be vaccinated and become educated. The earnings of an educated women are far more likely to be invested in her family’s support than the earnings of a man. The impact of educating a girl flows across generations and changes the ability of families and communities to move out of poverty. There is reason that terrorists target the education of girls. They fear such a powerful agent of change.

Yet, while the advantages of educating girls are clear, progress towards gender parity in accessing high quality school education is too slow. Indeed, at current rates of change it will not be until 2111 that the world sees the first generation of sub-Saharan Africa girls who have universally accessed primary and lower secondary school. The poorest girls will get access a full seventy years after the most advantaged boys. We know how to change this time line, to accelerate access to school for girls. What we lack is the resources to do so.

The appearance industry wants to sell us all a dream. An enticing but unattainable dream of physical perfection and agelessness. My big idea is that the dream we buy from the appearance industry is one that is actually realizable. A dream of a world in which every girl gets access to the transformative power of education.
Exercises for Julia Gillard’s article

Classroom teaching

Reading comprehension questions

1. Briefly describe Julia Gillard’s bet for a better world.
2. Why does Julia Gillard believe that the appearance industry should pay for girls’ education?
3. How does Julia Gillard imagine her idea to be implemented?
4. Which appearance companies are already involved in charity?
5. Choose a theory from your curriculum and use it to criticize Julia Gillard’s bet.

Discussion questions

1. Can Julia Gillard’s idea work on market conditions?
2. Why has the appearance industry not already put tariffs on their products?
3. What challenges could be associated with Julia Gillard’s bet?
4. What risks could there be for the business of the appearance industry to enter charity work?
5. Julia Gillard focuses on gaps in funding of girls’ education as a limitation. Can you imagine other barriers?

Homework

Innovation presentation

Choose another industry and apply Julia Gillard’s logic on it.

1. Is there a greater or similar potential for this industry?
2. How should it be implemented in this industry?
3. Why would it be a better or worse bet?

Writing exercise

What could be the outcome of giving money to girls’ education?
Include an economic argument and a sociological/political argument.
Annie Leonard & Daniel Mittler

Annie Leonard is the Executive Director of Greenpeace USA and the author of The Story of Stuff, an online film that has been watched over 40 million times around the world. The film grew into The Story of Stuff Project, which works to empower people around the globe to fight for a more sustainable and just future. In 2010, Simon & Schuster published Leonard’s New York Times bestselling book, The Story of Stuff.

Daniel Mittler is the Political Director of Greenpeace International. Based in Berlin, he leads Greenpeace’s global team advising the organization on political and corporate strategies. He has led Greenpeace delegations to many global negotiations and writes on NGO strategy, climate politics, and corporate accountability. His writings can be found at www.greendaniel.blogspot.com
If we are to realize the Global Goals, we have to change the way we govern our planet. We need a new distribution of power, in which world leaders from all sectors are accountable to all citizens instead of the top 1%. Governments must not only create but also implement regulations that secure the public good. Daniel Mittler and Annie Leonard focus on three global policy shifts: to give social and environmental governance bodies real power; to ensure the primacy of politics over business; and to control the financial industry.

With the Global Goals, the world has agreed on an important to-do list for humanity, a vision to end poverty by 2030, to turn the tide on soaring levels of inequality and to accelerate the transition to a world run on safe, renewable energy. However, these goals - like too many agreed by government summits before - will not be met unless the next 15 years sees a fundamental shift in the distribution of power. Nothing less will be required to deliver prosperity for all while staying within the ecological limits nature sets us.

Today, political and economic power are held by a small fraction of people – many of whom have strong ties to the very industries that threaten sustainability. Unless we shift the balance so that our political and business leaders are accountable to all citizens instead of the 1%, we are stymied in our ability to advance real solutions. Our big bet is that this can be done. Governments must put regulations in place that secure the public good and give the institutions implementing these regulations the tools to do so. We know this is both possible and necessary. A redistribution of political and economic power is a precondition for achieving Global Goals.

The work to get us there has already started. Across the world, citizens are joining together and raising their voices for a fair and sustainable future. For now, rather than responding governments all too often turn their backs, while rolling out a red carpet for corporate donors. Global economic players gaining from the current destructive status quo have captured global politics, obstructing real solutions that move us closer to meeting the Global Goals. The result is that the world has already exceeded four of seven “planetary boundaries”, inequality is rising and in many places, the space for civil society to act is shrinking.

But the ground is shifting as citizen power grows. Over the last year, the Keystone XL pipeline was cancelled following pressure from a diverse coalition of citizens, farmers, indigenous communities and others; Shell had to withdraw from the Alaskan Arctic in the face of people – from grannies, to investors to kayakers – opposing drilling for more oil than our climate can handle; China’s use of coal has gone into decline, not least because people are unwilling to put up with the unsafe air that it makes them breath; and President Obama recently halted coal leases on US public lands. No sector has changed as much in the last 15 years as energy. Already twice as many Americans are employed in the solar power industry as in coal mining. And the revolution towards clean, renewable energy will accelerate. Clean, renewable energy is getting bigger, better and cheaper every day. Renewables are the most economical solution for new power capacity in an ever increasing number of countries.

There is now 15 times more installed solar power and three times more wind power in the world than in 2007. On a global level, more clean power capacity is being installed than coal, oil, and gas put together. Solar power, for one, is growing faster than even we at Greenpeace predicted.

This encourages us. But to enable a fair and just development path, we need more fundamental changes than just switching from fossil fuels to renewable sources. Governments must agree rules that secure the public good. They must empower public institutions to deliver and enforce these rules. That means changing some fundamentals in the way we govern our planet, including how our global institutions and regulations work.

We propose three key global policy shifts:
• Giving real power to global bodies dealing with social welfare and environmental protection
• Ending corporate trade deals and ensuring the primacy of politics over business;
• Regulating the financial industry

1. Give social and environmental governance bodies teeth!

Institutions are created by humans, and if governments want to create powerful bodies, they can. Today, those who protect the status quo are the most powerful, while those protecting people and their rights are often impotent. The World Trade Organization (WTO) can impose punitive fines on countries that break its rules. It is a place where support for renewable energy is under attack. The United States recently got the WTO to strike down local content rules in India’s renewables program. Giving preference to local producers is against the WTO rule that all producers should be treated “equally.” In an unequal world, this formal insistence on equality only serves to reinforce the dominance of the already powerful.

Because the WTO keeps ruling in favor of the status quo and the powerful – and has teeth to enforce its rules – it is having a chilling effect on progressive politics, making governments less likely to take decisive action, such as making polluters pay for climate pollution.

In contrast, environmental and sustainable development governance is not effective. The many institutions are not coordinated and lack adequate powers. The UN Environment Programme (UNEP) can only plead, coach and build capacity. Environmental and social bodies should also be able to impose sanctions and fines. UNEP needs to be turned into a global authority for the environment, with greatly enhanced implementation, compliance, and enforcement mechanisms. Other environmental treaties must also be strengthened. It should be clear that if governments break the agreements they have signed up for – such as Canada did when it refused to implement the Kyoto Protocol on climate protection – there will be real consequences.

2. Ensuring that politics rule

Global institutions need to change, but economics also has to be brought back under control. Governments face a choice. They can further trade agreements like the Trans-Pacific Partnership (TPP) or the Transatlantic Trade and Investment Partnership (TTIP) and give corporations more powers to undermine and undo policies in the public and planet’s interest. They will allow corporations to sue governments acting in the public interest. That will result in more absurd law suits, such as those by Swedish energy utility Vattenfall, suing Germany to be compensated for that country’s sovereign democratic decision to phase out nuclear power; or TransCanada, suing American taxpayers because President Obama rejected the Keystone XL pipeline in the interests of humanity.

Alternatively they can choose a different path, one centered on shared power and the public good. They can open up, become more transparent and democratic and share power with citizens. A complete social and environmental review of the global trade system is long overdue. The negative impacts of the current system need to be revealed and a new system built, centered around a sharing economy.

Also, governments can put us on the right track by ending the global impunity of the corporate sector. Corporate accountability and liability should extend to all impacts on people and the environment around the world. If corporations cause harm, they need to incur a real cost. A binding global instrument that ensures full liability for any social or environmental damage must be a high priority if we are to achieve human-centered development by 2030. Such an agreement is not as utopian as it may sound. At the World Summit on Sustainable Development in 2002, governments agreed that there needed to be global rules for global businesses. If governments are serious about the 2030 Agenda, it is time they acted on this promise.

At the national level, we need to reawaken democracy and ensure that politics sets the rules for business, not vice versa. In the United States, for example, this implies immediate measures to reduce the influence of corporate money in elections, candidates for office publicly refusing fossil fuel money and protecting voter’s rights.
3. Control financial markets
Sustainability and justice can simply not become a reality in a world in which short-term bets by financial markets prevail. Strong controls of financial markets are an essential first step for governance for people and planet. New fiscal instruments such as a financial transaction tax need to be agreed globally to slow harmful speculation and deliver much-needed finance for development and environmental protection.

These are just a few of the many approaches we know could shift the balance of power away from corporations which would mortgage our future for short-term gain. We know these measures can work and deliver better welfare for people as well as help ensure we do not exceed global ecological limits. So why, if people and planet will benefit, are these steps not being taken today? Why is there any risk of us losing our bet?

A movement of movements to change direction
Political action and activism in the next 15 years must focus on changing existing power relations. In order to deliver governance for people and planet, we are determined to build on the victories people have already scored. We will work to build a movement powerful enough to force governments to act in the public interest. To do so, we are determined to build alliances between grassroot initiatives and global organizations and to make the argument for fundamental change as much on the street as in the corridors of power. We know it can be done, because we are doing it.

From local to global: end capture of politics by polluters
That’s where we have to return to the question of power. With the increase in extreme weather events like Hurricane Sandy in 2012, the majority of Americans now support effective climate action. The fossil fuel industry, however, dominates US politics, thwarting effective action. And it is not just in the US. Big business has captured too many governments, in both North and South. From Capitol Hill to Caracas, Brasilia, Ankara and New Delhi, the oil, coal and gas industries still rule. Even common sense measures such as cutting fossil fuel subsidies are unable to progress. Now governments have agreed at the Paris climate conference, to strive to limit global warming to 1.5 degrees Celsius compared to pre-industrial levels, it is simply absurd that public money is being spent to make the climate problem worse. This contradiction is especially vexing in countries that face real constraints on their public finances. That governments still spend some US$ 452 billion every year on subsidizing fossil fuel production in the G20 alone can only be explained by governments prioritizing the wellbeing of Exxon and Koch Industries more than their citizens.
Exercises for Annie Leonard & Daniel Mittler’s article

Reading comprehension questions

1. Briefly describe Annie Leonard and Daniel Mittler’s bet for a better world.

2. Who do they believe politicians should be responsible to?

3. What is the problem with status quo?

4. Mention three problems that environmental organizations struggle with.

5. What concept of power do they work with?

6. How would you theoretically criticize their bet?

Discussion questions

1. Can Annie Leonard and Daniel Mittler’s bet be realized in practice?

2. Do politicians serve only 1% of the population, and who is this one percentage?

3. Do politicians have an obligation to protect commercial interests?

4. What concept of power does Annie Leonard and Daniel Mittler apply?

Homework

Innovation presentation

Choose a topic that you believe your politicians don’t deal adequately with and plan a public campaign to put focus on it.

- Define a target group.

- Create a concept (should it be online, on the street or...?).

- Describe how the campaign should be carried out in practice.

- Describe how you will create attention around the campaign.

- Discuss what pitfalls exist for failing to mobilize your target group for the campaign.

Writing Exercise

Think back over the past 100 years. What public movements have there been and how have they played a role in changing the world? Include theory from political science, sociology or economics.
A Menu for 2030

Dan Barber

Dan Barber is the Chef of Blue Hill, a restaurant in Manhattan’s West Village, and Blue Hill at Stone Barns, located within the nonprofit farm and education center, Stone Barns Center for Food & Agriculture. In his New York Times bestselling book, The Third Plate: Field Notes on the Future of Food, Barber explores how we can reshape our ways of eating and farming to maximize the health of the land.
The conventional food system cannot be sustained. The way we eat and farm harms human health and erodes natural resources. As such, we have to reimagine our diets for the future. Dan Barber asks a difficult question: what kind of menu will move us closer to achieving the Global Goals in 2030? Answering this question, Barber outlines a four course menu that not only sustains the world, but also has the potential to spark improvements for people and planet.

We need radical thinking, but we don’t need a revolution. In order to feed the world sustainably, we need to reimagine the way we eat.

Each day, we see more irrefutable evidence that our global food system is broken. Eroding soils, falling water tables for irrigation, collapsing fisheries, shrinking forests, and diminishing biodiversity represent only a handful of the environmental problems wrought by our food system – problems that will continue to multiply with, and contribute to, global warming.

Our health has suffered, too. Rising rates of food-borne illnesses, malnutrition and diet-related diseases such as obesity and diabetes are traced, at least in part, to our mass production of food. The warnings are clear: because we farm and eat in a way that undermines health and abuses natural resources (to say nothing of the economic and social implications), the conventional food system can’t be sustained. Fixtures of agribusiness such as massive grain monocultures and bloated animal feedlots are no more the future of farming than eighteenth-century factories billowing black smoke are the future of manufacturing.

So what is?

More and more studies are showing that diverse, holistic agriculture – with integrated crop and livestock production and proper soil management – is the answer. Not only is this kind of agriculture essential from an ecological point of view, but it also often outperforms the productivity of chemical monocultures in the long term.

But we can’t have a discussion about the future of food without talking about how we eat. Even the most forward-thinking farming can’t be sustained if our diets don’t support it – if we continue along current trends: eating more meat, and more of the center cuts; using our grains for fuel or feed, rather than food.

For the future, our charge as eaters and as cooks is to reconceive our diets to reflect the needs of our landscape – to reimagine the way we eat from the ground up. What kind of menu will move us closer to achieving the Global Goals in 2030? Can we envision a way of eating that not only sustains the world, but also acts as an engine for improvement? There isn’t one answer, of course, because it depends on where you live and what time of year it is. However, there are certain shared principals – ingredients put together to become a diet – that will shape this new era of ecological eating.

The menu I describe below is specific to my home (the Northeastern United States), but its core tenets can be applied anywhere.

A Menu for 2030

First course: “Landfill Salad”

Our meal of the future will start in the landfill. After all, what better way to begin than with what otherwise would be left behind: the ingredients that have been missing from our menus.

More than a third of all food produced worldwide goes to waste. Approximately 28% of the world’s farmland produces food that is never consumed – a staggering loss not only of nutritional potential, but also of natural resources. (It’s also a significant contributor to climate change; if food waste were a nation, it would be the third largest emitter of greenhouse gas emissions.)

There are countless factors that contribute to food waste, from field to marketplace. But some of the most glaring examples take place on – or, more to the point, off – our
plates. Each year, consumers in high-income countries discard approximately 222 million tons of food. That’s just shy of the total net food production of all of sub-Saharan Africa: 230 million tons. The average American family throws out about 25% of the food it buys.

These are incriminating statistics, but also empowering ones. What’s clear is that food waste is one arena where consumers have enormous potential to make a change. A “Landfill Salad” is one way to do so. No, this salad won’t require foraging in any dumpsters. But it is made up of intercepted ingredients that often end up in our trash cans or compost bins: vegetable scraps such as romaine hearts, carrot ribbons, broccoli cores and radish tops.

Making a dish out of the discarded may not sound very appetizing; but, in fact, with a little attention, these offcuts can be elevated to delicious heights: roasted in olive oil, romaine hearts take on the smoky crunch of Brussels sprouts; radish tops make a peppery pesto vinaigrette.

In essence, this salad honors what most food cultures have done for thousands of years: utilizing creativity and culinary technique to make something delicious out of the ignored or un-coveted. In the future, that approach will become commonplace not just by necessity, but because people will see opportunity in the satisfaction of good cooking. Perhaps “Landfill Salad” is the wrong name. If we do our jobs right, in fifteen years this dish will need a new title because these items will just be an expected part of our everyday eating. The by-products of our food system will be celebrated as flavorful ingredients in their own right.

Second course: “Shellfish and What They Eat”

It’s fair to question whether, fifteen years from now, there will be any fish left for our menus. Reports on the state of our oceans show the devastating effect of our appetites. Today, 80% of the world’s fish stocks are reported as fully exploited or over-exploited.

Simply put, we take too many fish from the sea. And we take the wrong fish. We demand those large fish at the highest trophic levels. It’s little wonder that many of these species, like cod and tuna, have declined by 90% in just the past few decades.

Ensuring the health of these species, and the ocean itself, is going to require more imagination in our sourcing and our cooking. Rather than cherry-picking from the top of the food web, why not start at the bottom, with the wealth of aquatic plants on which all other marine life depends?

Take seaweed, for instance, which in this dish will be infused into an aromatic broth. Recently hailed as the next superfood, seaweed is rich in essential minerals and vitamins. It is also rich with culinary potential; the dozens of known edible varieties easily eclipse the diversity of an all-you-can eat buffet. And we can feel good about indulging. After all, seaweed thrives under sustainable aquaculture conditions, growing quickly without chemical inputs. In fact, it can actually absorb potentially harmful excess nutrients such as carbon, nitrogen and phosphorous, all while increasing oxygen levels – a natural water purification system.

We’ll garnish the broth, not with a seven-ounce fillet, but with a variety of filter-feeding shellfish such as oysters and mussels. The result? A footprint-negative plate of food, and a new approach to seafood that will serve to restore our oceans.

Third course: Parsnip Steak, Grass-fed Beef

We don’t end most meals these days with a vegetable course, but a generation from now we probably will, or we’ll come close. As with everything on this menu of the future, the reason to turn away from a meat-centric main course will be based on the demands of ecology. If our menus are going to work in partnership with what the land can provide, vegetables and grains will inevitably take center stage.

Whether we’re talking about a 16-ounce ribeye, a pork chop, or a chicken breast, that choice cut of meat is likely mired in a system that’s cruel to animals, is destructive to the environment, and diverts precious resources away from feeding people directly. About 36% of the world’s crops go to feeding livestock. In other words, the protein-centric plate of food – a paradigm that America is quickly exporting to the rest of the world – is unsustainable in every sense of the word. And fifteen years from now, it will
be a thing of the past.

In place of a hulking center-cut of meat, you’ll find a winter parsnip, sweetened from
the frost. These days, the humble parsnip is often pushed to the margins of our plates;
but, a few decades from now, we’ll be showing off the bravura roots by roasting them
like steaks.

Meat won’t be missing entirely. “Mother Earth never attempts to farm without
livestock.” That’s according to Sir Albert Howard, the father of organic agriculture,
and so our plates should include a little livestock, too. But when it does appear, it will
do so modestly; it will take up less space on the plate, and, more often than not, it will
be a piece of the animal – like neck or shank – that Americans so willingly discard.

So a bit of braised beef shank will act as a kind of garnish for the parsnip, alongside
a richly flavored Bordelaise sauce made with the bones. It’s a perfect way to create a
deeply flavored, resonant dish out of these disparate and lowly cuts, and to turn the
iconic steak dinner on its head

Fourth course: Roasted 898 Squash
The most innovative thing on this menu of the future happens to fit in your hand. It’s
a small winter squash by the name of 898, created by a cucurbits breeder at Cornell
University named Michael Mazourek.

I first met Professor Mazourek several years ago, when he came for dinner at my
restaurant. After the meal, he came into the kitchen. I held up a butternut squash (the
best-selling workaday winter squash) and, half-jokingly, asked him if he could create
a new variety with a more intense squash flavor. He explained that squash breeders
are not unlike most modern breeders – they look for the largest market, which means
breeding for yield and uniformity, and, in turn, for monocultures and mass distribution.

“It’s a funny thing, or maybe a tragic/funny thing,” he said, “but in all my years
breeding new varieties – after maybe tens of thousands of trials – no one has ever
asked me to breed for flavor. Not one person.”

Breeders are architects, and seeds are the blueprints for the farming system. Even
before farmers actually farm, the seed sets the foundation. If yield and uniformity are
the determining factors, then the system, from the field to distributor to marketplace,
pretty much falls into place. We say, “It begins with the seed,” and really it does, but
it also begins with the idea for the seed.

Which is why chefs, farmers, nutritionists, and eaters need to be more involved in
their conception. Together we can help encourage a new generation of plant breeders,
creating varieties not only based on yield but also selected for flavor, nutrition and
locality. And we can breed for the right kind of farming, too. After all, the best plant
breeders understand that the system the plant is grown in is just as important as its
genetics. If the soil isn’t well managed, even the best genetics won’t be expressed.

The result may look something like the 898 squash. Still in the selection process, it’s
been bred for a variety of traits: strong yield and disease resistance, a built-in ripeness
indicator (so the farmer knows exactly when to pick it from the vine), and about twice
the beta-carotene and other carotenoids as in the average butternut.

Even better? It’s naturally sweet (the Brix is a candy-like 15+), making it a delicious
and nutritious addition to any dessert cart.

What does the menu of the future look like?
It turns out, it looks a lot like what traditional food cultures around the world figured
out thousands of years ago. They did not choose their dietary preferences by sticking
a wet finger up to the prevailing wind. Instead, they developed cuisines that adhered
to what the landscape could provide. They celebrated diversity, combining tastes not
based on convention, but because they fitted together to support the environment that
produced them. And they were constantly evolving to reflect the best of what nature
could offer.

If we make that the future of food, it’s going to be delicious.
Exercises for Dan Barber’s article

Reading Comprehension Questions

1. Briefly describe Dan Barber’s bet for a better world.

2. What does Dan Barber believe to be the fundamental problems with the agricultural system?

3. Why should we eat ‘Landfill salad’?

4. What is the problem with the way we eat and catch fish?

Discussion Questions

1. What would be the easiest way to implement Dan Barber’s ideas about a new diet?

2. Which of the Global Goals could be affected by a changed diet?

3. Who has the responsibility for changing our dietary habits?

Homework

Innovation Presentation

How can we fight food waste as effectively as possible?

This can either be based on habits in your daily life, on new inventions or on initiatives aimed at broader society.

Writing Exercise

The United States is high on the list of the countries in the world that eat the most meat.

Write an essay in which you argue for either the production side or the consumption side to be responsible for Americans eating so much meat and explain what you believe is needed to reduce consumption.
Fabiola Gianotti joined CERN (European Organization for Nuclear Research) in 1994 and became the first female Director-General of CERN in 2016. She holds an honorary Professorship at Edinburgh University and is a corresponding member of the Italian Academy of Sciences and foreign associate member of the US Academy of Sciences and the French Academy of Sciences. From 2009 to 2013, she was project leader ("spokesperson") for the ATLAS experiment, and on July 4, 2012, she presented the collaboration’s results in a seminar at CERN where the discovery of the Higgs boson was announced. In 2011, Gianotti was included among The Guardian newspaper’s 100 most inspirational women. She ranked 5th in Time magazine’s Personality of the Year in 2012 and appeared among Forbes magazine’s 100 most influential women in 2013.
Basic research is often considered to be a luxury, yet it is the most valuable asset we have, underpinning innovation from the harnessing of fire to the technologies we will need to deliver a sustainable future. Not all efforts towards the fulfilment of the new Global Goals need to be short-term, practical and focused. Basic science, and the opportunity to invent and innovate from the very bottom, often provide the knowledge needed to drive more significant and structural changes for the greater good.

As far back as 1939, Abraham Flexner penned a stirring paean to basic research in Harper’s magazine under the title: ‘The Usefulness of Useless Knowledge’. Nine years earlier, Flexner had been among the founders of the Institute for Advanced Studies (IAS) in Princeton, New Jersey, a temple to ‘useless’ knowledge, and his article recounts a conversation he had with a certain Mr. George Eastman. In short, Flexner had asked Eastman whom he considered to be the most useful worker in the world, to which Eastman replied instantaneously: “Marconi.” There the disagreement began. Flexner, perhaps being intentionally provocative, pointed out that Marconi’s contribution to the radio and wireless had been practically negligible. He went on to point out the 1865 work of James Clerk Maxwell on the theoretical underpinnings of electricity and magnetism, and the subsequent experimental work of Heinrich Hertz on the detection of electromagnetic waves. Maxwell and Hertz, he argued, had no concern about the practical utility of their work; they cared only about the adding to the shared pool of knowledge about the workings of the natural world. The knowledge they sought, in other words, was never intended to be useful. Without it, however, there could have been no Marconi, no wireless, no radio, no television and no mobile phones.

The history of innovation is full of such examples. Indeed, it is practically impossible to find a piece of technology that cannot be traced back to the work of scientists motivated purely by a desire to understand the world we inhabit. But basic research goes further. There is something primordial about it. Every child is a natural scientist, imbued with curiosity, vivid imagination and a desire to learn. It is what sets us apart from any other species, and it is what has provided the wellspring of innovation since early humans harnessed fire and invented wheels. Children are always asking questions. Why is the sky blue? What are we made of? What are those specks of twinkling light in the night sky? It’s by investigating questions like these that science has advanced, and that we can inspire the young to grow up into future scientists or scientifically aware citizens.

To demonstrate this, let me highlight one particular example that I know very well: The Brout-Englert-Higgs mechanism. The research that led to its elucidation in 2012 with the discovery of the Higgs boson at CERN was inspired by the question: “Why do some forces of nature, like Maxwell’s electromagnetism, have an infinite range, while others act only over short distances, like those that work on the scale of the atomic nucleus?” You will not find a more esoteric question, yet when we announced the discovery of the Higgs boson on July 4, 2012, it was covered by media, including social media, around the world with great excitement. In the case of the Brout-Englert-Higgs mechanism, the time between asking the question and finding the answer was 50 years and encompassed many cycles of knowledge transfer from basic to applied research and back again.

Indeed, the ambitious goals of fundamental research require the development, construction, and operation of high-tech, complex instruments that challenge industry to push the limits of technology. Such innovations in the name of fundamental science frequently make their way to society. One strong example of this is a thread stretching back to the 1970s, linking CERN with the medical imaging industry. Back then, CERN had a collaboration with its local hospital to apply CERN photon and electron detection technology to the task of developing one of the very first PET scanners. The latest chapter in this story comes with the development of electronics that allow photon and electron detectors to be read out in a strong magnetic field. This not only provides the
powerful capacity for experiments at CERN but has also enabled the medical imaging industry to develop combined PET/MRI scanners, thereby improving medical diagnosis techniques. This is fundamental research having a profound and positive impact on people’s lives around the world.

Two things become very obvious when you observe physicists at work. Firstly, the word impossible is not in their vocabulary. In this case, when they found that the electronics that worked in a magnetic field didn’t exist, there was no question of giving up. The obvious thing to do was develop these electronics. And the second thing you notice is that they don’t care about things like gender, ethnicity and race: what matters is simply how good you are at what you do. Nothing comes closer to a true meritocracy than a particle physics experiment, and the results are extraordinary. It’s the strength of these very diverse collaborations that delivers developments such as magnetic field-tolerant electronics.

Nurturing such curious minds is among CERN’s core missions. We take education and training very seriously, and over the years have developed programs that reach everyone from primary school children to professional physicists, accelerator scientists, and computer scientists. We also keep tabs on the whereabouts of young people passing through CERN, and it is very enriching to follow their progress. About a thousand people a year receive higher degrees from universities around the world for work carried out at CERN, and it is very enriching to follow their progress. About a thousand people a year receive higher degrees from universities around the world for work carried out at CERN, and it is very enriching to follow their progress.

Turning to the UN’s admirably ambitious Global Goals, the focus on science and technology in Agenda 2030 is positive and encouraging. It testifies to a deeper understanding of the importance of science in driving progress that benefits all people and helps to overcome today’s most pressing development challenges. But the potential of Agenda 2030 can only be fulfilled if backed by sustained commitment and funding by governments. I contend that if we are to tackle issues from eliminating poverty and hunger to providing clean and affordable energy, we need science, and we need scientifically-aware citizens. That’s why the input from the scientific community, including CERN, to framing Agenda 2030 urged there to be a minimum percentage of GDP devoted by every nation to science and STEM education (Science, Technology, Engineering and Math education), with the public sector committing in particular to basic research and STEM education. We also pointed out that this is particularly important in times of economic downturn when private funding naturally concentrates on short-term payback and governments also focus on domains that offer immediate economic return at the expense of the longer term investment in fundamental science. Governments should always ensure a constant flow of Abraham Flexner’s useless knowledge.

Places like CERN are a vitally important ingredient in the innovation chain. We contribute to the kind of knowledge that not only enriches humanity but also provides the wellspring of ideas that become the technologies of the future. We train young people, and we develop technologies ourselves that have immediate applications for the benefit of society: technologies like the World Wide Web and the application of particle accelerators, one of CERN’s core areas of expertise, to fields as diverse as food sterilization and cancer therapy.

All this is possible because governments support STEM education and basic research. But we should do more: we should aim to ring-fence a minimum investment in STEM education and basic research in GDP terms for every country in the world. That is the way to long-term development and sustainability.

Flexner’s article contains many examples of the usefulness of useless knowledge: knowledge for knowledge’s sake. It does not, however, record whether Mr. George Eastman was convinced by his arguments. Whatever the case, history has been kind to Mr. Flexner. The IAS is as strong an ideas factory today as it was in the 1930s, whereas the company Mr. Eastman founded has suffered a rather different fate. Useless knowledge, as Mr. Flexner called it, is at the basis of human development. Humankind’s continuing pursuit of it will make the development goals achievable.
Exercises for Fabiola Gianotti’s article

Classroom teaching

Reading Comprehension Questions

1. Briefly describe Fabiola Gianotti’s bet for a better world.

2. Why is basic research so unpopular amongst some actors?

3. What does Fabiola Gianotti believe distinguishes us humans from other species on the planet?

4. Why does Fabiola Gianotti believe that basic research is important?

5. Which does Fabiola Gianotti believe is needed to realize the Global Goals?

Discussion Questions

1. Should we give money to basic research that does not have a direct purpose, when we already have well-developed technology?

2. Should we redirect some of the development aid to research in the richer part of the world?

3. What STEM-subjects exist in your school? Are they sufficiently prioritized?

Homework

Innovation Presentation

Find a topic from one of your subjects in the natural sciences and present what difference it has made, either directly or indirectly, for the poorest on the planet.

Writing Exercise

Read this article (Facebook lures Africa with free internet – but what is the hidden cost?, The Guardian, 2016) and discuss, based on theory, what kind of possibilities for creating more equality and better opportunities for the world’s poorest that have been facilitated by the spread of the free internet.
Danish-Icelandic artist Olafur Eliasson (born 1967) works with a wide range of media, including installation, painting, sculpture, photography, and film. Since 1997, his critically acclaimed solo shows have appeared in major museums around the world. Eliasson’s projects in public spaces include The New York City Waterfalls in 2008, and Ice Watch, shown in Copenhagen in 2014 and Paris in 2015. Established in 1995, his Berlin studio today houses about ninety craftsmen, technicians, architects, archivists, administrators, and cooks. Together with engineer Frederik Ottesen, Eliasson founded the social business Little Sun in 2012. This global project produces and distributes the Little Sun solar lamp for use in off-grid communities and spreads awareness about the need to expand access to sustainable energy to all.
Rather than a bet on a single technological invention, idea, or product to improve the world, my best bet for a better world is a bet on the cumulative aspirational power that is expressed by all people on this planet through art and culture.

Participation in culture is a fundamental right, as outlined in Article 27 of the Universal Declaration of Human Rights. I propose that we take this right and all its implications seriously. This means not only ensuring the right to participate in culture, but also actively supporting culture and its practitioners, expanding access to it, and inviting more people to engage in its production and discussion.

This also means cultivating a broader trust in things that are unquantifiable, things that cannot be subsumed by market economies or made suitable for distribution through the hegemonic culture industry. It entails having confidence in the power of abstraction and in things which, broadly speaking, cannot be easily formulated in words – ideas and feelings that defy quick formulation and digestion. It is crucial to believe in the power of culture and the arts because these fields can reach people emotionally. They express our common aspirations and inspire our active involvement in the world.

Linking knowledge and feeling
A lot can be said about the importance of producing and expanding access to knowledge. The book you are holding in your hands, for example, is also engaged in the admirable task of increasing knowledge. Less can be said about how and why some data motivate us to act, and other data leave us feeling disconnected. This is because it is not enough just to give access to data. Data alone will rarely motivate change.

In fact, the opposite seems to be true: there is a disconnect between what people know and how they feel, and this translates into a lack of motivation and aspiration to connect to and improve the world. It is certainly important to present the data behind key issues facing the world today, but linking knowledge and feeling is necessary to mobilize responsible action.

One of the great challenges today is that we often feel untouched by major problems in the world; we do not recognize that we are part of a global community, a global we. This is where I think art and culture can play a unique role. Art is engaged on a daily basis with creating experiences that touch, move, and motivate people. Most of us know the feeling of being touched by a poem or a book, being moved by a piece of music or a work of art. Often when we are touched, we become aware of an abstract feeling that is already inside us – something we may recognize and even identify with but have not yet verbalized or understood entirely. Art can be about getting you to treasure unvoiced dreams or to wake up if you are dreaming too much. It can be provocative or critical, or it can offer you a much-needed moment of reflection.

Turning feeling into action
Art and culture can motivate people to act by confronting them with concrete experiences and abstract thoughts. Similarly, by pushing the limits of the possible, it can encourage people to form, express, and work towards their dreams and aspirations. It shows that the world can be changed by their actions, and that reality is relative. Through the bottom-up exchange that is central to the culture we co-produce our common values and aspirations for a better world.

Moreover, culture offers us a space in which disagreement and conflict are not
considered solely negative; they are rather essential ingredients in experiencing art and culture together. An arts festival offers more potential contact, more inclusion, more conflict management than a political gathering, conference, or summit, where the lines of contention are more clearly defined; it brings together people from various backgrounds and hosts more progressive thinkers than any other gathering today. This space could be a great source of inspiration for politics and an antidote to populism and the demonization of other cultures and worldviews.

For me, art is about having an experience that is both shared and individual. We may disagree about the nature of an aesthetic experience, but fundamentally, the artwork connects us; we experience it together. A successful artwork builds a community around it – locally or globally – without doing so at the expense of others; it creates an inclusive environment where disagreeing is not only allowed but essential. We have to seek a language that allows for both being singular – me – and plural – us.

**Touching ice and holding hands with the sun**

An example of what I believe art can achieve is reflected by my project Ice Watch. Together with geologist Minik Rosing, I first organized Ice Watch in Copenhagen in 2014 to mark the publication of the UN IPCC’s Fifth Assessment Report on Climate Change. We harvested twelve large blocks of ice from a fjord outside Nuuk, Greenland, and brought them to Copenhagen, where they were arranged in clock formation and left to melt in City Hall Square. Everyone could come to the square to touch the ice and experience for themselves the effects of global warming. In December 2015, on the occasion of COP21, we again displayed twelve blocks of ice in public space, this time in the Place du Panthéon in Paris. The work offers a concrete experience of climate change by bringing the melting glaciers home to the people who have the power to combat global warming. It’s a physical wake-up call. Ice Watch confronts people with a radically concrete reality, which for most of them has only ever been an abstract topic that they have read about. It makes them physically feel the melting ice with their bodies rather than just intellectually, and this direct experience, I believe, can motivate them to take real action.

Another project I have been working on for some time now also triggers a feeling in order to motivate action: in 2012, I set up the social business Little Sun together with engineer Frederik Ottesen. Our aim is to promote solar energy for all. Little Sun reflects our belief that one of the keys to combating climate change lies in moving from simply consuming our limited resources to sharing and creating new sources of energy. The future must be energy positive. On a practical level, Little Sun responds to the need to develop sustainable, renewable energy by producing and distributing affordable solar-powered lamps, with a focus on regions of the world that do not have predictable access to electricity. But while Little Sun offers a practical solution to the problem of unequal energy distribution, it also creates an emotional bond to the discussion. Little Sun is about the self-esteem gained from feeling you have resources and are powerful. It takes something that belongs to all of us – the sun – and makes it available to each of us. It’s not just about having access to energy; it’s about being strong. It gives you the feeling of being empowered. With Little Sun, you are able to tap into the energy of the sun, to power up with solar energy. This feeling of having power is something everyone desires, and it is something everyone can identify with. Participating in Little Sun brings together people all around the world in a community based on a feeling.

**The global we**

As an artist, I believe that we need broader support for bottom-up creation and art practices everywhere. Our best bet for a better world – for a world in which people feel that their actions have meaning – is to empower people’s sense of identity and interconnectedness through art and culture. This is the basis for real change. Art is the energy that inspires solidarity and community – a global we. By supporting art and culture, we support our ability to be motivated and to motivate.
Exercises for Olafur Eliasson’s article

Classroom Teaching

Reading Comprehension Questions

1. Briefly describe Olafur Eliasson’s bet for a better world.
2. What can art and culture do for ‘the global we’?
3. What does Olafur Eliasson believe that culture can be an antidote to?
4. How does Olafur Eliasson believe he can make the sun available to all of us?

Discussion questions

1. Does it make sense to spend money on culture and art, when some people are living in poverty?
2. Do you become more involved in an issue, if you see or feel it on your own body?
3. Who is responsible for ensuring access to culture and art?

Homework

Innovation Presentation

Pick one of the 17 Global Goals. Imagine that you have to motivate the public to take action by means of either art or culture.

Draw, describe or build an artwork or a culture initiative that will draw attention to your chosen goal.

Writing Exercise

Article 27 in the Universal Declaration on Human Rights says,

“Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.”

Discuss the significance of participation in cultural life being a human right.
In a world where challenges exceed the financial resources set aside to address them, it is necessary to use all brain power and all ideas. A single idea from a high school student has the potential to contribute to the achievement of the Global Goals. It can seem impossible, however, even to reach the stage of getting ideas and then carry them out in practice.

Good and creative ideas typically come when you stand in front of insolvable problems. Sometimes the solutions come out of the blue. At other times they are the result of protracted and taxing thought processes. But sometimes it is also possible to approach the development of ideas and creative processes with tools that can force good ideas to the table and structure the creative process. Ideation is a tool that places the problem to be solved at the center and structures the process from the identification of a challenge to the conceptualization of a solution and to realization and implementation in practice.

The website [www.bigbetinitiative.com](http://www.bigbetinitiative.com) gathers good and creative ideas that can play a part in easing the implementation of the Global Goals. Everything from NGOs to global leaders and investors are looking for good ideas that can be lifted to a global level and on the website of the Big Bet Initiative they can find inspiration on how to get our world on the right track.

But it is not just thought leaders and famous politicians that can get good ideas. We invite you and your fellow students to share your good ideas for a better world.

To help get your thoughts going, the next couple of pages will present you with a tool that can help you kickstart and structure your thought process. It is simple, but nevertheless demands that you force yourselves to empty your brain and ask all the stupid questions. The first steps are also the hardest, but if you get it right, the tool can help you to refine and improve your idea. It is pivotal that you address disagreements or uncertainties early in the process, that you accept all the stupid questions and that you allow yourselves to dwell on what may appear to be wild or crazy ideas, as these may have potential if they are framed differently.

Bliv en del af den globale stemme og læg din idé på Facebook eller Twitter efterfulgt af hashtagget #BigBets2030.

**EKSEMPLER:**

Mit #BigBets2030 på en bedre verden er at sætte sensorer på taxaer, der kan måle luftforurening. Det er omkostningsfuldt at måle forureningsniveauer i hele byen, men taxaers vidtgående færden, kan bruges til at komme hele byen rundt. På denne måde kan man præcist og omkostningsseffektivt bruge egentligt forurenende taxaer til at afdække, hvor der skal sættes ind mod luftforurening. Dataen kan blive tilgængelig for offentlige myndigheder og forskere og samtidigt skabe bevidsthed om vores lufts tilstand. Det hjælper med at nå Global Goals for Sustainable Development mål #3 og #11.

Mit #BigBets2030 er at bruge plastik fra havet som printmateriale til 3D-printere. Det vil hjælpe med at nå @globalgoalsUN mål #14 og #9.
IDENTIFY AND DEFINE THE PROBLEM

Ideas and solutions often appear on the basis of a clear understanding of a concrete need. It is therefore pivotal to decide on what kind of problem you want to solve (e.g. pollution of the oceans or lacking democratic rights). At the same it is important to be as specific as possible. It is rarely possible to solve the problem of oceanic pollution by only a single innovation — but smaller ideas and inventions can often bring us a little closer to the goal and to a final solution to the problem.

THINK THROUGH AND REFINE THE SOLUTION

The art of an ideation process is to ‘force’ creative ideas to the table. It is useful if each of you write down all potential ideas to solutions on a piece of paper. It is important not to be limited by it seeming expensive or unrealistic. Dare to think big as external partners or supplementary inputs can often overcome what at first appears to be limitations.

CONCEPTUALIZE THE SOLUTION

Once you have decided on an idea, the next step is to articulate all the implicit assumptions about the idea that each member of the group may have and which may vary from group member to group member. It is crucial that all assumptions and beliefs about the idea are voiced in order to establish a common ground to move forward from. This process is difficult, but it is very important to ask all the silly questions and say exactly what you imagine.

IDENTIFY STAKEHOLDERS

It is often the hardest part of the task to make one’s good idea become reality. There will always be limitations that seem insurmountable. It may be because others are doing something similar, because you are dependent on cooperation to realize the idea or simply because you are short of resources. Therefore, in the following process the task is to map stakeholders that exist in the field.

IMPLEMENT THE IDEA

To realize the idea there are some questions that are important to ask oneself. These are relevant when you face having to ask for money, entering partnerships or when you move forward with the project yourself.

EXERCISE #1

Write down your answer to the following question: What problem do we face? Who is it a problem for? Who is the problem an advantage to? What kind of information do we need to understand the problem? Is there anything the information does not address? Should you be critical of the information that is available?

Break up into groups and define the problem on two lines. Take turns reading aloud your problem formulation and agree on a precise formulation of the problem.

EXERCISE #2

Sit down alone for 10 minutes and write down all the potential initiatives that will solve the problem either fully or partially on a piece of paper. It is important to write down all potential solutions even though they may seem absurd, silly or unrealistic. Write all your ideas on post-its and place them on the wall (no ideas can be given up on already just because they don’t seem good at first). Together, group all the post-its according to relevant parameters. Are there any of the ideas that can be combined so that they supplement each other? Discuss what impact the solution will have and pick the three best solutions by giving them each a score of 1-10 along two parameters:

1) What social impact will it have? 2) How difficult will it be to implement?

On that basis it will be easier to select a single solution that you want to move forward with.

EXERCISE #3

Everyone should make a story of the ideal application of your solution — in what context or narrative can you picture that the solution find use? How often do these stories take place? Does your understanding of the application of the solution vary from person to person? Are there any of the ideas that you gave up on earlier that can supplement or underpin your chosen solution? Are there other examples of people who have worked with your solution and how do you distinguish yourself from them? What do you need to implement the idea?

Together describe in two sentences your idea in the context it is applied on.

EXERCISE #4

Make a list of all the actors that are impacted by your idea and assess how important they are to you. Consider whether the different actors are competitors, cooperation partners or external stakeholders that may lead to success. Who is it that demands the product? Who will lose on this product? Is there anyone else than your primary target group that may be able to use the product? What actors have potential to contribute with the resources that your need?

EXERCISE #5

Consider the following questions: What resources do you need to move the idea forward? What are the financial limitations? What actors should be mobilized? How should they be contacted? How is the overall development in the market? What are the technical requirements for implementation? How should the idea generate money? How should the idea impact the Global Goals? How can it be scaled? How can it be tested? Who could be interested in supporting the project? Does the project overlap with other companies that are involved with similar concepts? Are there any foundaions whose mission matches your idea? Are there any businesses whose social mission matches your idea?

Upload your final bet for a better world on Facebook and Twitter with the hashtag #BigBets2030.
Gender-based Difference in Education


a. Look at Section 2, “Gender Parity Index”. Describe the development over time. In case of gender equality, is it always girls that are worse off?

b. Look at Section 3. Compare “Gross enrollment ratio” in primary, lower secondary and upper secondary education. Does the enrollment of girls differ on different educational levels, and why is it so?

c. Look at Section 7, “Gender Parity Index”. Compare this with data from question a. What is the significance of the large difference between the gender distribution at different educational levels?

Economic Inequality

The Gini coefficient is a measure for the degree of inequality in a distribution, most often used for income distribution. The Gini coefficient can assume values between 0 and 1. In an entirely equal society where everyone receives the same income, the Gini coefficient is 0. The more unequal the distribution is, the larger the Gini coefficient.

Another way to analyze inequality is by looking at the distribution of income between different population groups. The idea here is to look at how large a percentage of the total income a given percentage of the population receives.

Example: In a very equal society, people will earn approximately the same, i.e. the poorest 10% will earn almost 10% of the total income, while the richest 10% of the population will earn only a little more than 10% of the total income. The more unequal the distribution is, the larger a share belongs to the richest and the smaller a share belongs to the poorest.

Compare Gini coefficients and income distributions by downloading the Excel sheet here (NB. The data is not entirely comparable as it originates from different years):
http://wdi.worldbank.org/table/2.9#

a. Which country is the most unequal?

b. Where is your country (if it is there) placed in relation to other countries?

c. Compare the most unequal country with your own country:
   - How is the distribution of income spread across different population groups?
   - How large a share of the income belongs to the poorest share (lowest 10 %) of the population?
   - What about the richest share (highest 10 %) of the population?

Data Exercises

Julia Gillard

1. Hunger

Dan Barber presents a menu that rethinks eating habits. But what is really the global state of nutrition? Millennium Development Goal no. 1 was to eradicate extreme poverty and hunger. Hunger was measured by target 1.c. in which the aim was to half the share of undernourished people between 1990 and 2015. At a global level the target was almost realized: The share of undernourished people fell from 23.3 % to 12.9 %. Use the following two sources to look at the development in hunger and undernourishment:


a. Describe the development from 1990-1992 till now.
   - Are there any regions that have fared better than others?
   - What region has the largest share of undernourished people?
   - What region has the largest absolute number of undernourished people?
b. Find a country that has experienced an increase in the number or share of undernourished people.  
   - Why do you think the number of undernourished people has increased in this country?

2. Calorie Intake

A person is defined as being undernourished when he or she hasn’t been able to reach “Minimum Dietary Energy Requirement” (MDER) for at least a year. MDER is a measure for dietary energy requirements and is calculated on the basic metabolic needs and physical activity. MDER is divided by country, age and gender. As such there is no universal value for MDER, but generally the dietary energy requirement for an average person is estimated to be around 1700-2000 kilocalories per day. The following graphic shows average food supply (kilocalories per person per day) in all countries [www.bit.ly/2cmP3H9](www.bit.ly/2cmP3H9)

a. What is the overall correlation between calorie intake and income? 
   Describe the assumption behind this correlation.

b. Describe the development of the three largest ‘bubbles’ (countries) over time (India, China and U.S.)

c. Are there any countries that are below MDER? 
   What does it say about the inequality in a country if the average food supply is larger than the limit for undernourishment while a large share of the population is still undernourished?

Research and development (R&D) refers to work carried out on a systematic foundation in order to increase existing knowledge and the application of this knowledge to find new areas of use. Three types of R&D exist:

- Basic research: Experimental or theoretical work with the primary aim to achieve new knowledge or a new understanding with no particular application in mind.
- Applied research: Experimental or theoretical work with the aim to achieve new knowledge and understanding. The work is primarily targeted specific areas of application.
- Developmental work: Systematic work that is based on the application of knowledge achieved through research or practical experience and aim to bring about new or significantly improved materials, products, processes, systems or service provisions.

Source: Denmark’s Statistics

International comparison

Use the following table to answer the questions below: [https://data.oecd.org/chart/4Cuc](https://data.oecd.org/chart/4Cuc)

a. On average across OECD countries, how large a share of GDP is given to R&D (“OECD Total”)?

b. What countries used respectively the largest and the smallest share of its GDP on R&D in 2014?

c. If your country is in the OECD, where is it placed in relation to other countries?
2015 was a turning point for the global development agenda. The 70th General Assembly in the UN marked a successful completion of the Millennium Development Goals along with the adoption of the most ambitious agreement of international society ever. 17 Global Goals were adopted that will structure the international development agenda towards 2030. The goals, however, are short of billions of U.S. dollars that are not expected to be found among more traditional sources, such as the overseas development assistance. Therefore, there is a need for new ways of thinking, for innovative ideas and for new partnerships that underpin efforts of realizing the Global Goals. In order to realize the goals, we need to involve all the smart minds out there and to use all the good ideas.

Dalberg has created a book in which 21 of the most innovative people in the world share their one bet as to how global society should achieve the Global Goals. Students hold enormous innovative potential and it is therefore only natural that they should also join in with their brain power and good ideas. In this learning material five innovative ideas are included. They function as inspiration for the students to create their own ideas as well as an empirical foundation for teaching in the social sciences.

Use in teaching
The learning material is intended as an empirical supplement to teaching and will function optimally when used together with core literature on international politics, international economics and/or global development. It is an explicit assumption in the material that we are required to think in new ways or to rethink existing ways of doing things to ensure progress on the Global Goals. Nevertheless, it is also the intention that this assumption is problematized and challenged.

The material can form part of the teaching by motivating students to:
- reflect on their own actions and ideas as citizens in a larger world
- have normative discussions on development policy and development assistance
- gain insight into the global challenges that our world is faced with

Didactic Aims
The primary aims of the book is to increase awareness of being a global citizen and to stimulate students’ ability to think in innovative ways. Both aims are realized through a learning focus on the relation between the local and the global.

Through the process of gaining awareness about being a global citizen, the student gains an appreciation of the ways in which one’s actions don’t just have local but also global effects. Being a global citizen means holding an understanding of living conditions and situations of people different from oneself, no matter whether this concerns resource restraints, climate change, oppression, or violence. Innovation has the same potential as an idea from a single student in one place has the potential to change the lives of many people globally. As such it is a key aim of the learning material to make the global seem in close reach and make the local seem significant. The student should see her- or himself as a citizen in a global world, where her or his innovative ideas hold the potential to change the world to the better.

The book touches on core theoretical areas of social science teaching and makes the application of e.g. international political theory easily accessible. The methodological approach is iterative and exercise-oriented inspiring active criticism and problematization of the included perspectives. As such the student is required to take an active stance and argue why a ‘Bet for a Better World’ can or cannot be realized and at a normative level consider whether the bet will create a better world.

Exercises are divided in five categories:
- Reading comprehension questions that guide the student through the material and ensure comprehension.
- Writing exercises that are answered in writing based on independent research. The extent of the writing can be determined by the teacher.
- Discussion questions that can be worked with two-by-two, in groups or in plenary.
iv) Innovation presentations that are intended to engage the student in making a presentation on how the students themselves make a positive difference to the achievement of the Global Goals.

v) Data exercises that motivate the student to find data, process it and test it or generate social scientific hypotheses.

3. Suggestions for Additional Literature

For teacher’s background