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Analysis of Greenpeace's business model & philosophy

GREENPEACE wants a piece of your green

An independent report by Dr. Michael Connolly, Dr. Ronan Connolly,
Dr. Willie Soon, Dr. Patrick Moore and Dr. Imelda Connolly (December 2018)

Contents

Executive Summary

"*Tyranny is the deliberate removal of nuance*" – attributed to Albert Maysles (1926-2015)

Greenpeace have successfully created a public perception that they are fighting to protect humanity, nature and the environment from the evils of corrupt industries and vested interests. This perception is so popular and wide-spread that whenever Greenpeace speaks out on an issue it is automatically assumed to be true, and anybody who questions Greenpeace's claims is assumed to be corrupt. However, as we will discuss in this report, the reality is almost exactly the opposite...

Greenpeace is a very successful business. Their business model can be summarized as follows:

1. **Invent an "environmental problem"** which sounds somewhat plausible. Provide anecdotal evidence to support your claims, with emotionally powerful imagery.
2. **Invent a "simple solution"** for the problem which sounds somewhat plausible and emotionally appealing, but is physically unlikely to ever be implemented.
3. **Pick an "enemy"** and blame them for obstructing the implementation of the "solution". Imply that anybody who disagrees with you is probably working for this enemy.
4. **Dismiss any alternative "solutions"** to your problem as "completely inadequate".

At each of the four stages, they campaign to raise awareness of the efforts that they are allegedly making to "fight" this problem. Concerned citizens then either sign up as "members" (with annual fees) or make individual donations (e.g., $25 or more) to help them in "the fight". This model has been very successful for them, with an annual turnover of about $400 million ($0.4 billion). Although technically a "not for profit" organization, this has not stopped them from increasing their asset value over the years, and they currently have an asset value of $270 million ($0.27 billion) – with 65% of that in cash, making them a cash-rich business. Several other groups have also adopted this approach, e.g., Sierra Club, Friends of the Earth, WWF and the Union of Concerned Scientists.

Although their business relies heavily on marketing, advertising, and free market principles, they promote socialist and anti-capitalist ideals in their messaging. As a result, their campaigning efforts appear to resonate strongly with left-leaning parties and liberal media. By draping themselves in "moral clothing" (see Appendix 4), Greenpeace have been very effective at convincing these progressive organizations that anything Greenpeace says is "good" and "true", and whatever they criticise is "bad" and "corrupt". However, as we discuss in this report, Greenpeace are **not** actually helping to protect the environment, or exposing real problems. Instead, they are:

1. Creating unnecessary feelings of guilt, panic and frustration among the general public. Greenpeace then make money off this moral outrage, guilt and helplessness (Section 1).
2. Vilifying the innocent as "enemies". Once you have been tarred by Greenpeace's brush, any attempts to defend yourself are usually treated with suspicion or even derision (Section 2).
3. Deliberately fighting honest attempts by other groups to tackle the "environmental problems" that Greenpeace claim need to be tackled (Sections 3 and 5).
4. Distorting the science to generate simplistic "environmental crises" that have almost nothing to do with the genuine environmental issues which should be addressed. (Sections 4-5)
5. Actively shutting down any attempts to have any informed discussions about what to actually do about the "problems" they have highlighted (Appendices 2-4).

About the authors

- Dr. Michael Connolly (Ireland)
- Dr. Ronan Connolly (Ireland)
- Dr. Willie Soon (USA)
- Dr. Patrick Moore (Canada)
- Dr. Imelda Connolly (Ireland)

All five of us are passionate about science, the environment and sustainability.

Patrick has been a leader in the international environmental field for more than 30 years. He was a founding member of Greenpeace and served for nine years as President of Greenpeace Canada and seven years as a Director of Greenpeace International.

In 1989, Michael and Imelda set up (and ran for seven years) the Republic of Ireland's first public aquarium ("the National Aquarium") to promote awareness and interest in both the beauty and fragility of the ocean's ecosystems. Michael and Ronan have both been actively involved in the research and development of ethical, sustainable and commercially viable methods for a) fishfarming, b) reducing water pollution and c) energy conservation for more than a decade (Michael since 1996, Ronan since 2004).

Willie has dedicated his career to scientific research and has published more than 80 peer-reviewed scientific papers in the fields of astronomy, astrophysics, climate science and environmentalism. Willie, Ronan and Michael have been working together since 2015. At the time of writing, they have published three peer-reviewed scientific papers together on the subject of climate change, and they have several further papers in preparation.

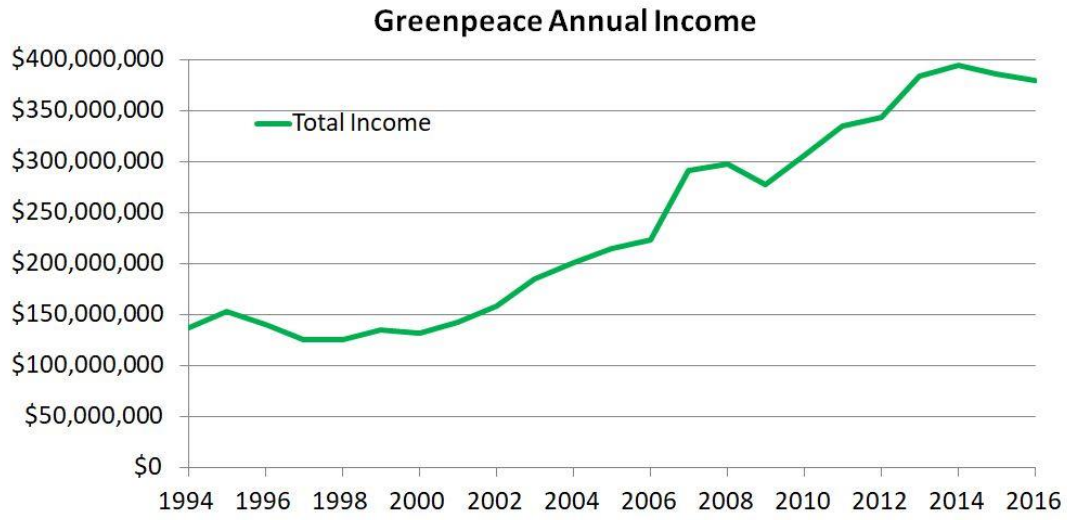
None of us received any funding or financial compensation for this report, and we carried out all of the research in our own spare time and at our own expense.

1. Financial analysis

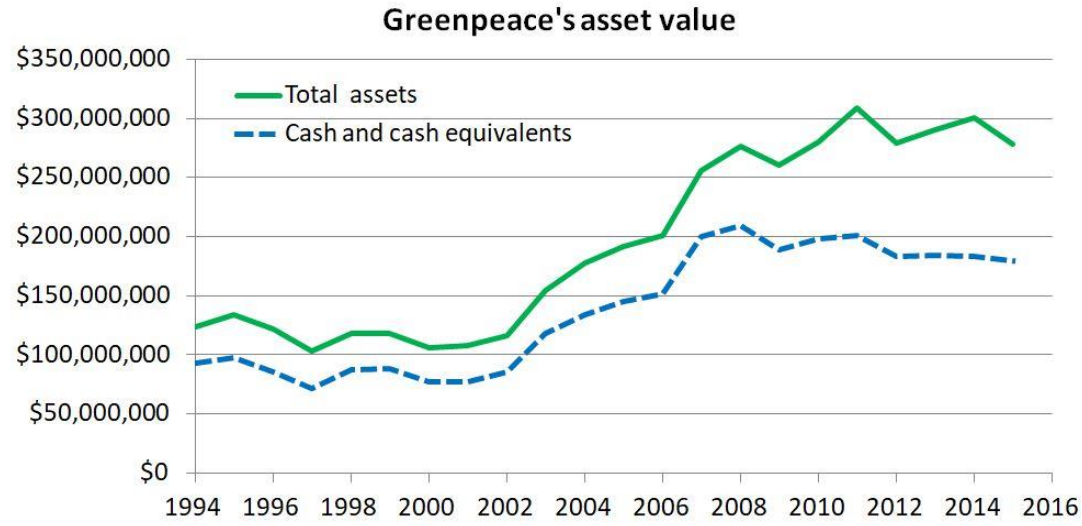
Greenpeace is an independent global campaigning business with a gross income in 2015 of $386 million ($0.386 billion). It relies on the high level of brand recognition for the “Greenpeace” name, and its excellent marketing abilities to generate business.

As Greenpeace say in their 1998 annual report, “the most significant things about Greenpeace are our ATTRIBUTES – our ships, our planes, our communication capability and our campaigns: Antarctica, the Amazon, solar power’ stopping oil exploration, opposing nuclear developments or release of GM crops and, of course our name”.

Since the 1990s (even with the recession) its income has nearly trebled with an average annual growth of 5%. To achieve this growth, it increases its expenditure on campaigns and media outreach.



Although Greenpeace is a not for profit business this does not prevent it from increasing its asset value, which it has done successfully over the last twenty years. In 2015, it had an asset value of $0.277 billion, with nearly two thirds (64%) in cash, making Greenpeace a cash rich business.



1.1. Greenpeace's corporate structure

Greenpeace is a Dutch Stichting, called STICHTING GREENPEACE COUNCIL with its registered office in Amsterdam. The Stichting is governed by a Board of at least five and at most seven members who are appointed for a term of three years. All Board Members can be reappointed. The Board appoints executives and controls the Greenpeace brand name which it licences to the national regional organizations (NROs).

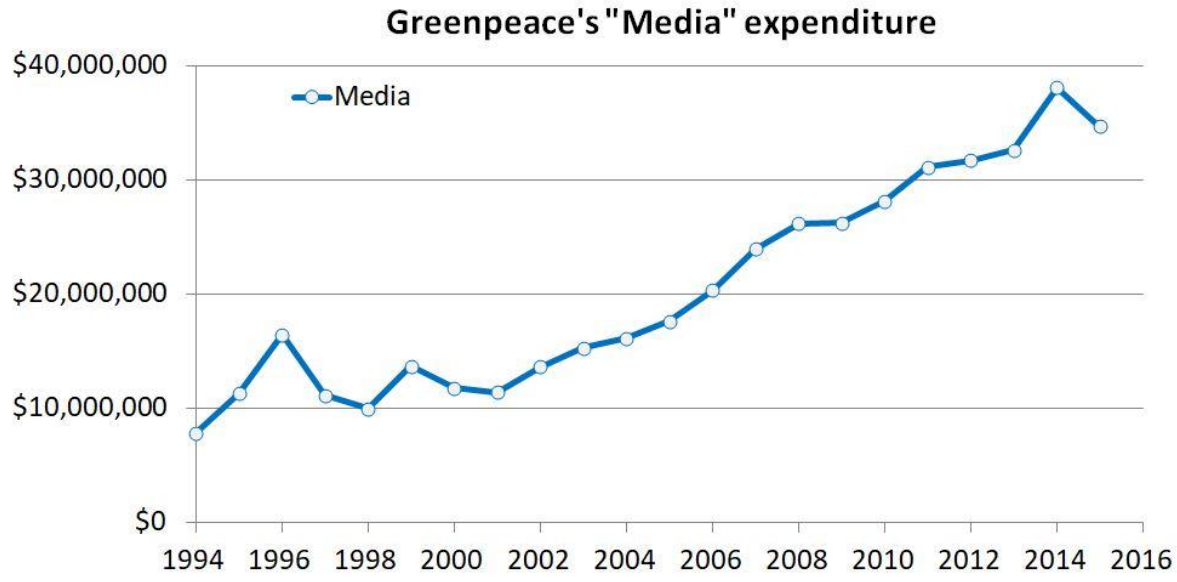
Greenpeace markets itself as a bottom-up, people-led business. In the preface to their 1996 annual report they say, "*Greenpeace can only succeed in these areas by becoming a part of the national culture. It is the people in these areas who will play a major part in defining our role*". However, this is not the case. As Luxon & Wong, 2017 concluded in their peer reviewed article, which carried out an analysis of Greenpeace's corporate structure,

> "Thus, Greenpeace's dominant internal structure has been one that strongly centralises agenda-setting powers, emphasising global campaign priorities, while simultaneously requiring NROs to implement those global priorities with the imperatives of their local contexts in mind, both for revenue and mobilisation purposes." – Luxon & Wong (2017) Global Society, Vol. 31, p479-502.

In 1997, Greenpeace closed down the Irish branch of the business, against the wishes of the local organisation, because they were not generating enough income (Irish Times, Jan 13, 1997). Also in 1997 for the same reason, as reported in Business Insider, Greenpeace International "*took aggressive action, dismissing Greenpeace USA's executive director and parachuting in a replacement in from Amsterdam with a mandate to clean house. The acting director laid off 335 staff members out of a total of 400 (mostly door-to-door canvassers) and slashed the annual budget by more than 25%.*" (Business Insider, 2014)

1.2. Greenpeace's business model

Greenpeace expands its business by running campaigns and maintains brand recognition by investing an average of 9% of its income on media & communications



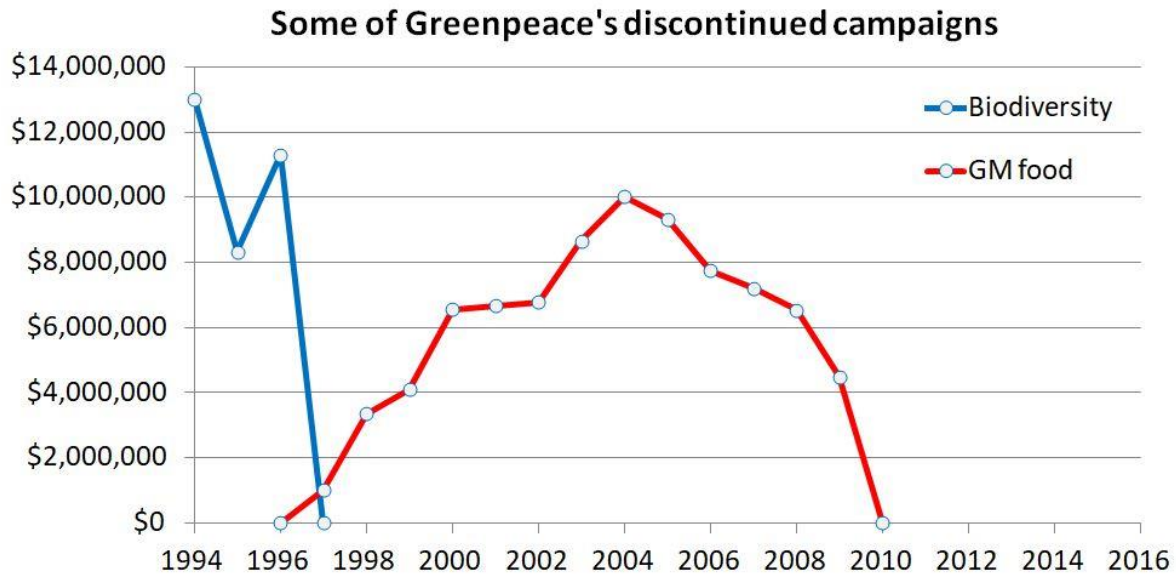
Greenpeace runs its campaigns along the lines recommended by their former strategy advisor, Dr. Chris Rose, in his book "HOW TO WIN CAMPAIGNS". This book provides a lot of insight into Greenpeace's philosophies and views on campaigning, and in Appendix 3, we include a detailed synopsis. However, for brevity here, Dr. Rose's recommendations can be summarised as follows:

1. Choose a campaigning issue that you label as catastrophic and urgent.
2. Choose a villain (enemy agent) who can't put up much of a defence.
3. You (the good guy) propose a plausible solution to the campaigning issue, and accuse the villain (for selfish reasons) of preventing the solution from being implemented.
4. Issue a call to action and provide a way for people to become engaged (protest marches, face painting, financial contributions, etc.), so that they can become committed to the campaign.
5. Choose media outlets where you control the narrative. Don't debate with the bad guys.

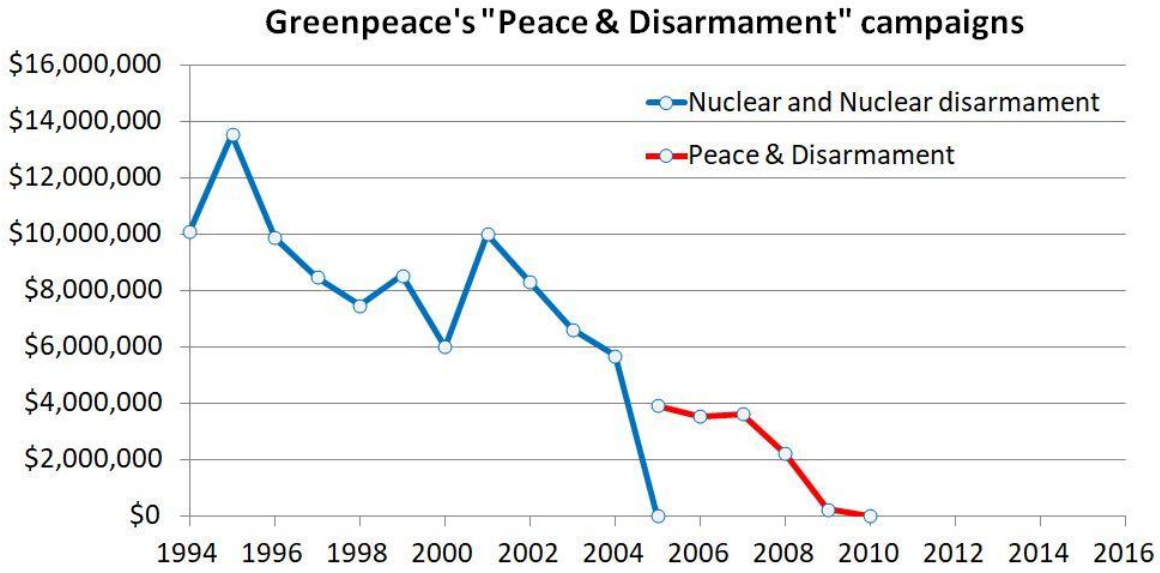
As we discuss in Appendix 3.2, Rose believes that Greenpeace's goal of campaigning is directly opposed to the goal of education. He argues that education increases knowledge and understanding, leading to a more nuanced and reflective discussion on the topic. However, he argues that campaigning groups should fight **against** education by deliberately oversimplifying the issue and reducing awareness of the available options. In that way, he argues people are more likely to become concerned and angry at what they believe is an urgent problem, leading to action.

Another problem from Greenpeace's perspective of encouraging a nuanced discussion is that people may come up with a workable solution for the problem, thus prematurely ending the need for Greenpeace's campaign. A typical Greenpeace can take 4-5 years to set up and implement, which would mean a lot of wasted time and investment, if the campaign becomes redundant too quickly. For this reason, Greenpeace intentionally propose "solutions" to their problems which they know are unlikely to be ever implemented. They also try to discredit any groups that are proposing more realistic solutions that look like they could be implemented, e.g., see Sections 3 or 5.4 for two examples of this.

In order to grow their business, Greenpeace continually tries out new campaigns; discontinues non-performing campaigns; or renames and invigorates declining campaigns. For example, in 1997, they abandoned their "Biodiversity" campaigns, and instead introduced a campaign against GM food. However, as this campaign began to become less successful in the mid-2000s, they began to wind it down and discontinued it in 2009.

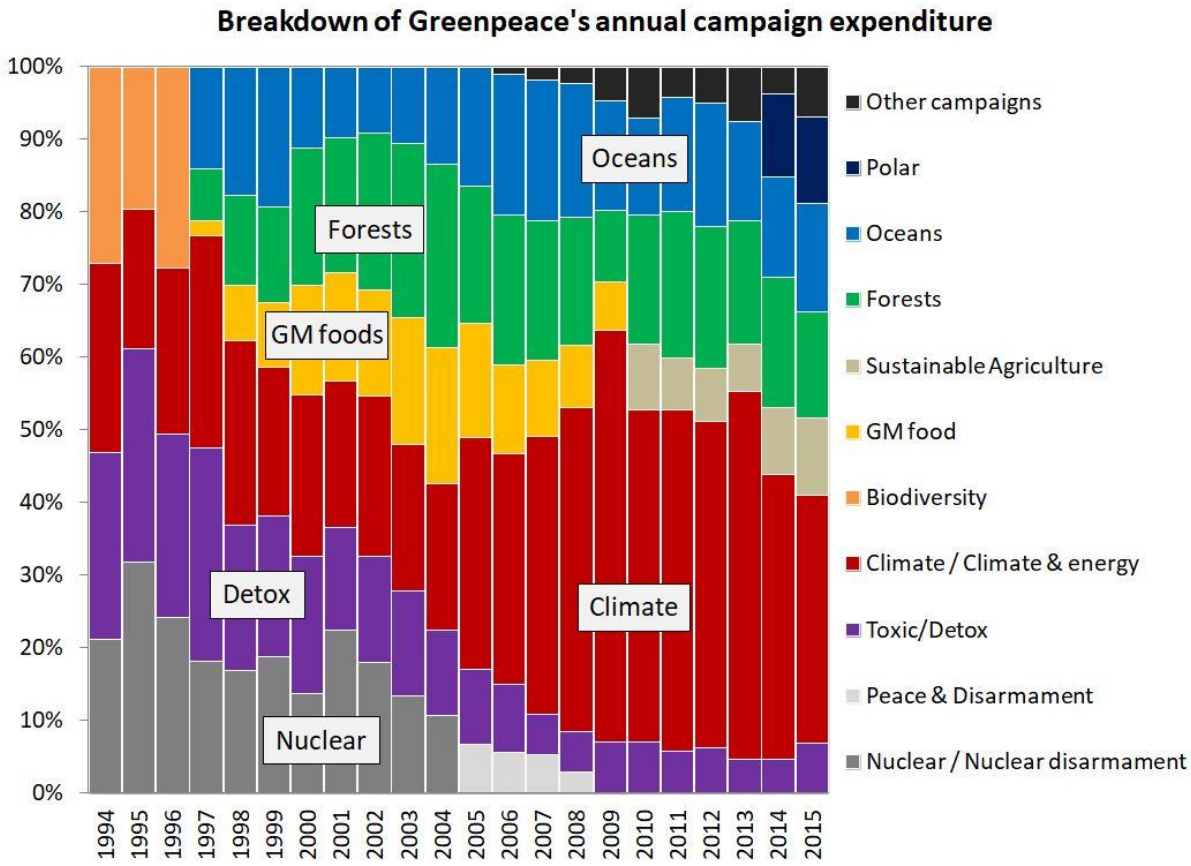


The “Peace” in Greenpeace is partly derived from the fact that they were originally set up to oppose nuclear development and promote disarmament. In 1995, this was their biggest campaign ($13.5m). However, since that peak in 1995, they have been gradually deprioritizing this campaign. By 2006, they changed its name to “Peace and Disarmament” and continued to reduce its budget before finally discontinuing the campaign in 2009.

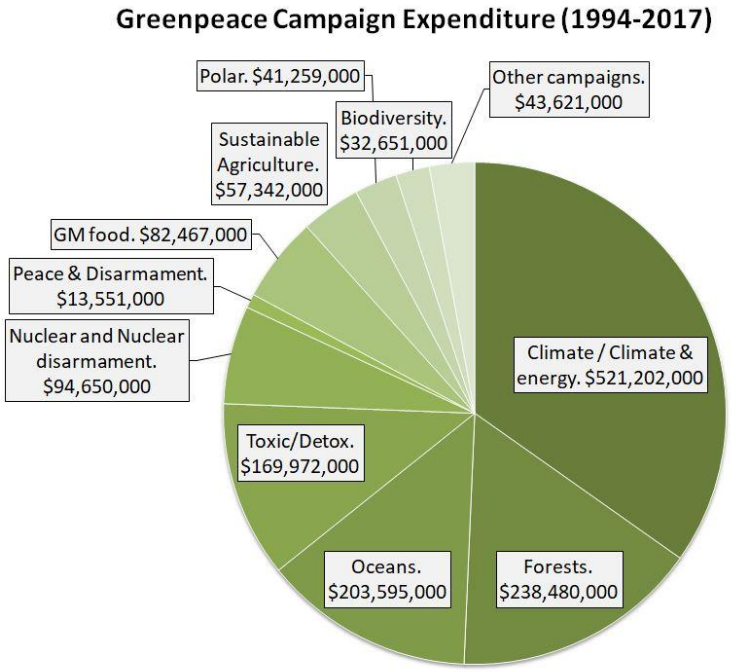


The continual dynamic restructuring of campaigns is a key component of their business model. When some campaigns look particularly promising, they increase expenditure on them, but when others start to lose momentum, they reduce expenditure or even completely discontinue the campaign.

Below is a breakdown of their annual campaign expenditure for each year from 1994 to 2015:



If we sum the total expenditure over the entire period (and extrapolate up to 2017 – see Excel file for details), the breakdown is as follows:

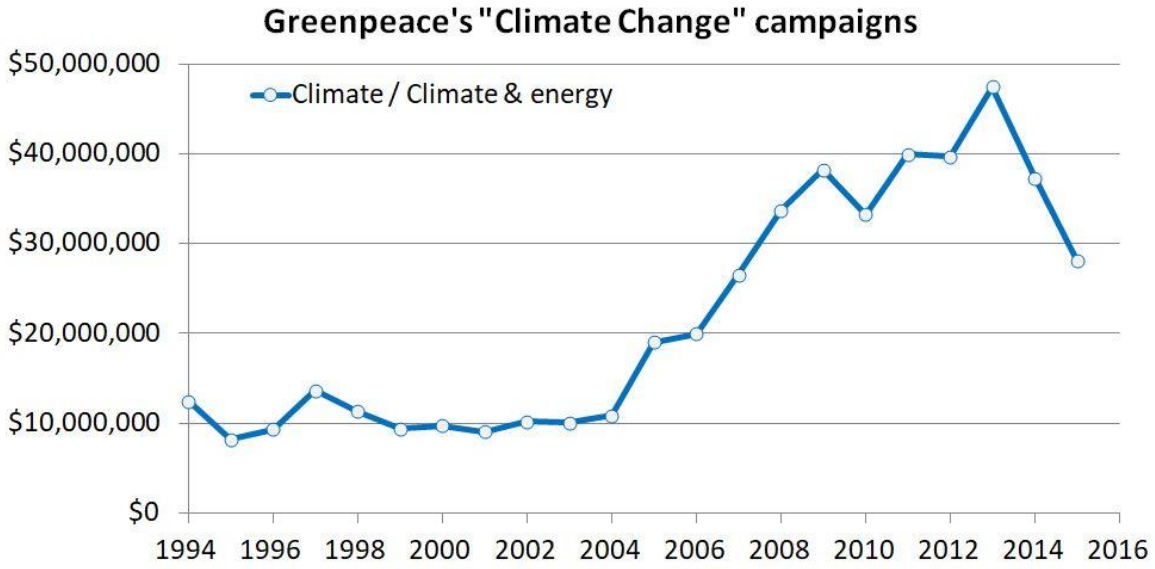


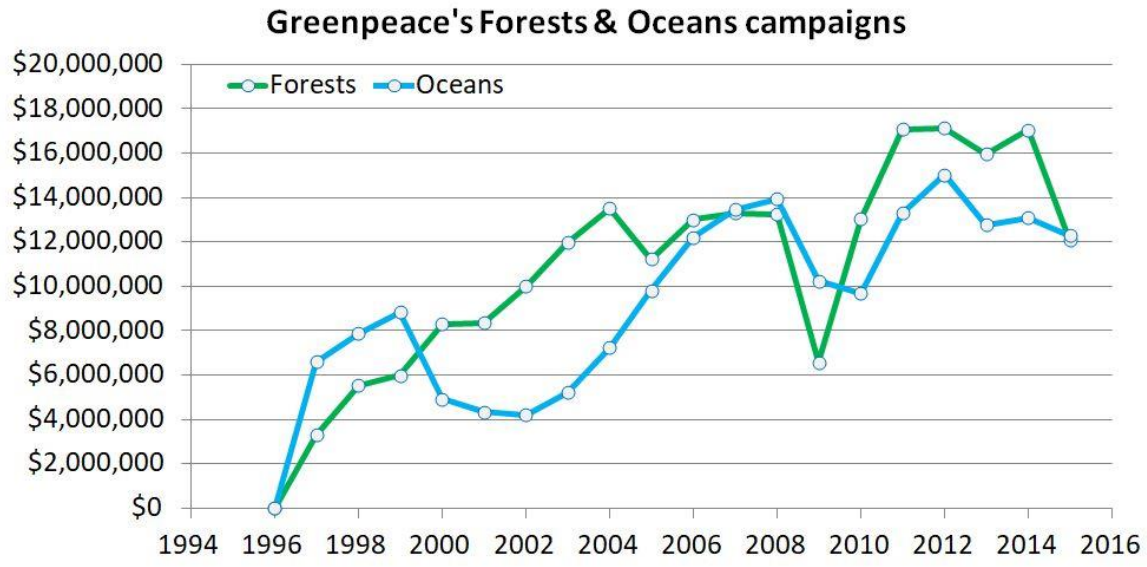
We can see that the three largest campaigns have been:

1. Climate & Energy. $521 million ($0.52 billion) since 1994

2. Forests. $240 million ($0.24 billion) since 1994
3. Oceans. $205 million ($0.21 billion) since 1994

The breakdown of each of these campaigns is shown below:





Although “Climate & Energy” has been their biggest campaign over the last decade, and as of 2015 still was their largest, it can be seen that expenditure actually peaked in 2013. However, in 2015, they announced that they were going to start prioritising a new sub-campaign of the “Oceans” campaign – campaigning against “Single Use Plastics”, which they claimed were responsible for a new crisis: “ocean plastic pollution”. This relatively new campaign seems to have been remarkably popular for them, and other like-minded groups have joined in with them to help create a widespread public concern that the Western world’s usage of “single use plastics” is causing a catastrophic “ocean pollution crisis”.

In Section 5, we will show how this “ocean pollution crisis” has been invented by Greenpeace through the deliberate distortion of the work of well-meaning environmentalists looking at a similar-sounding, but very different, issue which Greenpeace are intentionally misrepresenting.

Before then, however, in Sections 2-4, we will focus on the campaign that Greenpeace have invested the most into, i.e., “Climate and energy”.

2. Arbitrariness of Greenpeace's "enemies": Case study of their vilification of ExxonMobil

2.1. Greenpeace's "ExxonSecrets" project

In April 2001, Greenpeace decided to target ExxonMobil as the main "enemy" for their campaigns on climate change. They spent several years trying to compile any "evidence" they could find to prove their theory that ExxonMobil were secretly funding "climate denial misinformation". By 2004, they still had not found any actual direct evidence to support their conspiracy theory, but they had already initiated several major campaigns vilifying ExxonMobil anyway. Here is a summary they wrote in March 2004 of their efforts to vilify ExxonMobil: http://www.greenpeace.org/wp-content/uploads/legacy/Global/usa/report/2007/8/greenpeace-and-the-people-vs.html

By 2004, Greenpeace had already succeeded through innuendo in creating the public perception that ExxonMobil was an evil anti-science organization that was largely responsible for the existence of "climate denial". However, two of Greenpeace USA's chief researchers, Kert Davies and Cindy Baxter, decided to generate more rigorous-sounding "evidence" in support of their claim. They decided to trawl through ExxonMobil's financial returns and identify **any** donations or support which ExxonMobil had offered to any conservative or libertarian organizations which had ever presented a position on human-caused climate change that disagreed with Greenpeace's views.

Davies and Baxter published the results on a new Greenpeace-run website called ExxonSecrets.org. Meanwhile, Greenpeace issued a major press release proclaiming the results as "proof" that,

> "ExxonMobil, also known as Esso or Mobil, is the world's biggest oil company. It has plenty of money and is not afraid of using it to fund pseudo-science and front groups to shoot down anyone speaking out about global warming. Since 1998 ExxonMobil has spent more than US$ 12 million on climate sceptics." – "What Exxon doesn't want you to know", Greenpeace International, 22 June, 2004

Greenpeace's claim that ExxonMobil was "the world's biggest oil company" is debatable, in that according to a 2013 Forbes article entitled, "The world's biggest oil companies", ExxonMobil was only the 5th largest oil producer in 2003 (and 4th by 2013). The largest oil producer in 2003 was Saudi Aramco (9.9 million BOE/day which was more than twice ExxonMobil's 4.6 million BOE/day), followed by Gazprom (9.5 million BOE/day). However, at the time ExxonMobil was the largest privately-owned (as opposed to state-owned) oil company in terms of 2004 market value: $380 billion compared with BP's $221 billion and Royal Dutch Shell's $210 billion.

Still, Greenpeace's decision to single out ExxonMobil for vilification seems rather arbitrary. Indeed, in a 2010 thesis for the University of Michigan, Dana Schweitzer decided to compare the positions of BP, ExxonMobil and Royal Dutch Shell on "green energy" and "climate change" over the period 2000-2008, and found almost no difference between the three companies:

> "The analysis suggests that despite minor differences in what each company says and does [*on climate change/green energy investment*], which may be a result of different historical origins and the necessity to create different brands in a competitive industry, each company appears remarkably similar" – Dana Schweitzer, "Oil companies and sustainability: more than just an image?" (2010)

Instead, the real reason why Greenpeace seem to have singled out ExxonMobil is that their business strategy involves identifying just one "enemy" to "demonize" (see Appendices 1 and 3.3). As far as Greenpeace is concerned it does not particularly matter whether their "enemy" is guilty or not. Indeed, as we discuss in Appendix 1, they will frequently choose an "enemy" that is only indirectly related to the "problems" that they are using for their campaigns.

Nonetheless, Davies and Baxter's vilification of ExxonMobil received worldwide attention and was taken uncritically at face value by the media. Moreover, every few years, they update their analysis and it gets renewed attention as if it were a new discovery, e.g.,

> "Exxon still funding Climate Change Deniers" – Greenpeace International, 18 May, 2007
>
> "Greenpeace releases 20-year history of climate denial industry" – James Hoggan, DesmogBlog, March 26, 2010

In 2014, Kert Davies officially left Greenpeace to co-found the "Climate Investigations Center", but this group actively co-ordinates with Greenpeace, and he still is actively promoting the claim that ExxonMobil are a major funder of "climate denial groups", e.g.,

> "Years after 'ExxonSecrets,' activist applauds new spotlight on old nemesis. Q&A with Kert Davies, who first began revealing Exxon's ties to climate denial groups in 2004." – InsideClimate News, Jan 27, 2016.

This campaign by Greenpeace has been remarkably successful in embedding the idea that climate sceptics are all being secretly "funded by the fossil fuel industry". This widespread myth has become so popular that it is treated as if it were a well-verified "fact". A quick search of the internet will find plenty of articles and websites claiming that the fossil fuel industry are "well-known" to be actively funding "climate denial". However, when you try to follow these links to their original source, they almost always lead back to Greenpeace's "ExxonSecrets" project.

2.2. The hypocrisy of Greenpeace's "ExxonSecrets" claims

One of the most surprising points about Greenpeace's claims about ExxonMobil is just how small the amounts of money are that they claim to have uncovered. Greenpeace's claim through their ExxonSecrets project is that ExxonMobil spent a total of $31 million over the 17 year period from 1998 to 2014 on "funding climate denial". That works out at an average of $1.8 million/year.

That is certainly a substantial amount of money for a small-to-medium business, but ExxonMobil is a very large business with average annual revenue over the 2001-2016 period of $337 billion (Source: Statista.com). If "funding climate denial" was genuinely as essential to ExxonMobil's financial viability as Greenpeace imply, then why would they only be spending 0.0005% of their annual revenue on it?

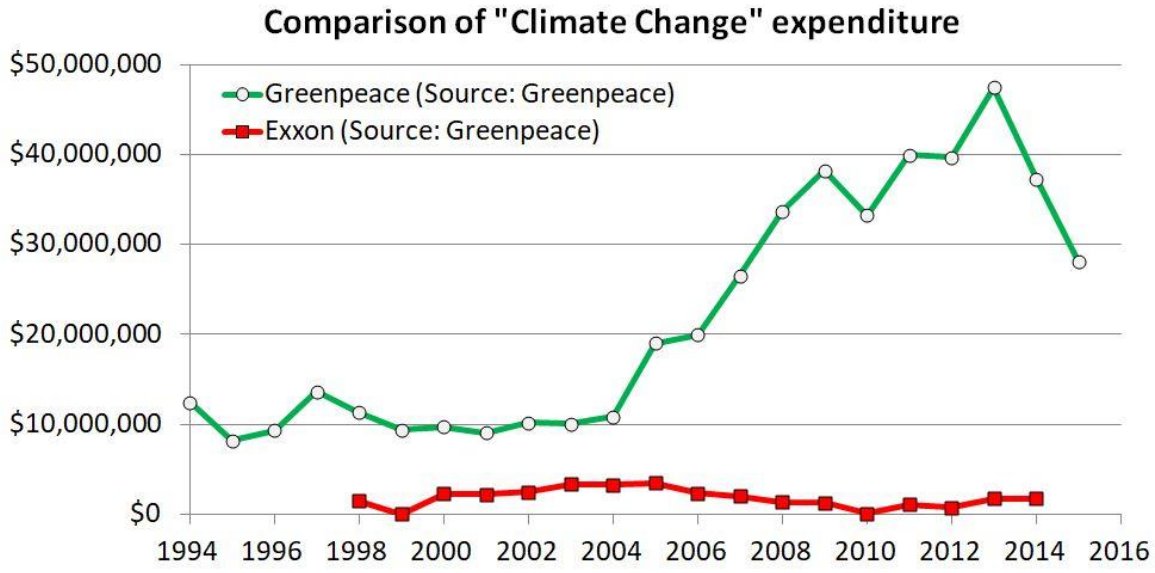
It should be stressed that even this $1.8 million/year figure involves very tenuous stretches and tortuous links. Greenpeace claim that if ExxonMobil donated **any** money to a group that has ever expressed any climate scepticism, then the donation is "funding climate denial" – even if the donation itself had nothing to do with climate change.

Also, if Greenpeace are correct that $1.8 million/year is sufficient to substantially influence public opinion on climate change, then should they not be concerned that there is far more money being spent on the opposite side? For instance in a recent paper, Prof. Matt Nisbet of Northeastern University in Boston, showed that over just a four year period (2011-2015) 19 progressive/left-leaning U.S. philanthropic foundations provided more than $0.5 billion ($556,678,469) to groups promoting 'climate action' (Nisbet, 2018). That works out at an average of $139 million/year, i.e., more than 76 times the amount that Greenpeace claims ExxonMobil is supposedly spending on "funding climate denial".

As an aside, Nisbet notes that – while journalists and scholars have been highly critical of U.S. conservative donors who have promoted a conservative position on climate change, the substantial donations from progressive/left-leaning groups have been largely given a free pass:

> "When left-of-center and progressive foundations are covered in the U.S. press, coverage tends to be predominantly positive and uncritical, deepening a lack of public scrutiny relative to their philanthropic activities, successes, and failures." - Nisbet, 2018

However, in this section, we will focus specifically on the hypocrisy of Greenpeace's vilification of ExxonMobil. As we saw in Section 1, Greenpeace have themselves been spending a large amount of money on promoting their narrative on "climate change", i.e., more than $0.5 billion since 1994. With that in mind, it is useful to directly compare the annual expenditure which Greenpeace claims Exxon has been spending on "funding climate denial" to the annual expenditure which Greenpeace have themselves been spending on their climate campaigns:



Greenpeace's average annual expenditure on "Climate change" over the last 10 years has been approximately $34 million/year. This means that Greenpeace's **annual** "Climate campaign" expenditure is greater than the $31 million which Greenpeace *claim* that Exxon has spent on "funding climate denial" over the entire 1998-2014 period!

Moreover, it is worth considering the relative importance of the two expenditures for their respective businesses. People seem to have found Greenpeace's claims about ExxonMobil to be

quite compelling because it **initially** seems to make sense. ExxonMobil's product is one of the main fossil fuels (oil), and if Greenpeace's claims were true that we can (and should) immediately reduce fossil fuel usage to "stop climate change", then it would make sense that ExxonMobil would be opposed to Greenpeace's proposals. However,

1. As we will discuss in Section 3, Greenpeace have actively been fighting against all of the different plausible methods to "reduce our carbon footprint".
2. Why Exxon? Greenpeace offer the following, rather unsatisfactory answer on the ExxonSecrets website: "*Why Exxon? While the rest of the world is now accepting climate change and moving on the issue, especially in the business sector, ExxonMobil continues to fund the think tanks and organizations who are running a decades-long campaign denying the consensus of urgency from climate scientists and attacking policies to abate global warming.*". However, this doesn't seem particularly convincing. Surely if Greenpeace's claims were true, then the financial viability of the other oil companies, the natural gas companies and coal companies would be just as badly affected as Exxon?
3. If "funding climate denial" was as genuinely critical to ExxonMobil's financial viability as Greenpeace imply, then why are they (allegedly) "spending" only $1.8 million/year, i.e., only 0.0005% of their annual revenue?

The reality seems to be that the financial viability of ExxonMobil doesn't actually seem to be heavily influenced by "climate denial". On the other hand, Greenpeace's financial viability is heavily dependent on their campaign expenditure, and their "Climate and energy" campaigns have been the ones they have spent the most on – accounting for an average of 32% of their annual campaign expenditure since 1994 (42% since 2004) and 10% of their annual income.

3. Inconsistency of Greenpeace's "goals": Their claimed goal of reducing CO_2 emissions

As discussed above, Greenpeace's largest and most profitable campaigns have been their "climate and energy" campaigns. Here, they argue that carbon dioxide (CO_2) emissions from our fossil fuel usage (oil, natural gas and coal) are the biggest environmental threat of today. They have repeatedly insisted that we should immediately desist from using fossil fuels for our energy needs and instead switch to 100% renewable energy sources. People and organisations who they decide interfere with their narrative are routinely identified as "enemies", and used as material for new campaigns.

However, are they genuinely interested in reducing carbon dioxide emissions, or are they more interested in fund-raising? If reducing carbon dioxide emissions were as genuinely critical to them as they imply, then we would expect them to be in favour of any projects which even partially reduce - or failing that, keep static – international emissions. Yet, they have also actively campaigned against almost all of the "alternatives" to fossil fuels which have been proposed!

Let us consider the available sources for generating "baseload electricity" (i.e., on-demand electricity) on a large scale:

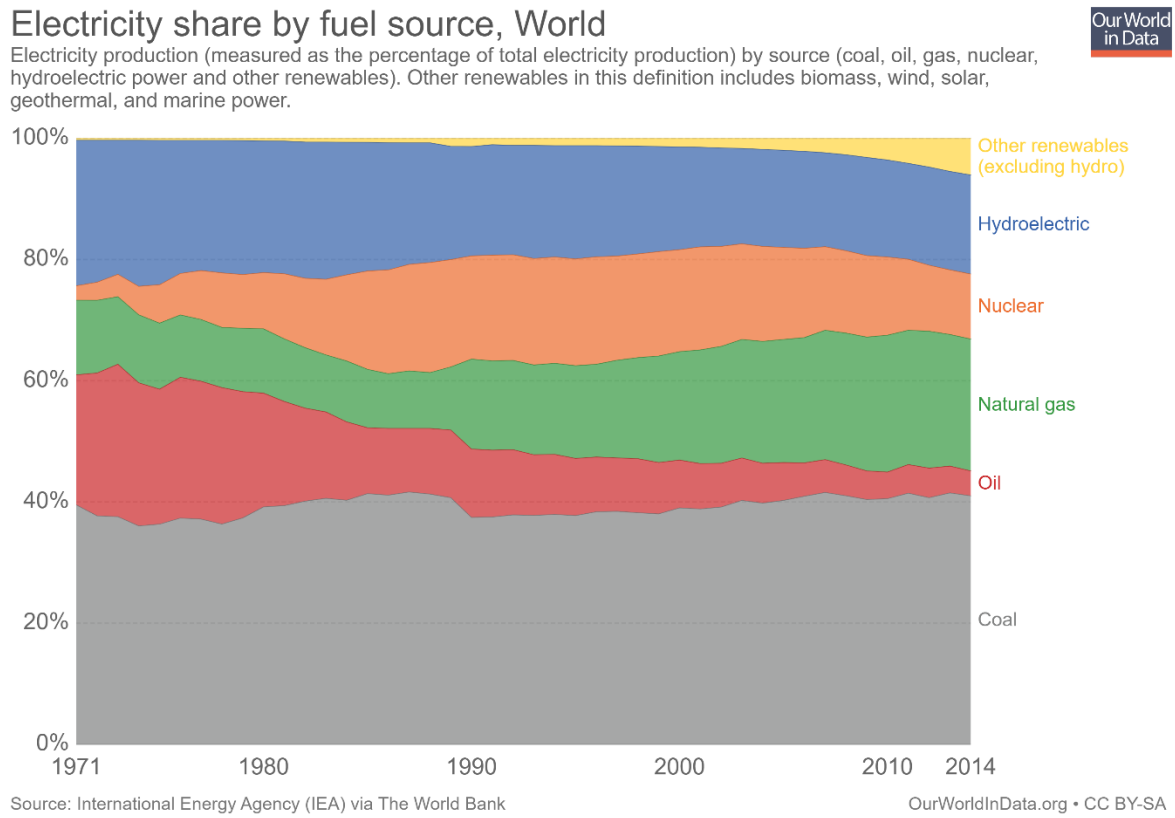
- Coal
- Oil
- Natural gas
- Nuclear
- Hydroelectricity
- Biofuels/biomass
- Geothermal

There are also some other sources which can be used to generate "intermittent electricity":

- Wind turbines
- Solar panels ("photovoltaics")
- Tidal power ("marine power")

At present, the battery technology required to store electricity generated from "intermittent" sources is still far too expensive to be implemented on a large scale, and also involves the usage of expensive and rare resources. While companies like Tesla are actively trying to develop cheaper battery technology (for their electric cars), they still have a very long way to go. As a result, "intermittent electricity" is only of value when it can be used as soon as it is produced (i.e., when the wind is blowing on the turbines, or the sun is shining on the solar panels). In other words, it cannot be used for generating the continuous "baseload electricity" required by, e.g., schools and businesses, hospitals (life support machines, lighting, emergency supplies, etc.), and most household use (refrigerators, freezers, computers, lighting, general electrical appliances, etc.)

Below is the International Energy Agency's break-down of the trends of the world's electricity production sources from 1971-2014. Note that the "Other renewables" category includes biomass (including wood, dung, waste, as well as farmed "biofuels"), wind, solar, geothermal and marine power (mostly "tidal power"). Biomass is currently the largest component in this category.



3.1. Greenpeace's objections to the "stepping-stone" transition from coal to natural gas

Obviously, Greenpeace's objection to coal and oil is consistent with their apparent goal of reducing CO_2 emissions. However, if they were genuinely campaigning to reduce (or even slow down) CO_2 emissions, then one of the easiest first steps would be to encourage a transition from coal-powered and oil-powered electricity towards natural gas-powered electricity.

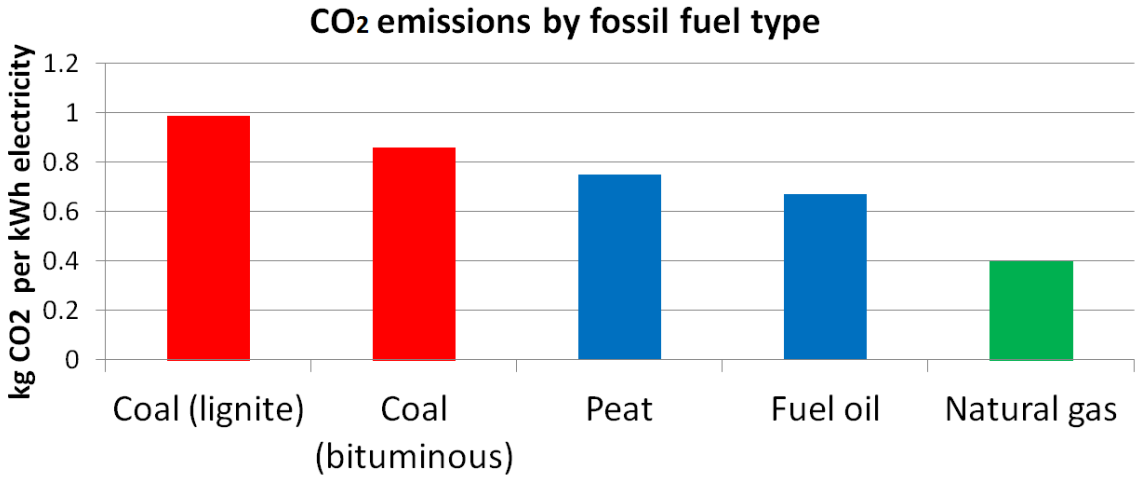


Figure 1. Comparison of carbon dioxide (CO_2) emissions per kWh electricity for different fossil fuels. Data taken from International Energy Agency, 2012. "*CO2 Emissions from Fuel Combustion – Highlights*". http://www.iea.org/publications/freepublications/publication/name,32870,en.html

As can be seen from the figure above, while coal produces nearly 1kg of CO_2 for every kWh of electricity, natural gas only produces 0.4kg. This means that every coal burning power plant that switches to, or is replaced by, a natural gas power plant more than halves CO_2 emissions.

In the past, natural gas supplies were not as plentiful or as cheap as either coal or oil. However, with advances in hydraulic fracturing ("fracking") technology, natural gas has become much more affordable and plentiful. So, if Greenpeace genuinely were concerned about urgently reducing CO_2 emissions, you would expect them to be welcoming and encouraging the switch from coal and oil to natural gas – even just as a "stepping stone". Indeed, much of the relative slow-down in CO_2 emissions for the United States over the last decade can be attributed to the "fracking revolution" (another major factor was the 2008 economic depression). For instance, see the book, "The Carbon Crunch: How we're getting climate change wrong – and how to fix it" (2013) by Prof. Dieter Helm – a professor at the University of Oxford, and also a member of the Economics Advisory Group to the British Secretary of State for Energy and Climate Change.

Yet, despite this, Greenpeace have been one of the most vocal campaigners against "fracking" and the transition from coal/oil to natural gas, e.g.,

- Greenpeace USA: "Fracking is the fossil fuel industry's latest false solution to our energy challenge. It's more expensive, more polluting, and more dangerous than clean, renewable energy. So why are we pursuing fracking in the first place?" - Issues & threats - fracking, Greenpeace USA website.
- Greenpeace UK: see their webpage archive of their articles on their many anti-fracking campaigns. Examples of headlines include, "Victory! Scotland is banning fracking" (3rd October 2017); "People power puts mayoral candidates on the spot over fracking" (4th May 2017); "Breaking news: We're blocking Cuadrilla's fracking site" (3rd May 2017)

3.2. Greenpeace's objections to nuclear power

Greenpeace was originally founded to protest the use of nuclear power and nuclear weapons. So, in a sense it is not surprising that they still object to nuclear-based electricity generation. However, nuclear electricity generates almost no CO_2 emissions (or other greenhouse gases), and as the IEA graphs above showed, it is currently one of the five biggest electricity sources world-wide. Therefore, if Greenpeace genuinely believe that reducing CO_2 emissions is as urgent and essential as they claim, you would expect them to be encouraging the replacement of coal, oil and natural gas power plants with nuclear power plants.

Yet, they are still campaigning against nuclear power, e.g.,

> "Nuclear power is dirty, dangerous and expensive. Say no to new nukes.
>
> Nuclear energy has no place in a safe, clean, sustainable future. Nuclear energy is both expensive and dangerous, and just because nuclear pollution is invisible doesn't mean it's clean. Renewable energy is better for the environment, the economy, and doesn't come with the risk of a nuclear meltdown." – Greenpeace USA website
>
> "End the nuclear age. Greenpeace has always fought - and will continue to fight - vigorously against nuclear power because it is an unacceptable risk to the environment and to

humanity. The only solution is to halt the expansion of all nuclear power, and for the shutdown of existing plants." – Greenpeace International website

"Some see nuclear power as an important 'tool in the box' to limit carbon emissions and stop climate change. It's more like a spanner in the works. Nuclear power is inadequate, unnecessary as well as dangerous. It's also a hugely expensive distraction from work to limit the impacts of climate change." – Greenpeace UK website

3.3. Greenpeace's objections to hydroelectricity

As seen from the IEA graphs above, nuclear power and hydroelectricity are currently the only two of the five main electricity sources which do not produce CO_2 emissions. Even though nuclear power doesn't produce CO2, some argue that nuclear power is not strictly "renewable" - in that nuclear ore is consumed in its production, albeit at a fairly modest rate, and the process produces some "nuclear waste". For this reason, hydroelectricity is currently the largest renewable energy source by far. Indeed, many graphs used by renewables promoters to claim that renewables energy sources are a large fraction will routinely include "hydro" (as well as biomass such as "wood") in their "renewable energy" category.

However, Greenpeace have also been actively campaigning against hydroelectric plants, e.g.,

- In 2016, Greenpeace Brazil issued a report, "Damning the Amazon – The risky business of hydropower in the Amazon" calling for a halt to various hydroelectric plants proposed for the Tapajós River basin in Brazil.
- In 2014, Greenpeace India protested against a decision to raise the height of the Sardar Sarovar Dam in India (associated with a major hydroelectricity plant in India)
- In 2004, Greenpeace worked with other environmental groups to oppose a major proposed hydroelectricity scheme in China, the Nujiang Dam project, e.g., see here and here.

3.4. Greenpeace's objections to biofuels/biomass

The use of biofuels and biomass as an alternative to fossil fuels initially received a lot of encouragement from NGOs and climate campaigning groups because it is supposedly a "carbon neutral" form of energy.

Biofuels (e.g., bioethanol, palm oil, etc.) and biomass (timber, biological waste, non-recyclable waste, etc.) release CO2 when they are burnt, just like conventional fossil fuels. Indeed, fossil fuels are essentially just highly compressed forms of biofuels that have been buried in the ground for millions of years. However, while they are being grown they absorb CO_2 from the atmosphere (through photosynthesis). On the other hand, the CO_2 that was absorbed by fossil fuels all occurred millions of years ago.

Therefore, it has been argued that the use of biofuels is "carbon neutral". That is, because the CO2 emissions from biofuels are roughly balanced by their CO2 absorption, the **net** emissions are *approximately* zero. For this reason, one of the main "renewable energy" policies which has been implemented by countries concerned about CO2 emissions has been to promote the use of biofuels and/or biomass. For example, the United States has introduced legislation mandating the addition of biofuels to fuels for motor vehicles, as well as providing various subsidies to encourage local farmers to produce the material for biofuels. See this Wikipedia page for an overview.

Recently, there has been a growing recognition that the decision to encourage the use of biofuels to try to reduce CO2 emissions has had serious negative environmental consequences, in that it has led to industrial-scale deforestation in tropical countries such as Indonesia (in particular, the tropical rainforests of Borneo) and Brazil. However, for many policymakers who are genuinely trying to prioritise reducing CO2 emissions, they remain one of the most realistic mechanisms for "carbon reduction", and the deforestation is an unfortunate side effect of what they consider the more important environmental concern.

For instance, when the environmental reporter Abrahm Lustgarten asked US Democrat Nancy Pelosi whether she had any regrets about supporting the 2007 "Energy Independence and Security Act" (an act with bipartisan support under Republican US President George Bush Jr.) when she was Speaker of the House, her office replied that, even with the deforestation, it was a still a positive step towards the (apparently more important) goal of reducing fossil fuel usage:

> "When Nancy Pelosi took the stage, she looked back on the 2007 fuel-economy bill and biofuels mandate she shepherded into law. The initiative should be credited, she said, with 'charting a clean path to clean energy, reducing emissions, increasing the use of renewables.' She made no mention of Indonesia. When I asked her about the deforestation in an earlier email, her office wrote back defending the bill, citing the Union of Concerned Scientists and arguing that even with the Indonesian forest effect accounted for, biodiesels were cleaner than fossil fuels. 'Bottom line,' the office responded, 'the biofuels in your tank are better for the planet than 100 percent fossil fuels.'" – Abrahm Lustgarten, "Palm oil was supposed to help save the planet. Instead it unleashed a catastrophe", New York Times, Nov. 20, 2018

However, in recent years, Greenpeace has become a major critic of biofuels because of the deforestation, e.g.,

- "World's largest palm oil trader linked to rainforest destruction twice the size of Paris". Greenpeace International, June 25, 2018.
- "Still cooking the climate – how the palm oil industry continues to drive deforestation". Greenpeace Southeast Asia, November 27, 2017
- "Biodiesel tested: How Europe's biofuels policy threatens the climate" – Greenpeace European Unit, July 19, 2011
- "Drax: The UK's dirtiest power station gets hundreds of millions of pounds in green subsidies" – Unearthed (Greenpeace UK), June 20, 2015
- "Food, Fuel, Forests and Climate the Biofuels Conundrum" – Greenpeace USA, October 18, 2012

In fact, at the time of writing, Greenpeace are carrying out two new campaigns implying that the deforestation in Indonesia from "the palm oil industry" is threatening the habitats of orangutans in the Borneo rainforests. One campaign is blaming the cookie company, Oreo, for using palm oil in their cookies ("In pictures: orangutans threatened by deforestation linked to the makers of Oreo", Greenpeace UK, November 14, 2018). The other campaign in conjunction with the UK supermarket chain, "Iceland", is promoting the chain for their efforts to remove palm oil from their own-brand foods ("Iceland's Christmas TV advert rejected for being too political", The Guardian, November 9,

2018). This latter campaign involving a cute and heart-warming animated TV ad narrated by actor Emma Thompson, has been particularly popular. Within four days of the joint Iceland/Greenpeace press release, the ad had been viewed more than 15 million times on Twitter (after being shared by Stephen Fry, James Corden and comedian Bill Bailey and many others), 4 million times on Iceland's YouTube channel, and the ad had been shared over 615,000 times on Iceland's Facebook page.

We should stress that we are concerned about the widespread deforestation which biofuels policy has led to – and the fact that the switch to biofuels also seems to have indirectly led to an increase in world hunger (e.g., "Fueling the food crisis: the cost to developing countries of US corn ethanol expansion", ActionAid International USA Report, October 2012). So, if Greenpeace had used the deforestation problem of biofuels to highlight the danger of focusing exclusively on reducing CO2 emissions at the expense of other environmental concerns, then this could have been an important contribution to the public discussion on environmental protection and climate change. But, rather than doing that, Greenpeace are choosing to pointedly ignore the reason for the increase in deforestation in Borneo. Instead, they are falsely implying that "the palm oil industry" are the sole reason for the deforestation - perhaps availing of the fact that "the palm oil industry" sounds similar to "the oil industry" which they have already vilified through their "climate change and energy" campaigns (see Section 2).

The irony of Greenpeace (and other similar NGOs) campaigning against biofuels whilst simultaneously campaigning for an urgent reduction in CO_2 emissions was highlighted in Pilgrim & Harvey (2010) – a scientific article co-authored by Prof. Mark Harvey, from the Centre for Research in Economic Sociology and Innovation, University of Essex, UK. A pdf copy of the full article is currently available from his ResearchGate page here. But, the following extract from the abstract of the paper is a good summary:

> "In this paper, we argue that a consortium of NGOs has played a significant role in shaping the market for, and restricting the use of, biofuels as an alternative to conventional fuels for road transport in Europe. This paper considers why a number of NGOs (Greenpeace, Oxfam, WWF, RSPB, Friends of the Earth) have chosen to enter the biofuels debate, and how they have variously developed policy, agreed a political campaign, and exercised political influence, in a key area of the world's response to major global climate change: how to reduce the carbon footprint of transport.
>
> We found that in many cases the development of NGO policy has been driven more by narrow political opportunities for influence than by broader and more coherent policy responses to global climate change or economic development, or indeed rigorous assessment of the scientific evidence. The research provides evidence of how NGO policies and lobbying significantly affected biofuel policy changes, review processes, target reductions, and sustainability regulation in the UK and in Europe." – Pilgrim & Harvey (2010); 'Battles over Biofuels in Europe: NGOs and the Politics of Markets'. Sociological Research Online, Vol. 15 (3), doi: 5153/sro.2192

3.5. What is left?

Despite Greenpeace's objections to all of the above proposed mechanisms for actually reducing CO_2 emissions, they still insist that there are plenty of other options available and that we can easily transition to "100% renewables" within a few decades. Not only do they repeatedly insist this is possible, but they claim that it will improve the economy, increase employment, reduce pollution and meet the energy needs of the world's increasing population, e.g.,

- '100% Renewable Energy for All. Right now, the U.S. has an unprecedented opportunity to transform its energy system. It's time to say goodbye to the fossil fuel dependent energy systems of the 19th and 20th centuries and embrace a 100 percent renewable energy future.' – Greenpeace USA website
- 'Activists urge EU to go for 100% renewable energy. [...]Greenpeace EU energy policy adviser Ansgar Kienesaid: "Europe has an abundance of renewable energy waiting to be harnessed. Ordinary people, cooperatives and small businesses are all ready to take part in the energy revolution, making electricity from wind, water and sunlight. It's time for the EU to wrest the energy system away from a few large corporate players invested in dirty fuels like coal, and give control to the people."' – Greenpeace European Unit, press release, October 9, 2017.
- "100% RENEWABLE, 100% DOABLE. Australia, renewables are booming! Tell the Australian Government to stop standing in the way. Energy from the sun, wind and water is clean, reliable and becoming cheaper every day. In fact, renewables are challenging fossil fuel companies right around the world. That's good news for our planet, our health and our wallets. To avoid the worst impacts of climate change we urgently need to transition to renewable energy, but the Australian Government is trying to guarantee the future of filthy fossil fuels in Australia." – Greenpeace Australia 2017 petition
- "You did it! Samsung chooses renewable energy! [...]After months of people-powered actions around the world, Samsung Electronics finally accepted our challenge to #DoWhatYouCant and taken the first steps towards 100% renewable energy! This is great news for our planet and the hundreds of thousands of people around the world taking action for a renewably powered future." – Greenpeace International, 14 June 2018.

However, having ruled out all of the main approaches to reducing CO2 emissions which have been proposed, i.e., switching from coal & oil to natural gas, increasing nuclear power, increasing hydroelectricity, increasing the usage of biofuels/biomass, or any combination of the above, what is left for electricity production?

The only ones left are geothermal and the three intermittent sources (solar, wind & tidal). Geothermal is a useful electricity generation method in specific regions, e.g., tectonically-active countries like Iceland. And it also can be used for generating "baseload electricity". But, it is only suitable for those specific geographical regions with a strong geothermal gradient. And, most of the best sites for geothermal electricity production have already been identified. In other words, it is not a technology which can be expanded to meet more than a small fraction of the world's electricity demands.

This means that the only remaining "renewable electricity" sources that Greenpeace have left for their proposed "100% renewable energy" campaigns are solar, wind and tidal. All three of these electricity sources are "intermittent" electricity sources. So, without dramatic advances in battery

technology, they cannot possibly be used for providing continuous, on-demand, “baseload” electricity.

Greenpeace know this. They also know that they have explicitly ruled out any of the other mechanisms for reducing CO2 emissions. Yet, they persist in claiming that “100% renewable energy” is somehow achievable within a few decades. We can see that they are aware of the irrationality of their supposed “plan” by the fact that they repeatedly **imply** that their plan includes many different technologies, but they only ever explicitly mention solar, wind, tidal (“water”) or geothermal. That is, they will say, “***like*** wind, solar and geothermal”, implying that there are many others - but, they won’t actually give any others!

For example, here are the relevant quotes from the 4 articles mentioned above:

- ‘Momentum is building towards clean, renewable energy sources like wind, solar and geothermal.’ – Greenpeace USA website
- ‘Ordinary people, cooperatives and small businesses are all ready to take part in the energy revolution, making electricity from wind, water and sunlight.’ – Greenpeace European Unit, press release, October 9, 2017.
- “Energy from the sun, wind and water is clean, reliable and becoming cheaper every day.” – Greenpeace Australia 2017 petition
- “[...] Onsite installation of solar and geothermal energy in Korea, near its Hwaseong, Pyongtaek, and Suwon semiconductor plants.” – Greenpeace International, 14 June 2018.

4. On the use of 95%, 96%, 97% and 98% figures

Greenpeace realize that - from a marketing perspective - figures in the range 95%-98% can be very psychologically compelling. They are percentages that imply "basically 100%", but concede, "not entirely 100%". They also are specific enough that they **sound** like they have been carefully calculated. That is, when you say, "*more than 90%*" this sounds like it is just a guess, whereas if you say "96%" it sounds like a genuine statistic.

By picking one of these "*nearly – but not quite – 100%*" figures to promote a given campaign, Greenpeace can create the impression that their position is the most complete. And, if anybody disputes their figure by pointing out a counter-example, they have the self-defence that they didn't say 100%. For these reasons, Greenpeace routinely invoke these precise-sounding figures in their campaigns – even if the actual figure is only a guess.

4.1. Examples of Greenpeace's use of 95%, 96%, 97% and 98%

Because their "climate & energy" campaigns have been Greenpeace's largest campaigns since at least 1994 (see Section 1), the "95%"-"98%" figures they have invoked for these campaigns are probably the most widely known. However, it is a recurring motif across many of their campaigns, such as the following examples (Note we have highlighted the relevant figures in ***bold italic***):

- "Estimates suggest that as much as ***95 percent*** of the clothes thrown out with domestic waste and [sic] could be used again—re-worn, reused or recycled—depending on the state of the textile wastes." – Greenpeace Germany, "Timeout for fast fashion", p5, 24 November 2016
- "Greenpeace: ***96%*** of litter found in Mediterranean Sea is plastic" – Greenpeace International press release, 8 June, 2017
- "A century ago, as many as 100,000 wild tigers inhabited Asia. Now, we've lost ***97%*** of those big cats, leaving around 3,000 in the wild today." – Greenpeace Australia Pacific, "Roar if you love tigers!", 28 July 2014
- "Some ***98%*** of Greenpeace's money comes from individual donors…" – John Sauven, executive director of Greenpeace UK, as reported in a July, 14 2014 Guardian article

In Appendix 2, we provide a more detailed list of more than 20 different examples of Greenpeace using these "slightly less than 100%" figures as often as they can.

4.2. Case study of the arbitrariness of their 97% figures – scientific opinion on climate change

In Section 3, we showed how the various proposals Greenpeace continuously make about how the world can easily transition to 95%, 97%, etc. renewables are physically implausible (even if they may seem emotionally appealing). Another part of their climate and energy campaigns which relies heavily on these figures is their claim that their position on climate change is endorsed by an overwhelming "scientific consensus" of 95% or more of scientists.

- "[ExxonMobil] has made concerted efforts to undermine the accepted scientific consensus on climate change, and is still misleading the public and policy makers over the economic implications of tackling global warming" – Greenpeace Belgium, "The tiger in the tanks", 24 February 2003.

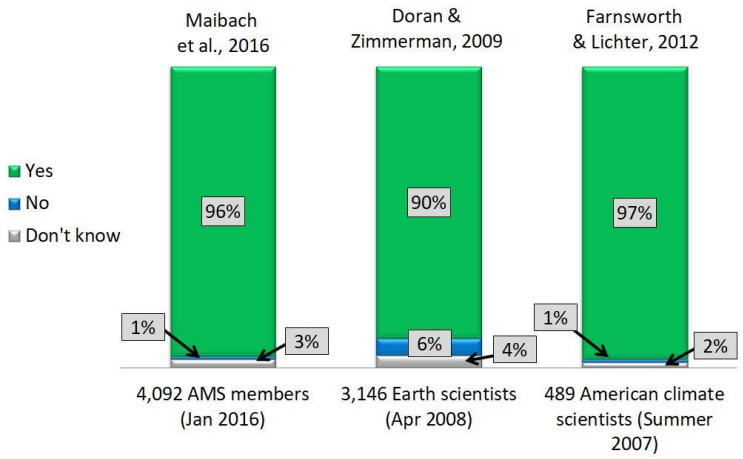
- "There is a broad and overwhelming scientific consensus that climate change is occurring, is caused in large part by human activities, and if left unchecked will likely have disastrous consequences. Furthermore, there is solid scientific evidence that we should act now on climate change, and this is reflected in the statements by these definitive scientific authorities." – Greenpeace East Asia, January 6, 2006
- "Think ***97%*** of scientists agree on climate change? Wrong. It's even higher." – Greenpeace New Zealand Facebook post, 14 July 2015.
- "Don't just take it from us. ***Ninety-seven percent*** of scientists agree that the Earth's temperature is rising and human activity plays a central role — and NASA has compiled the studies to prove it." – Greenpeace USA website, "Climate change: The science" page.

In recent years, a number of studies have found that 90-95% of scientists agree that the climate changes and/or that global temperatures are warmer now than in the 19th century. This result seems to be quite well replicated. So, **initially**, it might appear that Greenpeace were right all along, and their position does represent "a broad and overwhelming scientific consensus". However, a careful inspection of the results of these surveys reveals that it is false. It is true that 90-95% of scientists agree that "climate changes", but that doesn't tell us anything about how much of the recent climate change is natural and how much is human-caused. For instance, below we describe the results of three of these surveys:

- Stenhouse, Maibach and Cobb, 2014. Bulletin of American Meteorological Society. Vol. 95, pp1029-1040, https://doi.org/10.1175/BAMS-D-13-00091.1
- Doran and Zimmerman, 2009. Eos. Vol. 90, pp22-23, https://doi.org/10.1029/2009EO030002
- Farnsworth and Lichter, 2012. International Journal of Public Opinion Research. Vol. 24, pp93-103, https://doi.org/10.1093/ijpor/edr033

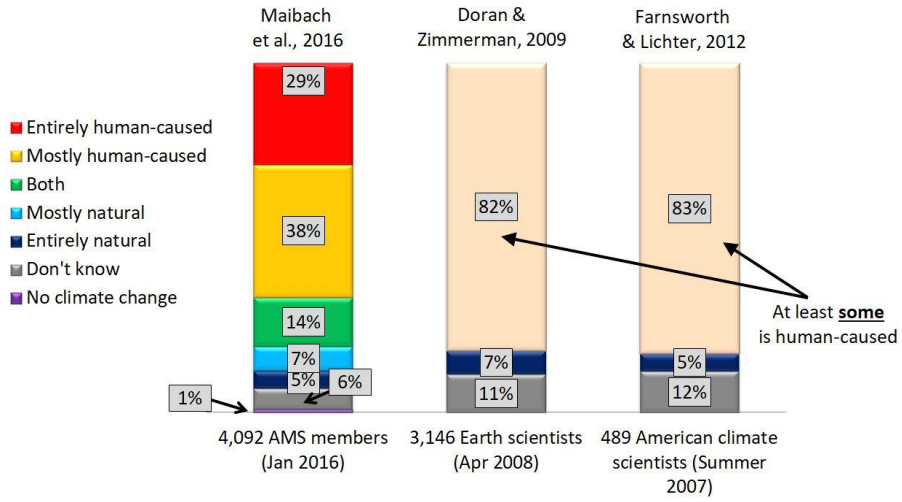
As can be seen from the figure, all three of these surveys confirm that at least 90-95% of scientists agree that "climate changes" and/or that there has been some "global warming".

(a) Does climate change/has there been global warming?



But, when the respondents are asked on whether this climate change/global warming is mostly human-caused or mostly natural, there are a wide range of opinions

(b) Is this climate change/global warming human-caused or natural?



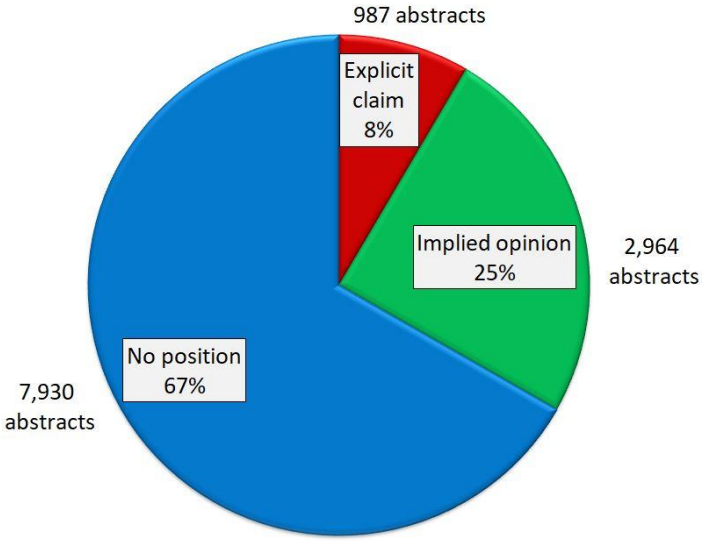
In a 2015 peer-reviewed article (Legates et al., 2015) in Science & Education, one of us (Willie) contributed to a detailed reanalysis of another study, Cook et al. (2013), which Greenpeace has taken to quoting as proof of a "97% scientific consensus" that recent global warming is "mostly human-caused", e.g.,

- "If there wasn't already enough proof in the years of replicated scientific evidence, a May 2013 peer reviewed study examined more than 11,000 climate change papers, and of the 4,000 papers that discussed whether climate change was caused by humans, ***97 percent*** agreed." – Greenpeace USA, p7, "Dealing in doubt: The climate denial machine vs climate science", November 2015.

In the Cook et al. (2013) study, the authors examined nearly 12,000 abstracts of papers containing the keywords "global climate change" or "global warming". They sorted the abstracts into 7 categories depending on what position the abstract implied on the human contribution. Cook et al. (2013) implied that 97.1% of the abstracts agreed "that human activity is very likely causing most of the current [global warming]".

However, in Legates et al. (2015), we re-analysed the Cook et al. (2013) results and showed that Cook et al. had only found 0.5% of the abstracts to have **explicitly** made that claim. They had found that two thirds of the abstracts had provided no position on whether global warming is mostly human-caused or mostly natural, and only 8% of the abstracts had explicitly stated any opinion on this issue:

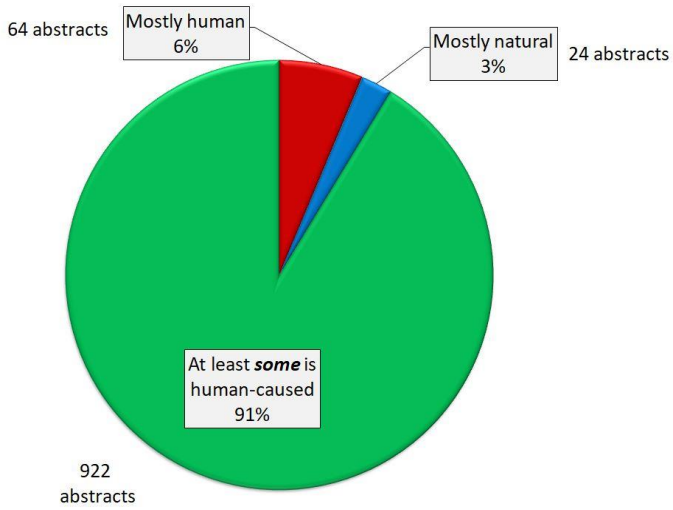
(a) Breakdown of 11,944 abstracts from the Cook (2013) study according to whether or not they express an opinion on the human contribution to recent global warming



Of the 8% of abstracts which made an explicit claim on the human contribution, the vast majority (91%) apparently did not offer any opinion on whether recent global warming is mostly human-caused or mostly natural. Instead, they just stated that at least some of the global warming is human-caused.

According to the Cook et al. (2013) results, only 88 of the 11,944 abstracts explicitly stated whether global warming was mostly human-caused or mostly natural. 64 claimed it was mostly human-caused and 24 claimed it was mostly natural.

(b) Abstracts from the Cook (2013) study that made an explicit claim on the human contribution to recent global warming



Moreover, when we reanalysed the abstracts themselves we found that even these figures were unreliable. We found that only 41 of the 64 abstracts which Cook et al. had rated as “mostly human”

had explicitly made that claim. We also identified several abstracts which Cook et al. had mistakenly not included in the “mostly natural” categories.

All in all, it turns out that the Cook et al. (2013) study which Greenpeace has been promoting as alleged proof that 97% of climate science papers agree with them is wrong. Only 64 of the 11,944 papers (i.e., 0.5%) explicitly made Greenpeace’s claim that recent global warming is mostly human-caused.

5. Case study of their latest big campaign: the "plastics crisis"

The existence of floating and sunken human-generated debris in the oceans has been talked about for centuries or even millennia, and it has often featured as a key component of our stories, e.g., with stories of castaways sending "messages in bottles", and underwater explorers hunting for "sunken treasure". However, in the last few years, there has been a new and widespread, rapidly growing, public concern that our everyday use of plastics is leading to a major environmental threat to our oceans and the creatures that live in or near the oceans.

This "plastics crisis" has become a major news story. For instance, in June 2018, National Geographic dedicated a special issue to it, entitled "Planet or Plastic?", while a recent BBC documentary series, "Blue Planet II" which dedicated its final episode to "the plastics crisis" was the most-watched TV programme in the UK in 2017. It was estimated that at least 20% of households in the UK watched the series.

As we will discuss in this section, there are two very distinct "ocean plastic pollution" narratives – one is a genuine environmental concern that is based on on-going scientific research, the other one is the narrative promoted by Greenpeace. The Greenpeace narrative is largely fabricated, and is based on cherry-picked distortions of the scientific literature. The "solutions" that Greenpeace are promoting for their "crisis" have very little relevance for the genuine "ocean plastic pollution" concern. Moreover, in several cases, Greenpeace have actually been fighting against the efforts of those trying to address the genuine concern. Yet, Greenpeace's narrative is the one which the public are concerned about.

As a result, Greenpeace's latest campaign on "the plastics crisis" is having the following effects:

- It is making people feel guilty and worried about a "crisis" which isn't actually real.
- It is prompting people, governments and businesses to implement radical reforms without thinking through the consequences.
- It is hampering efforts to evaluate and deal with the genuine "ocean plastic pollution" concern.
- It is generating increased annual turnover for Greenpeace.

For these reasons, it is worth looking in detail at the two competing narratives on "ocean plastic pollution".

5.1. The actual "ocean plastic pollution" issue

Over the last decade or so, several research groups have begun to realize that tiny fragments of plastic ("microplastics") are present in non-zero concentrations in most of the ocean basins. Since plastics are a human invention, we can directly attribute the existence of these microplastics in the oceans to human activity. For this reason, several scientists have been actively trying to answer the following questions:

1. Exactly how high are the concentrations of these "microplastics" (as well as larger "macroplastic" fragments)? Are the concentrations evenly distributed, and are they increasing over time?
2. Are they having any biological effects (positive **or** negative) on ocean life, and what are those effects?

3. Where exactly are these microplastics coming from?
4. If they are a problem or even a potential problem, how could we prevent their concentrations from increasing, and ultimately reduce their concentrations?

In this section, we will provide a brief review of the current scientific opinion on several of these issues, but broadly we can summarise the current answers to those questions as follows,

1. For most of the oceans, the concentrations of "microplastics" are basically negligible. But, in some regions (particularly the "North Pacific Gyre"), you can find a few hundred tiny fragments per square mile. Despite Greenpeace's claims, large "macroplastics" from land, e.g., plastic bottles, plastic bags, etc., are exceedingly rare.
2. So far, nobody has found any evidence that these microplastics are having negative impacts on ocean wildlife. But, "absence of evidence is not the same as evidence of absence". So, research into answering this is still ongoing.
3. Much of the plastic seems to come from marine debris such as lost or abandoned fishing nets, tackle, etc. However, the rest seems to come from mismanaged land waste. Current estimates suggest that about 85% is coming from developing nations in Asia (China, Indonesia, etc.), but about 7-8% seems to be coming from developing nations in Africa, and most of the rest seems to be coming from regions in South America and Central America.
4. The concentrations of ocean plastics are far too small – even in the so-called "oceanic garbage patches" – to make it feasible to collect it with current methods, although the Ocean Cleanup Project are investigating possible technological solutions which they believe could make it possible in the future. However, the most straightforward solution to stop or slow down the increase in ocean plastic pollution would be to improve the waste management systems of the coastal developing nations. Despite Greenpeace's insistence that the developed nations are somehow to blame, the combined contribution of all the countries in Europe and North America is estimated to be less than 1-2%. So, if the developing nations along the coasts of Asia (and to a lesser extent, Africa and South America) were to reduce their mismanaged waste to the levels of European and North American countries, then this would probably resolve most of the issue.

5.1.1. The infamous "oceanic garbage patches" are not nearly as dramatic as people think

When researchers first began seriously considering the possibility that plastic debris could be accumulating in the oceans, it was quickly realised that the ocean currents tend to push floating debris towards certain parts of the oceans ("gyres") over time. These gyres cover quite a large part of each ocean basin, e.g., 5-10% of the ocean, but within them the concentration of plastic debris seems to be at least 10 times the concentrations in the rest of the ocean. Because of this aggregating effect, some (sensationalist) people began to refer to these large oceanic regions with dramatic-sounding names, such as the "Great North Pacific Garbage Patch".

Greenpeace, some media channels, and other environmental activist groups (and to be fair, **some** scientists too) have used these alarming-sounding names to ridiculously exaggerate the phenomenon, and create the completely false impression that there are these horrendous floating "islands" of our plastic waste somewhere "out there".

Admittedly, there are **some** scientists – particularly those who have worked with Greenpeace - that are happy to leave this false impression uncorrected, as it creates more attention for their field.

However, most of the scientists actively studying the issue are frustrated about the grossly-exaggerated claims that are being made about it. For instance, one of the researchers studying the "North Pacific Garbage Patch" is Prof. Angelicque (Angel) White, who is based in the College of Earth, Ocean and Atmospheric Sciences at Oregon State University. She is researching the phenomenon, because she is concerned about it and thinks that it is something we should be investigating. However, she has repeatedly tried to let the public know that this "crisis" is nowhere near as dramatic as the media (and Greenpeace) have made it out to be. E.g.,

> "There is no doubt that the amount of plastic in the world's oceans is troubling, but this kind of exaggeration undermines the credibility of scientists. [...] We have data that allow us to make reasonable estimates; we don't need the hyperbole. Given the observed concentration of plastic in the North Pacific, it is simply inaccurate to state that plastic outweighs plankton, or that we have observed an exponential increase in plastic. [...] The amount of plastic out there isn't trivial. But using the highest concentrations ever reported by scientists produces a patch that is a small fraction of the state of Texas, not twice the size. [...] If we were to filter the surface area of the ocean equivalent [of the amount of plastic found to the amount of water in which it was found] to a football field in waters having the highest concentration (of plastic) ever recorded, the amount of plastic recovered would not even extend to the 1-inch line." – Oceanic "garbage patch" not nearly as big as portrayed in media, Prof. Angelicque White, January 4, 2011.

Or,

> "The use of the phrase 'garbage patch' is misleading. I'd go as far as to say that it is a myth and a misconception. [...] It is not visible from space; there are no islands of trash; it is more akin to a diffuse soup of plastic floating in our oceans. [...] Yes, there is plastic in the ocean. Peer-reviewed papers suggest that the highest concentration of microplastic is around three pieces of plastic the size of a pencil eraser in a cubic meter. [...] The continued use of verbage such as 'plastic islands', 'twice the size of Texas', is pure hyperbole that I personally believe undermines the credibility of those that should be focused on helping reduce the source stream of marine debris to our oceans." – Prof. Angelicque ("Angel") White, interviewed by The Telegraph, October 5, 2016

Similarly, NOAA stress on their website that these "garbage patches" are nowhere near as dramatic as they sound:

> "The name "Pacific Garbage Patch" has led many to believe that this area is a large and continuous patch of easily visible marine debris items such as bottles and other litter—akin to a literal island of trash that should be visible with satellite or aerial photographs. This is not the case. While higher concentrations of litter items can be found in this area, much of the debris is actually small pieces of floating plastic that are not immediately evident to the naked eye." – What is the Great Pacific Garbage Patch?, NOAA National Ocean Service

5.1.2. How much plastic is really there, and how big are these plastic pieces?

At this stage, a number of different studies have been carried out in each of the oceans, where research vessels voyaging along a particular route will drop a trawling net for a period of time (say 10-15 minutes, half-an-hour, or longer) and continue on the journey (but at a slower rate). Then,

once the time is up, the net is lifted and the contents of the net are categorised. This is typically repeated at fixed intervals along the voyage. All of these surveys have confirmed that the concentration of plastic fragments is at least 10 times higher in the "gyres" than in the rest of the ocean. Separately, computer models of ocean circulation patterns that have been fed with experimental observations predict that the gyres should occur roughly where we are finding them.

The figure below is taken from a paper by Prof. Andrés Cózar from the Universidad de Cádiz in Spain and colleagues, Cózar et al. (2014). The areas shown in gray and dark gray are the locations of the five gyres predicted by one of the computer models, i.e., Maximenko, Hafner & Niiler (2012). The dots show the locations of the various trawls in the study. In the Cózar et al. (2014) study, some of the dots are taken from other studies, but they have all being converted into the same units (grams of plastic per km^2). We can see that the red, yellow and green dots are almost all in or near the dark gray parts, i.e., the gyres. These are the so-called "ocean garbage patches". The blue dots are regions where no (or very few) plastic fragments were found. We can see that this corresponds to the rest of the ocean.

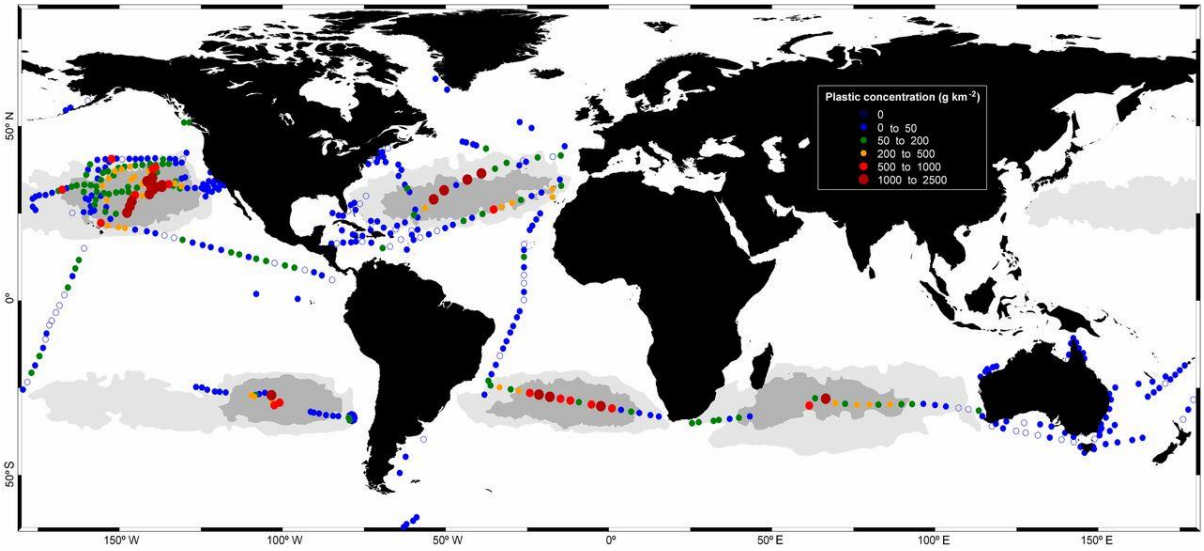


Figure taken from Cózar et al., 2014, PNAS 111 (28) 10239-10244; https://doi.org/10.1073/pnas.1314705111

So, the existence of these gyres is a real phenomenon, and we can see why scientists are actively studying them. We can also see why environmentalists might be concerned about the fact that these relatively high density regions exist. But, it is important to put into context exactly how much plastic we're talking about.

Below is a photograph showing every single one of the plastic fragments taken from one of the "red circle" trawls on the Cózar et al. (2014) study.

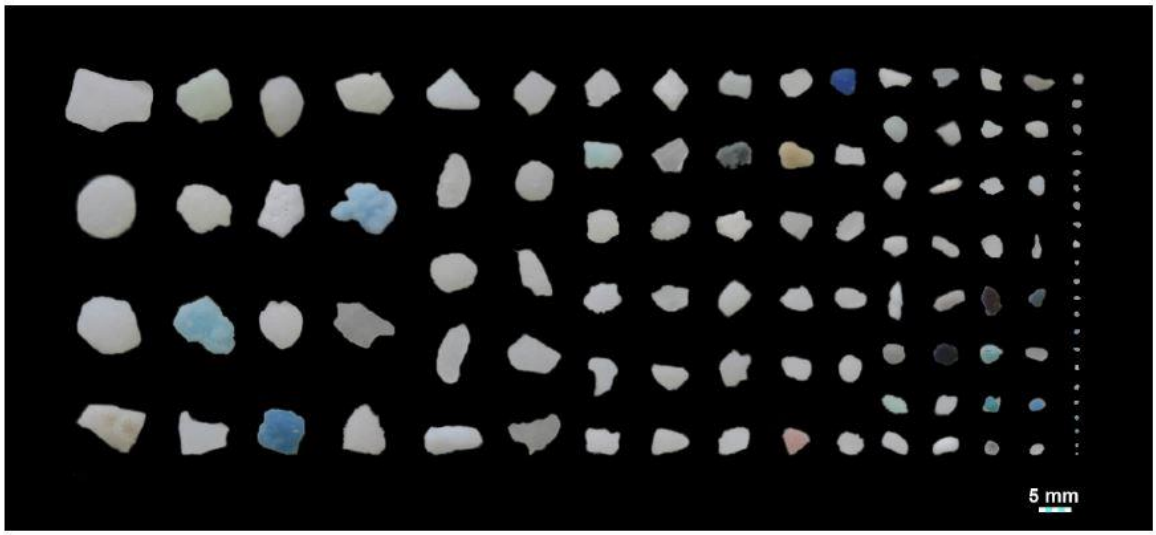


Fig. S11. Plastic fragments sampled on the ocean surface. This photography corresponds to the plastic items collected in a net tow in the South Atlantic Gyre.

Figure taken from Cózar et al., 2014, PNAS 111 (28) 10239-10244; https://doi.org/10.1073/pnas.1314705111

This trawl was one of the highest density trawls – right in the heart of one of the so-called "Oceanic Garbage Patches". They found 110 pieces. Each trawl in this study lasted 10-15 minutes, and covered between 0.4 and 0.9 miles. The largest fragment they found on that particular trawl was less than 1.5cm in diameter. If the plastic was all collected into a small pile, it wouldn't even fill a thimble. The claims being promoted by Greenpeace and others that these "Garbage Patches" consist of high densities of actual plastic bottles, plastic bags, etc. are completely false!

The next point to note is that the concentration of plastic in most of these gyres doesn't seem to be significantly increasing over time. This is an ongoing scientific puzzle, but it suggests that for most ocean basins, the issue is not a particularly urgent "crisis". However, the largest of the "Garbage Patches" is the one in the North Pacific, and the concentrations *there* do seem to be significantly increasing over time. This brings us to the question of where exactly the plastic is coming from. Greenpeace and others are implying that the developed world is to blame (particularly Europe and North America), but several studies have now confirmed that the problem lies almost entirely with certain developing nations – chiefly in Asia

5.1.3. Where is this plastic coming from? Mostly Asian and African countries

A lot of the plastic in the oceans (particularly the larger "macroplastics") seems to be fishing-related marine debris from fishing vessels, trawlers, etc. That is, lost or abandoned fishing nets, ropes, etc. Estimates vary from 20-80% of the plastics. However, chemical analysis of the microplastics suggests that most of the rest of the plastic comes from mismanaged land waste that somehow got washed into the oceans.

Initially some researchers suggested that high GDP countries in Europe and North America might have been a big contributor to the ocean microplastics, since these countries use a lot of plastic. However, there now have been several peer-reviewed papers that have attempted to quantify the likely origins of the mismanaged land waste. The results are unanimous in showing that Europe and

North America are **not** to blame! It is true that these countries use a lot of plastic, but their waste management systems and infrastructure have become good enough that almost none of the waste plastic ever reaches the oceans. Instead, the problem seems to lie with certain developing coastal nations whose waste management is not good enough to prevent plastic from entering the oceans.

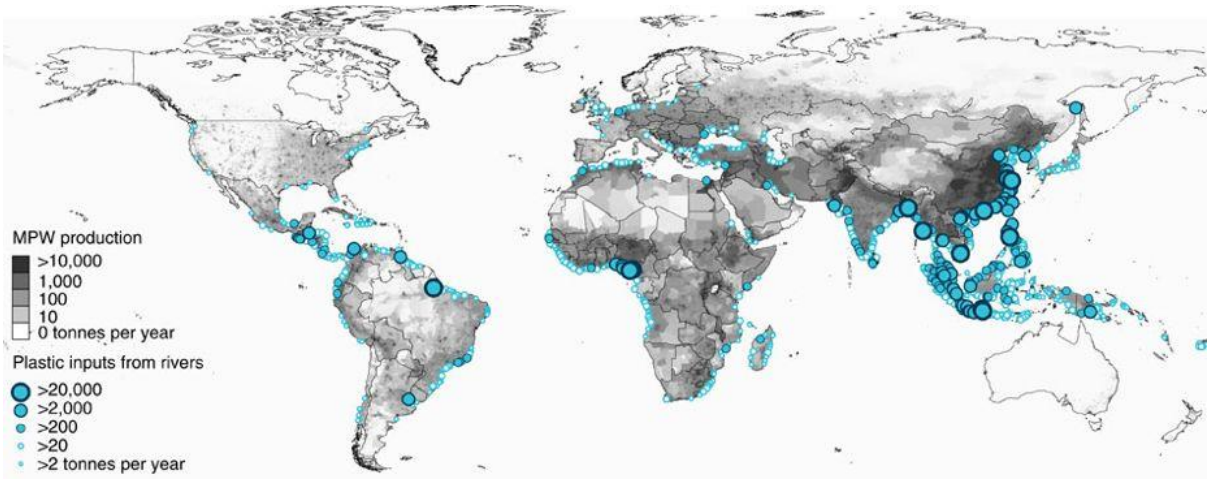
One of the first major attempts to quantify the sources was Jambeck et al. (2015) – a study which was widely covered by the media, e.g., Wall Street Journal, Feb 12, 2015. The Jambeck et al. article is paywalled, but various copies of the paper can be found online, e.g., here. Below are their estimates of the 10 biggest contributors to the ocean plastics:

Rank	Country	Region	% of world's mismanaged waste
1	China	Asia	27.7%
2	Indonesia	Asia	10.1%
3	Philippines	Asia	5.9%
4	Vietnam	Asia	5.8%
5	Sri Lanka	Asia	5.0%
6	Thailand	Asia	3.2%
7	Egypt	Africa	3.0%
8	Malaysia	Asia	2.9%
9	Nigeria	Africa	2.7%
10	Bangladesh	Asia	2.5%

In comparison, they estimate that the United States only contribute to 0.9% of the mismanaged waste, and the E.U. about 1%.

More recently, the research team of the Ocean Cleanup Project (which we mentioned earlier) have carried out a more detailed breakdown which was published in the journal Nature Communications: Lebreton et al. (2017). This study confirms that the United States and Europe are not to blame. In fact, they suggest that the North American and European contribution is **even less** than Jambeck et al. (2015) had estimated.

The Lebreton et al. (2017) estimates are shown below:



Lebreton et al. (2017)'s estimates of the mass of river plastic flowing into oceans in tonnes per year. Taken from Lebreton et al., River plastic emissions to the world's oceans, Nature Communications, Vol. 8, 15611 (2017). https://doi.org/10.1038/ncomms15611. Image is used under Creative Commons Attribution 4.0 license.

They estimate that the mismanaged plastic waste that is entering the oceans is as follows:

- Asia = 86% (of which China contributes more than half)
- Africa = 7.8%
- South America = 4.8% (mostly being discharged from the Amazon River)
- Central and North America = 0.95% (as can be seen from the map above, most of this comes from Central America, and the U.S. contribution is relatively small)
- Europe = 0.28%
- Australia/Pacific region = 0.02%

As discussed earlier, once the plastic enters the oceans, the ocean currents tend to aggregate into the various "gyres". Therefore, most of the Asian waste ends up in the North Pacific gyre, while the mismanaged waste from the eastern South American and south-western African countries tends to aggregate into the South Atlantic gyre. These are the two biggest "oceanic garbage patches" of the five.

5.2. Greenpeace's version of the "crisis"

5.2.1. Trying to turn it into an excuse to abandon "single use plastics"

In the previous section, we established that there is a genuine concern over the presence of non-trivial concentrations of microplastics in some regions of the oceans. So far, there has not been any evidence to show that these microplastics are having a net negative impact on ocean life. However, because it is a relatively new phenomenon, it is worth investigating carefully. Moreover, because leakage of mismanaged plastic waste from some developing nations (chiefly in Asia) is leading to an increase in these concentrations (particularly in the North Pacific gyre), we should be working to help those countries to improve the waste management systems.

Now, let us consider how Greenpeace has taken this genuine concern and distorted it into a major global **panic** that the western usage of 'single use plastics' is allegedly causing a catastrophic 'ocean plastic crisis'.

Although Greenpeace are themselves a very successful business (as we saw in Section 1) that relies heavily on marketing, advertising and free market principles, they promote socialist and anti-capitalist ideals in their marketing. In particular, they argue that the world's population is too large, and that both "overconsumption" and "economic growth" are non-sustainable. They endorse anti-capitalists such as Naomi Klein, e.g., here and here. In turn, Naomi Klein has been a vocal supporter of Greenpeace (and related groups, e.g., Friends of the Earth and Sierra Club), e.g., here, or here.

With that in mind, when Greenpeace heard of the initial dramatic sounding terms such as "Giant North Pacific Garbage Patch", they thought this would be an excellent excuse to blame the western world for their "overconsumption". They decided to start campaigning for "Zero Waste" and insisting that we needed to completely stop using "single use plastics" to protect the oceans.

For instance, in their 2007 report they claim,

> "While the above measures are important at preventing or reducing the problem of marine debris, the ultimate solution to waste prevention is to implement a responsible waste strategy, namely the concept of "Zero Waste". Such a strategy encompasses waste

> reduction, reuse and recycling as well as producer responsibility and ecodesign. Ultimately, this would mean reduction of the use of plastics and synthetics such that they are only used where absolutely necessary and where they have been designed for ease of recycling within existing recovery infrastructure. It is possible that biodegradable plastics could be used where plastic was deemed necessary but could not be seen as an environmentally sound alternative unless they are known to break down rapidly to non-hazardous substances in natural environments." – Plastic Debris in the World's Oceans, Greenpeace, 2007.

However, they soon began to acknowledge amongst themselves that these "pacific garbage patch" terms were misleading. For instance, in a 2011 report by the Greenpeace Science Unit (which is based on the campus of the University of Exeter in the UK), they admitted that the emotionally-charged terms bear almost no resemblance to reality:

> "The term "Pacific trash vortex" suggests an entire region covered by a large, obvious and easily visible patch of floating litter, one that could be detected from satellites or through aerial photography - in extreme terms, a "literal blanket of trash" (NOAA 2010). In reality - despite numerous relatively large items of debris, visible to observers on vessels or even from low-flying aircraft - these conspicuous items only rarely form larger agglomerations in the open ocean." – "The Pacific Trash Vortex: one symptom of the global marine plastic debris problem", Greenpeace Science Unit, 2011.

Despite this, they felt it was still too juicy a concept not to use it to generate a new "crisis" from. So, they kept on preparing it as one of their new campaigns. By 2015, they seem to have felt they were finally ready to start promoting their narrative in a big way. Indeed, they highlighted it in the foreword of their 2015 Annual Report as one of the big issues they were going to start pushing,

> "A striking example of how threatening we humans have become for our own life-supporting systems is **plastic pollution in the ocean**. We produce over 300 million tons of plastic every year. That is equivalent to the combined weight of all the adult humans on Earth. Between 25 and 35 million tons of this plastic ends up in the ocean – **annually**. And once it is there it stays there. In 2015, the ocean contained 1 ton of plastic for every 3 tons of fish. If this rate of pollution continues, by 2050 the amount of plastic in the ocean is expected to match the amount of fish by weight. The ocean and the creatures living in it are literally choking on plastics." – Greenpeace International 2015 Annual Report. [The bold emphasis was in the original].

They then began actively promoting their narrative that this "crisis" was due to the western world's widespread usage of "single-use plastics". They are clearly aware that this is not the case, since they frequently cite studies such as the Jambeck et al. (2015) paper we discussed in Section 5.1.3 in their reports, such as their 2015 report, "Time to ban single-use plastics and protect oceans".

And on their websites, the "solutions" they propose all focus on us "reduc(ing) our plastic footprint" and campaigning to reduce our usage of specific "single-use plastic" items such as plastic straws and plastic utensils, e.g., "7 things you can do to create a plastic free future".

In 2016, Greenpeace teamed up with several other NGOs promoting this "zero waste" narrative to form a collective organization called Break Free From Plastic (BFFP). See this Greenpeace press

release. Some of the other groups are Zero Waste Europe, Surfrider Foundation, Oceana, Story of Stuff, Global Alliance for Incinerator Alternatives (GAIA) and Seas at Risk. Many of these groups have further ties with Greenpeace. For instance, in 2014, Annie Leonard, the founder of the Story of Stuff group was made the Executive Director of the USA branch of Greenpeace.

5.2.2. Tie-in with BBC's Blue Planet 2 documentary series

In late 2017, the BBC launched a very emotionally powerful documentary series narrated by the well-loved wildlife presenter, Sir David Attenburgh, called Blue Planet II (a sequel to an earlier popular BBC documentary series from the 1990s). The final episode of the series was dedicated almost exclusively to promoting Greenpeace's narrative about their alleged "plastic crisis". For instance, below is an extract from the opening scene:

> "For years, we thought that the oceans were so vast, and the inhabitants so infinitely numerous that nothing we could do could have an effect upon them. But, now we know that was wrong. The oceans are under threat now – as never before in human history.
>
> [...] But is time running out? Many people believe that our oceans have reached a crisis point. So, just how fragile is our Blue Planet? [*opening theme music begins*]" – Sir David Attenborough, BBC Blue Planet II, episode 7 (of 7), Season 1.

The series was remarkably popular in the UK, and actually became the most watched TV series in the UK in 2017 (beating Strictly Come Dancing, etc.). It is estimated that 20% of the British population watched it. It so far hasn't been as widely seen internationally, but according to the New Yorker, it has had about 3 million viewers in the US, and according to the Independent, it was viewed by about 80 million in China during a streaming event.

The film-makers seem to have been totally on-board with Greenpeace's approach of using emotionally-charged, but deliberately misleading, footage (see Appendices) to make people concerned, alarmed and ultimately angry. For instance, in one scene, they describe a famous incident in 1992 when a freight trailer filled with yellow ducks and other plastic toys accidentally broke and fell into the ocean. After mentioning the incident, they show footage of a pile of yellow ducks floating in the ocean, creating the false impression that a) the "yellow ducks" are still floating there, and b) they had actually found and filmed the original ducks.

The scriptwriters were careful not to explicitly state that these were the original ducks, and argue that this was just "for effect" (The Independent, Dec 3, 2017). But, once you realise (as the Blue Planet II scientific advisors did) that the average size of the plastic debris that is been talked about is less than 1cm in diameter (see Section 5.1), then it is clear that even showing this carefully staged footage "for effect" was deliberately misleading.

However, despite being clearly misleading to anybody familiar with the actual issues which we discussed above (Section 5.1), the series seems to have been remarkably influential in making the British public panicked and angry about Greenpeace's distorted "plastics crisis". For example, here is an extract from the current Wikipedia page about the series:

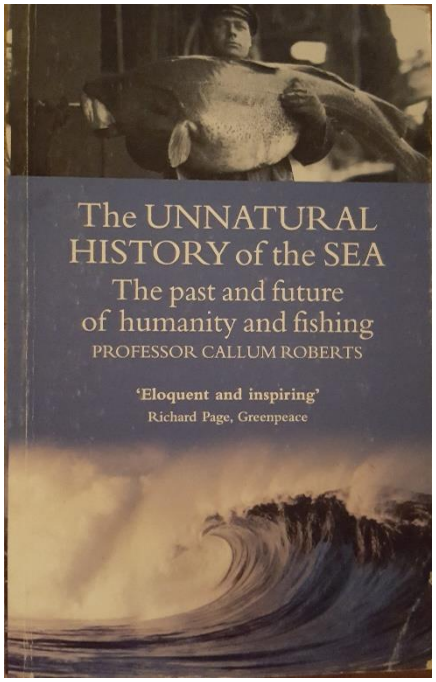
> "The programme has been credited with raising awareness of plastic pollution both domestically and internationally, an influence dubbed the 'Blue Planet effect'.
>
> Following the programme's airing in the UK, the BBC announced its intention to completely ban single-use plastics within its organisation by 2020. In April 2018, in response to growing public support directly linked to Blue Planet II, the British government announced it is considering a national ban on single-use plastic products. It was also reported that Queen Elizabeth II's decision to ban plastic bottles and straws across the Royal estates was in part a response to the documentary." – Wikipedia https://en.wikipedia.org/wiki/Blue_Planet_II

Although the documentary series was marketed as a joint collaboration between the BBC and Open University, and Greenpeace were not **officially** involved with the series, when we look at the CVs and bios of all three of the scientific advisors that were not from the Open University group, we can see that they each have strong ties with Greenpeace. The three (non-Open University) "Academic Consultants" listed in the credits to the series were:

1. Callum Roberts
2. Alex Rogers
3. Steve Simpson

All three of these scientists seem to be closely related to Greenpeace:

1. Prof. Callum Roberts, University of York has written guest articles for Greenpeace, e.g., "Guest blogger Callum Roberts: Future oceans", 26 July 2012. He has acted as a reviewer for Greenpeace reports, e.g., https://www.greenpeace.org/international/press-release/6878/sustainable-fish-from-major-consumer-brands-linked-to-arctic-destruction/. As can be seen below, the review on the front cover of the 1st paperback edition of his 2007 book, "The unnatural history of the sea" is from a Greenpeace spokesperson:



Prof. Roberts also has promoted Greenpeace (among other similar NGOs) when asked what people should do if they are concerned about the oceans, e.g.,

> "[Interviewer]: What can someone do to help the ocean, even if they don't live on the coast or interact with it directly on a regular basis?
>
> Callum Roberts: There are many ways to help. Top of my list would be to learn more about the oceans and what we are doing to them and spread the word. Check out some of the great organisations dedicated to protecting life in the sea, like SeaWeb, Rare, WWF, Oceana, **Greenpeace**, Sea Shepherd, The Black Fish, Client Earth, Blue Ocean Institute and the Ocean Conservancy, among many others. Each has their own distinctive way of doing things, so with a little digging you can find a close match to your own interests and philosophy. **Most depend on the generosity of philanthropists for support so if you can give even a little it will help**. Alternatively, get involved by volunteering." – "Five Questions for Callum Roberts, Author and Professor", July 2012, interview with Smithsonian Institute [Emphasis added in bold]

2. Prof. Alex Rogers is a Professor of Conservation Biology at the University of Oxford. But, as he explains on his faculty website, he has "...also worked for other NGOs including the WWF, Greenpeace and the Deep-Sea Conservation Coalition" and on his research website, "My work has applied aspects and I have undertaken projects for [...] and for non-governmental organisations (NGOs) including Greenpeace, the Pew Foundation, The World Wildlife Fund for Nature and The Deep-Sea Conservation Coalition.". He has also contributed to Greenpeace press releases, e.g., "Greenpeace launches campaign to create 'largest protected area on Earth' – as Antarctic nations fall short on marine protection" – Greenpeace UK, 27th October 2017

3. Prof. Steve Simpson in the Biosciences Department in the University of Exeter does not appear to have worked **directly** for Greenpeace. However, he has been very vocal in promoting the claims in the documentary about the "microplastics crisis", e.g., here and here. Several of his colleagues in the Bioscience Department (Dr. Ceri Lewis; Prof. Tamara Galloway; and Dr. Matthew Cole) have this as one of their main research projects: see here. The University of Exeter has also recently announced plans "to become 'plastic free' by 2020".

We do not know **exactly** how much direct contact Prof. Simpson has with Greenpeace. However, we note that the Greenpeace Scientific Unit is also based on the University of Exeter campus. Also, it is clear that Greenpeace has considerable influence in the Biosciences Department where Prof. Simpson is based. For instance, Dr. David Santillo, one of Greenpeace's senior scientists who has been a co-author on all of their publications on the "plastics crisis" and "microplastics crisis" since at least 2011, is also an Honorary Research Fellow in the Biosciences Department.

5.3. What is wrong with Greenpeace's narrative on plastics?

5.3.1. They are deliberately misleading the public by fabricating a fictional "crisis"

As we discussed in Section 5.1, some scientists are genuinely concerned about the fact that concentrations of "microplastics" in some parts of the oceans are relatively high. However, the concentrations that they are talking about are relatively modest, e.g., a few hundred fragments per

square mile in the worst regions. Also, the average sizes of these plastic fragments are very small, e.g., less than 1/16 inches in diameter.

Despite this, Greenpeace has been actively misleading the public to create the perception that there are massive floating "islands" filled with plastic bottles, plastic bags and other plastic debris. For instance, we saw how they influenced the BBC documentary makers of the Blue Planet II to promote this false narrative.

As another example, in April 2018, Greenpeace worked with Ogilvy & Mather advertising agency to create a new ad to promote their narrative on "the plastics crisis". See here for a summary. For the ad, they replaced one of the displays in Dingle Oceanworld Aquarium in Ireland with a display containing large plastic bottles, beer can holders, plastic bags etc. They then filmed a group of school children visiting "the exhibit" and watched their upset reactions. The text for the ad then consists of the following captions:

- UK supermarkets generate 800,000 tonnes of plastic each year.
- A truck load of plastic ends up in our oceans every minute.
- Let's make sure the ocean of the future is filled with fish not plastic.
- Demand your supermarket uses less plastic.
- Sign our Petition now. Greenpeace.
- Greenpeace.org.uk/oceanofthefuture

– "Welcome to the Ocean of the Future", https://www.youtube.com/watch?v=sjU5i98nx74

The ad can be viewed on YouTube here: https://www.youtube.com/watch?v=sjU5i98nx74

The goals of this Greenpeace ad were **not** about raising public concern over the genuine environmental issues discussed in Section 5.1, or support for the genuine attempts to deal with these issues. Instead, Greenpeace chose to deliberately promote misinformation by creating the perception that:

a) The "plastic fragments" that scientists are concerned about are full plastic items such as plastic bottles, beer can holders and plastic bags. (In reality, most of the "plastic fragments" are a few millimetres in diameter)
b) UK plastic use is a significant part of the problem (it's not!)
c) Supermarket plastic use is a significant part of the problem (it's not!)
d) Greenpeace are actively fighting to fix "the problem" (they're not!)

When you visit the Greenpeace website you find several invites to donate $25 or more to "help" them to fight "the problem". However, "the problem" which they are scaring people about is non-existent, and "the solutions" they are proposing would have zero effect on the genuine environmental concerns which we discussed in Section 5.1.

5.3.2. Unnecessary guilt doesn't help the actual issue

Despite the widespread public perception promoted by Greenpeace that the western world is to blame, as we discussed in Section 5.1.3, the actual sources of the mismanaged waste are predominantly developing nations. As Prof. Ramani Narayan (a co-author of Jambeck et al., 2015) describes in the recent National Geographic "Planet of Plastic" special issue,

> "Let's say you recycle 100 percent in all of North America and Europe, [...] you still would not make a dent on the plastics released into the oceans. If you want to do something about this, you have to go there, to these countries, and deal with the mismanaged waste." – Prof. Ramani Narayan, interviewed in National Geographic, June 2018.

And, the most straightforward way to deal with the mismanaged waste in those countries is to improve their waste collection systems. As Ted Siegler (another co-author of Jambeck et al., 2015) explains later in the same issue,

> "Everyone wants a sexy answer [...]. The reality is, we need to just collect the trash. Most countries that I work in, you can't even get it off the street. We need garbage trucks and help institutionalizing the fact that this waste needs to be collected on a regular basis and landfilled, recycled, or burned so that it doesn't end up going all over the place." – Ted Siegler interviewed in National Geographic, June 2018

Through their campaigning, Greenpeace and the various other "Zero Waste" groups they have aligned with have created a widespread panic that North American and European countries are causing alarming-sounding "ocean pollution" through their "single-use plastic". They have developed campaigns targeting specific items, e.g., the use of plastic straws, and these campaigns have gained a lot of attention. For instance, Starbucks recently announced that they will stop "using disposable plastic straws by 2020" and replacing their straw and lid combination for their cold drinks with new "strawless lids". (NY Times, July 9, 2018).

These campaigns are problematic because the "solutions" often cause more harm than good. For instance, as Reason's assistant editor, Christian Britschgi, points out in his Reason blog post on July 12, Starbucks' new "strawless lids" actually use slightly more plastic than the original "straw plus lid" combination.

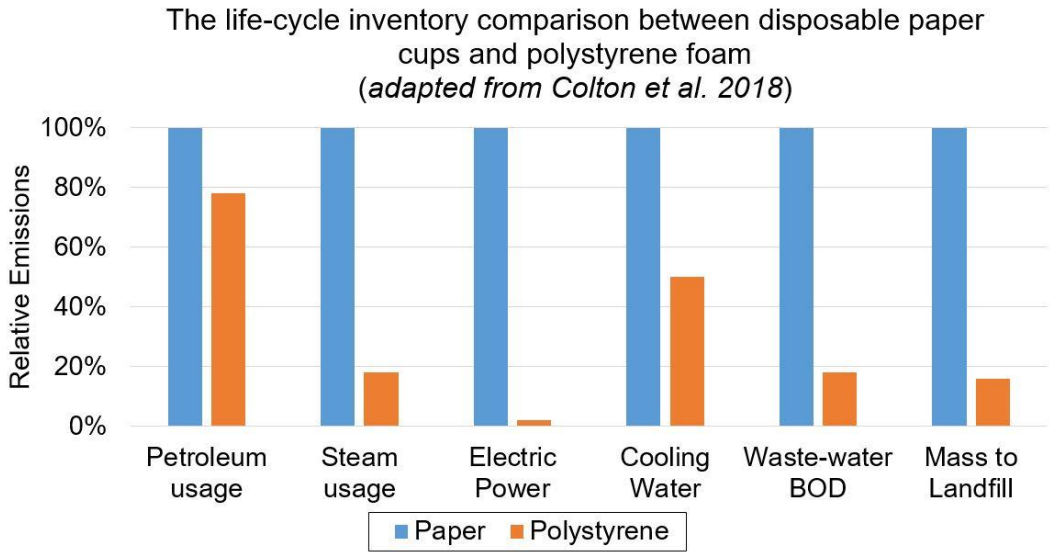
Moreover, specific campaigns to reduce or abolish, e.g., plastic straws, disposable plastic coffee cups, plastic bags, in the western world will have zero impact on the "ocean plastic pollution". This is a specific problem for developing nations that are not properly managing their waste, and some plastic is being "leaked" into the oceans. North American and European countries are already managing their waste well enough to prevent any substantial "plastic leakage".

5.3.3. Losing sight of the reasons why we are using plastic

By scaring people into thinking that plastics are inherently "bad", Greenpeace are making the public lose sight of the reasons why we are using plastic in the first place. There are many reasons why plastic products have become more popular than alternatives such as paper-based products, e.g.,

- They are usually more affordable and cost-effective
- They are often sturdier and can be custom designed with tailor-made properties
- They often are more environmentally friendly to produce, e.g., require less energy and water

A good review of the advantages of plastics is given in a recent white paper by the Independent Institute led by Katie Colton and colleagues. In the paper, they point out that the negative environmental impacts involved in producing a paper cup are much greater than for an equivalent plastic polystyrene foam (i.e., "Styrofoam") cup. See below:



Comparison of the life-cycle environmental impacts of a plastic (polystyrene foam) cup and an equivalent paper cup. Adapted from Colton et al. (2018). Independent Review. http://www.independent.org/publications/article.asp?id=9378

Additionally, as a rule of thumb, if a product (such as a disposable coffee cup) is in wide usage, there are probably reasons why – it is generally meeting consumers' demands in some manner. So, before vilifying the product and saying it needs to be completely abandoned and replaced with something else (such as a non-plastic reusable mug), it is important to figure out what values the original product had, and checking whether your proposed replacement product meets those demands.

Before vilifying the common disposable coffee cup as being intrinsically bad (as Greenpeace are implying), it is worth reading this interesting article on the BonAppetit website about why people invented the disposable coffee cup in the first place: https://www.bonappetit.com/entertaining-style/trends-news/article/disposable-coffee-cup-history

5.4. Comparing Greenpeace's approach to those of honest environmentalists

The hypocrisy of Greenpeace's "ocean plastic crisis" campaigning is particularly evident when we compare their activities to those of honest environmentalist groups that are genuinely trying to reduce plastic pollution in the oceans.

We should stress that we do not entirely agree with everything that these groups are doing, and we find that – like Greenpeace - they often oversell and simplify the issue to make it sound more dramatic and alarming than it is.

Nonetheless, unlike Greenpeace, they seem to take care to remain factual and stick to the real issues. They are **not** taking Greenpeace's "anti-education" approach (see Appendix 3) to campaigning. Instead, they seem to be making an honest effort to inform the public of an issue they are genuinely concerned about. They are also offering plausible solutions which they genuinely believe could help resolve the issue.

More importantly, unlike Greenpeace, these other groups seem to be making significant progress in achieving their stated goals. In this section, we will compare Greenpeace's approach to some of these other groups.

5.4.1. The Ellen MacArthur Foundation and their proposed "circular economy"

The Ellen MacArthur Foundation was set up by Dame Ellen MacArthur, a retired English sailor who in 2005 (at the age of 28) broke the world record for the fastest solo circumnavigation of the globe. From her sailing career, she became interested in sustainability, and so when she retired from professional sailing in 2010, she set up the Foundation to try and promote better sustainability practices in the economy. In particular, the Foundation has been very successful in starting conversations about the concept of switching to what they call a "circular economy" for plastics.

They are concerned about the fact that most of the plastic we produce is "single use", i.e., very little of it gets reused or recycled. They also are concerned about the fact that a lot of it seems to be ending up into the oceans via "leakage" from mismanaged waste. So, from this, you might *initially* assume that they are natural allies of Greenpeace, and that they share common goals. But, as they say, the devil is in the detail, and when you compare and contrast Greenpeace's campaigning and canvassing to the Ellen MacArthur Foundation's campaigning and canvassing, you can see that their approaches are in many ways diametrically opposed!

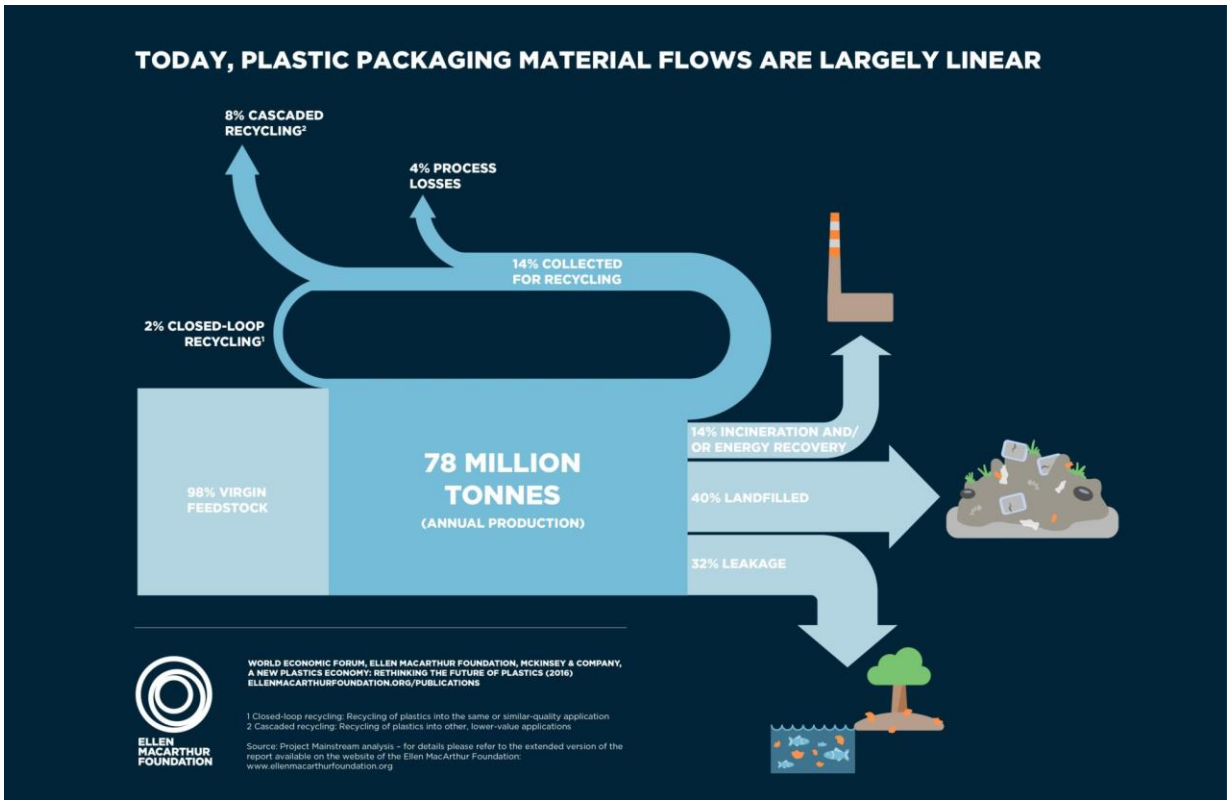
A good summary of the Ellen MacArthur Foundation's views on reducing plastic waste is provided in their 2016 report, "The new plastics economy: Rethinking the future of plastics". We do not personally agree with all of their analysis, e.g., the large focus they place on greenhouse gas emissions. We also find some of their claims to be somewhat hyperbolic and sensationalist. However, it is striking how different their approach is to Greenpeace's. Unlike Greenpeace, they genuinely seem to be interested in trying to reduce the world's overall plastic waste, without causing undue economic hardship or abandoning the immense benefits of plastics for society:

- The Ellen MacArthur Foundation are trying to promote an open-minded discussion on how to overcome the considerable challenges involved in changing the way we use plastics. Greenpeace are trying to shut down discussion and insisting that "zero waste" is the **only** answer, and that it would be easy to implement, with no negative consequences.
- The Ellen MacArthur Foundation are willing to talk about the pros and cons of plastics, and have a nuanced discussion about how we can manage to maintain the benefits of current plastic usage – but just improving our recycling and reusing rates. Greenpeace deliberately overlook the real reasons why we're using so much plastic, and insist that plastics are inherently "bad" for the environment. Greenpeace actually oppose efforts to increase recycling and reusing of plastic! Instead, they instead that we should be abandoning plastic and refusing to settle for anything other than "zero waste".
- The Ellen MacArthur Foundation are trying to encourage informed debate and discussion. So, they take care to stress that the plastic leakage into the oceans is almost entirely coming from developing nations (**not** Europe or North America). They tell concerned citizens from the developed nations that they could still help with the leakage problem by canvassing the plastic producing companies (that mostly have their headquarters in Europe/North America). But, they stress that the latest scientific studies show that the general public in these developed nations are **not** to blame for the ocean leakage. Greenpeace are

deliberately ignoring this - we can say “deliberately”, because Greenpeace repeatedly **reference** the papers like Jambeck et al., 2015, but neglect to mention their key findings! Instead, Greenpeace insist (against the scientific evidence) that the users of “single use plastic” in developed nations are to blame. They also deliberately foster the (completely inaccurate) notion that the “Oceanic Garbage Patches” are floating islands of plastic bags, bottles, and other large plastic items.

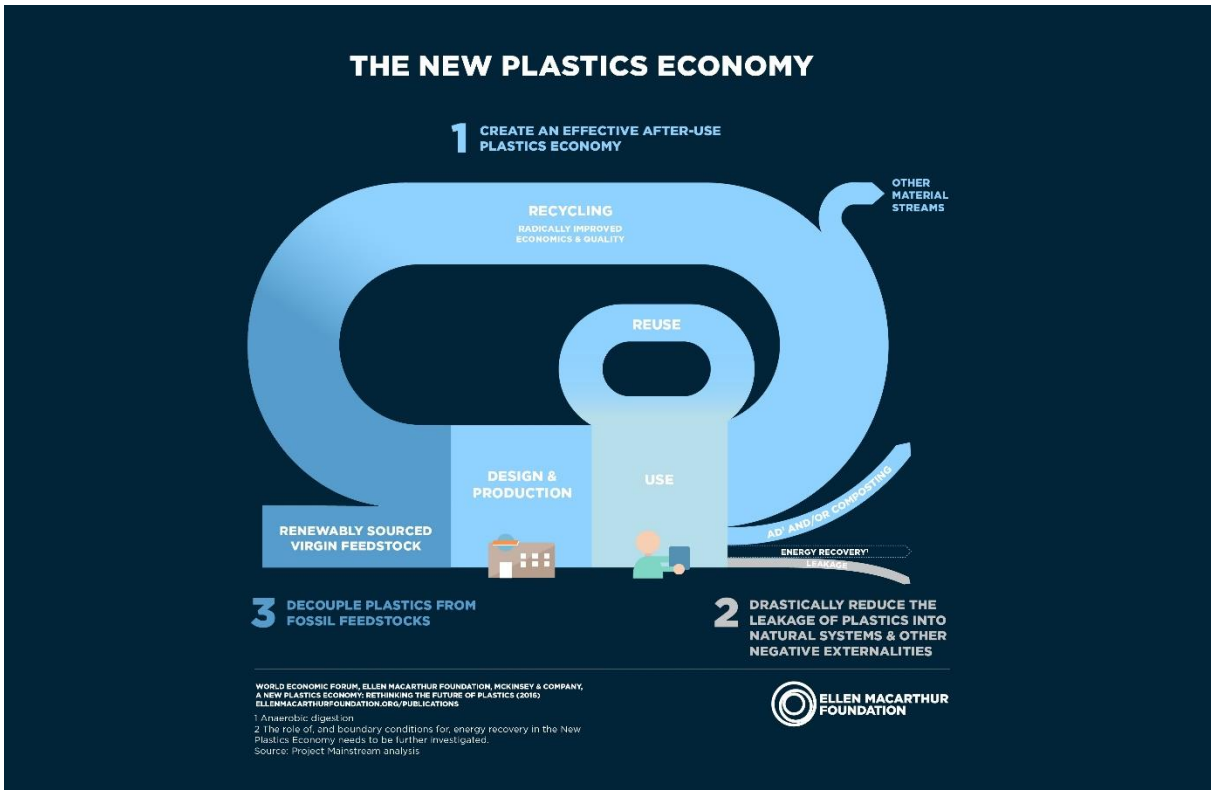
- The Ellen MacArthur Foundation is trying to genuinely improve our global plastic usage. They have put forward practical (though challenging) suggestions and ideas, and are actively working with major international companies (e.g., Coca Cola, Evian, etc.) to discuss realistic and practical solutions – that are financially viable. Greenpeace refuse to endorse any genuine attempts other than their hypothetical “zero waste” outcome. They pick major international companies like Coca Cola as “enemies” and insist that they should implement financially disastrous “solutions”. Moreover, when companies like Coca Cola work with groups like the Ellen MacArthur Foundation to try and develop realistic reforms, Greenpeace dismiss their efforts as “inadequate”.

The Ellen MacArthur Foundation’s goal is to help society to dramatically reduce plastic waste in several different ways, chiefly by substantially increasing the fraction of plastic that is reused or recycled. At the moment, only about 14% of the world’s plastic packaging is recycled. This is far below the recycling rates for e.g., paper (58%), or iron and steel (70-90%). Instead most of the plastic packaging is either incinerated (14%), landfilled (40%) or else “lost” through mismanaged waste (32%). They illustrate the problem with the following schematic:



Infographic illustrating the current life-cycles of plastics taken from the Ellen MacArthur Foundation website.

Their goal is to try and drastically improve the situation through what they call a “circular economy”, which they illustrate with the following schematic:



Infographic illustrating their proposed “circular economy” life cycles for plastics taken from the Ellen MacArthur Foundation website.

They also believe that we should separately try to reduce the “leakage” from those countries that have been specifically identified as having major mismanaged waste problems, i.e., those developing nations in Asia, Africa, and South America which were discussed in Section 5.1.3.

Since their goal is to drastically reduce both the total waste plastic and the leakage of waste plastic into the oceans, you might expect Greenpeace to support their efforts. But, Greenpeace have actually been remarkably dismissive of the “circular economy” concept. They argue that the concept of “economic growth” should be abandoned, and the world should only settle for “zero waste”, e.g.,

> “"A ‘circular economy’ is the latest meme being used across the EU and worldwide, but behind this nice phrase lies the industry’s fantasy that circularity can fix a material-intensive system; selling the promises of 100% recyclability which is unlikely to come true,” said Chiara Campione, Greenpeace Italy Senior Corporate Strategist.” – New report breaks the myth of fast fashion’s so-called ‘circular economy’ – Greenpeace, Greenpeace International, September 18, 2017
>
> “Sharing and circular economies were attempts in this direction. They started in response to the economic crisis as people were pushed to utilize excess capacity, time and goods and companies started to suffer from the impacts of climate change and resource scarcity. Unfortunately, as with many other ideas, they’ve been hijacked by the private sector and its main driver; growth. The idea of a circular economy [*the article then links to the Ellen*

> *MacArthur Foundation's website*] carries a rebound effect; meaning we could end up *increasing* overall production, which would offset any benefits." – What a green and peaceful future could look like, Greenpeace International, July 19, 2018.

Meanwhile, it is worth noting that – unlike Greenpeace – the Ellen MacArthur Foundation have been working with some of the largest producers of plastic products to try and reduce their waste, e.g., Coca-Cola, Evian and global packaging company Amcor. A particularly relevant example is Coca-Cola, since this is one of the "enemies" which Greenpeace chose to vilify for their "ocean plastics crisis".

Coca-Cola obviously produce a lot of plastic bottles and up until recently the recycling rates of their bottles were very low. Greenpeace have developed a series of vilification campaigns against them to make the public outraged at Coca-Cola. These campaigns have used a lot of slick marketing (see here for a summary), and gained quite a bit of attention – and crucially for Greenpeace, generated a lot of support for Greenpeace – e.g., see here and here.

However, while Greenpeace were focusing their efforts on vilifying Coca-Cola, the Ellen MacArthur Foundation had gone directly to Coca-Cola and worked with them to see how they could try to improve the recycling of their plastic, and start reusing plastic. After these discussions, Coca-Cola announced several new efforts to help with the circular economy: https://www.coca-colacompany.com/stories/world-without-waste

Greenpeace, of course, took the credit for this move by Coca-Cola (even though Coca-Cola had specifically acknowledged that they had made their decision after consultation with the Ellen MacArthur Foundation). However, rather than praising Coca-Cola for making a big step, Greenpeace ridiculed the efforts as inadequate, and have continued to vilify them, e.g., see here.

5.4.2. The Plastic Bank's attempts to reduce "ocean leakage" from developing nations

As we discussed in Section 5.1.3, almost all of the "leakage" of plastic waste into the ocean is coming from a handful of developing nations that don't have adequate waste management resources. For that reason, a number of entrepreneurs concerned about the build-up of plastic in the oceans have tried to improve the waste management resources in those countries.

For example, David Katz and Shaun Frankson decided to set up a venture which they call, "The Plastic Bank". In collaboration with the Ellen MacArthur Foundation, they have teamed up with several of the larger plastic producing companies, such as Henkel, who have agreed to recycle plastic waste collected by the Plastic Bank for their products. Katz and Frankson then pay locals in these developing nations to collect plastic waste for them. This plastic waste is then sold to Henkel and others, who recycle it, thereby reducing "ocean leakage" and boosting the "circular economy".

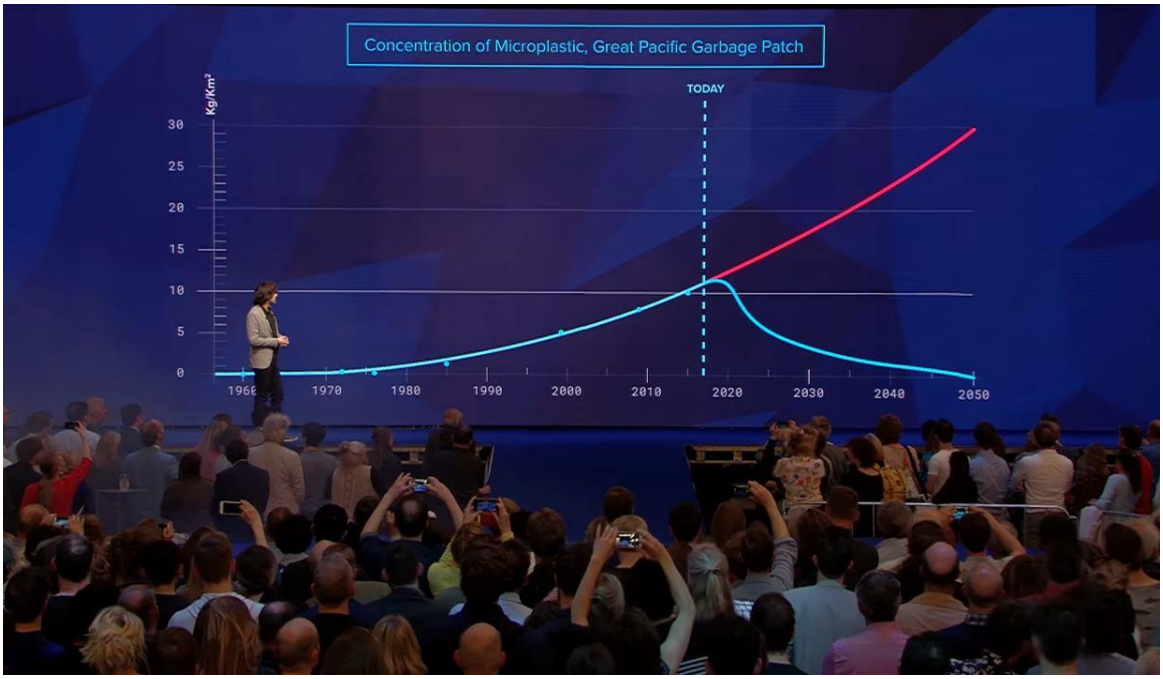
David Katz recently gave a 10 minute TED talk (Feb 2018) summarising what they're doing: https://www.youtube.com/watch?v=mT4Qbp89nIQ. If different groups like the Plastic Bank were collectively able to substantially reduce the mismanaged plastic waste from these developing nations, then the problem of "ocean leakage" would be largely resolved. However, Greenpeace keep insisting –against all the evidence - that the problem has something to do with the use in Europe and North America of plastic straws, disposable coffee cups, etc.

5.4.3. The Ocean CleanUp Project

If groups like the Ellen MacArthur Foundation and the Plastic Bank are successful in drastically reducing the amount of mismanaged plastic waste "leakage" into the oceans, then this should mostly stop the concentrations of microplastics from continuing to increase. However, it wouldn't do anything about the microplastics which are already there.

As we discussed in Section 5.1, there is still no evidence that these microplastics are having a net negative environmental effect. But, if we were to try to remove them, it could be a very costly and inefficient process – precisely because the actual concentrations of microplastics are so low, i.e., only a few hundred "fragments" per square mile in the peak areas. However, a young Dutch inventor (currently 23 years old) and engineer called Boyan Slat has been working on using technology to try and meet that challenge in a cost-effective way. In 2013, he discontinued his university studies to found The Ocean Cleanup, and this group (which we mentioned in Section 5.1) has now become a major non-profit organization with a staff of more than 70. They believe that they are close to having technology that could halve the concentration of microplastics in the North Pacific gyre within a decade (or less).

Here is a May 2017 presentation (30 minutes) which he gave describing their progress so far: https://www.youtube.com/watch?v=du5d5PUrH0I. Below is a screenshot showing what they think their technology could achieve (blue curve) as opposed to the red "business-as-usual" curve.



If his team is correct, then they would have developed a technological solution to essentially remove the "oceanic garbage patches" without us changing our everyday use of plastic in any way.

Yet, Greenpeace are opposed to his project as they claim it could interfere with marine life, e.g.,

'"To filter the plastic out of the water could affect very small marine life which is very important for the food chain," said Elvira Jimenez, a coordinator for Greenpeace's ocean campaign.' – Dutchman wants to deploy barriers to gather, recycle Pacific plastic, Reuters, May 16, 2017.

6. Conclusions

Between the five of us, we have dedicated most of our careers to advancing scientific knowledge; raising awareness about environmental problems; trying to develop solutions to environmental problems; and generally communicating with and educating the public on science and the environment.

So, given that Greenpeace **claim** to be champions for science-driven environmentalism, you might initially think that they would be allies. However, while it is easy to claim to be something, we argue that Greenpeace's actions are the very anti-thesis of science-driven environmentalism:

1. They are intentionally fooling the public about the "vested interests" associated with each of their campaigns. A key component of Greenpeace's campaign strategies is to pick "an enemy" for their campaign and imply that this enemy is obstructing the campaign for "vested interests" (see Appendix 3). We agree that it is important for the public to be aware of vested interests on issues. However, like the old proverb about the thief crying "Stop, thief!" the loudest, whenever Greenpeace are calling out a supposed "vested interest" on an issue, we have found that it is to distract attention from their own vested interest.

In Section 2, we showed one example of this when Greenpeace claimed to have proven that "Big Oil" was actively "funding climate denial" to the tune of $1.8 million per year. Yet, according to their financial returns, Greenpeace have been spending an average of $34 million/year on their own "climate change" campaigns over the last decade. If Greenpeace are correct in their claims that $1.8 million/year is sufficient to significantly influence public opinion on climate change, then what should we make of the fact that Greenpeace have spent $521 million since 1994 on promoting their own narrative on climate change (Section 1.2)?

2. In order to create the impression that "the science is settled" on their campaign issues, they oversimplify the often quite-nuanced views of the scientific community, and simultaneously try to shut down any further scientific enquiry into the topic. For instance, we saw in Section 4 that Greenpeace routinely claim that their positions on a given topic are endorsed by 95-98% of scientists, regardless of what the true range of scientific opinion may be on that topic. Scientists whose research disagrees with Greenpeace's claims are ignored, misrepresented or even vilified. One of us (Dr. Willie Soon) has personal experience of this after Greenpeace singled him out in February 2015 as an "enemy" because his results implied a larger role for natural factors in recent climate change than Greenpeace have claimed.

In Section 5, we showed that Greenpeace deliberately misrepresented the work of environmental researchers investigating the existence of trace quantities of "microplastics" in the oceans to falsely imply that the developed world is creating vast "islands" of plastic trash in the oceans through the use of "single use plastic" items.

3. They are intentionally shutting down genuine discussion on implementing solutions on the environmental "crises" they claim to have identified. In Section 3, we showed how Greenpeace have been actively opposing all genuine attempts to try to reduce international carbon dioxide emissions, while simultaneously claiming that carbon dioxide emissions are the world's biggest environmental threat of today.

In Section 5.4, we showed how Greenpeace have been actively trying to discredit or marginalise the efforts of groups that are trying to reduce the amount of plastic that escapes into the oceans, improve the recycling of plastics or reduce the concentration of "microplastics" in the oceans. Yet, like climate change, Greenpeace are claiming that the "ocean plastic pollution crisis" is one of the most urgent environmental problems.

4. They are distracting public attention away from genuine environmental concerns. In Section 3.4, we showed how as a result of widespread public concern over international carbon dioxide emissions (partially as a result of Greenpeace's own advocacy), policymakers are rushing into implementing many policies to urgently reduce our fossil fuel usage, often without carefully considering the environmental consequences of those policies. One such consequence is the dramatic increase in deforestation in tropical rainforests in e.g., Borneo, from the use of biofuels instead of fossil fuels. Greenpeace are using this deforestation as the justification for further campaigns. Yet, instead of highlighting the main cause for the deforestation (i.e., climate policies to increase the use of biofuels), and prompting a more nuanced discussion on the pros and cons of climate policies, they are implying that the companies manufacturing Oreo cookies, and other similar products are to blame.

In Section 5, we showed how Greenpeace have distorted the genuine concern that several environmental researchers have about the current "leakage" of plastic into the oceans through the lack of proper waste management resources in specific developing coastal nations (mostly in southeast Asia) to falsely imply that a more urgent priority is for developed nations to reduce their usage of "single use plastics".

We believe there are many genuine environmental concerns that the world should be addressing, and for this reason we have a lot of sympathy for supporters of Greenpeace and other similar organisations. Indeed, one of us (Dr. Patrick Moore) was one of the founding members of Greenpeace. However, we are alarmed about how Greenpeace's activities are effectively hindering these concerns from being addressed. As scientists, we are also very concerned about how Greenpeace are actively discouraging scientific enquiry on each of their campaign issues.

We hope that our report will encourage you, the reader, to look more critically at the claims being made by Greenpeace (and other similar groups), rather than simply accepting them at face value because their claims make you "feel bad".

We also hope that it will encourage environmental organisations (including Greenpeace) that have been following Greenpeace's approach to honestly reflect on their activities and consider taking a more science-driven approach to environmentalism in the future.

Appendices

Background material on Greenpeace's philosophies and strategies

Appendix 1. Business Insider's analysis of Greenpeace's strategy

In a 2014 article for Business Insider, "The inside story of how Greenpeace built a corporate spanking machine to turn the Fortune 500 into climate heroes", Aaron Gell gave a quite frank and insightful overview of Greenpeace's approach and philosophy. This article is well worth reading in its entirety to better understand Greenpeace's techniques. However, for brevity, we will include some particularly relevant quotes.

The article opens by describing how a group of Greenpeace activists broke into Procter & Gamble's headquarters to let in another activist wearing a tiger costume, and install huge banners denouncing their antidandruff shampoo, Head & Shoulders for allegedly "putting tiger survival on the line" and "wip[ing] out dandruff & rainforests". They hired a helicopter with a videographer and a photographer to record the whole thing.

However, while this carefully staged protest implied that Head & Shoulders was somehow causing problems for tigers, prominent Greenpeace members admitted to Gell that the link between Head & Shoulders' activities had anything to do with tigers was highly tenuous, and was really "a kind of decoy". They had just picked the "threatened tigers" as an issue because they find the public are more concerned about their campaigns when they think a photogenic animal is involved:

> "'It's easy to say, 'If you're destroying forests, you're destroying tiger habitats,'" says Phil Radford, the outgoing executive director of Greenpeace USA (his replacement, Annie Leonard, was announced in April). "It's harder to say, 'Do you know that forests store carbon and if we save the peat bogs we will trap all this carbon and methane in the soil?' We say both, but we start with the place that people are, the thing they care about the most first."
>
> Says his colleague Nicky Davies, the organization's campaigns director: "We're not going to win by telling people what they should care about. And winning is the objective."
>
> Greenpeace's strategy, which it calls "market-based campaigning," has proved devastatingly effective. It goes like this: Pick an area of concern. Identify on-the-ground producers whose actions are contributing to the problem. Follow the supply chain to a multinational corporation that peddles a widely known consumer product. Send an email or two, kindly pointing out the company's "exposure" and suggesting an alternative. Ask again, firmly but pleasantly. Issue a sober, meticulously researched public report. If the desired response is not forthcoming. roll out a clear, multipronged media campaign, ideally starring a beloved animal species and featuring a hashtag. Climb a building or two.
>
> What seems to happen, inevitably, is the multinational company, eager to remove the stigma from its signature brand, promises to ensure that its products are sustainable and begins cancelling contracts with any third-party suppliers who fail to guarantee compliance. In order to retain the multinational's lucrative business, the largest suppliers fall into line. Before long, as the cascade effect grows, they begin eyeing their wayward rivals, companies that are still operating in flagrant violation of the new rules and undercutting them with other

customers. Eventually, broad new industry protocols are adopted to level the playing field.

Rinse, repeat.' – Aaron Gill, Business Insider, June 4th 2014

Greenpeace's mafia-style shakedown approach of threatening to vilify their identified "enemies" unless they give into all their demands (however unreasonable) has been very successful:

'Greenpeace's confrontational and swashbuckling approach has helped make it one the world's most powerful environmental NGOs, with branches in 41 countries, 2.9 million donors and more than $350 million in annual contributions. ' – Aaron Gill, Business Insider, June 4th 2014

However, as Gill points out, they will frequently choose an "enemy" that is only indirectly related to the "problems" that they are using for their campaigns. Because these "enemies" often have very little to do with the alleged "problem", they are often caught completely off-guard, and are relatively easy to pressured. Greenpeace also take a carrot-and-stick approach, by telling their "enemies" that if they give into their surrender terms, Greenpeace will publicly praise them:

'Greenpeace has gradually adopted a new policy that aims to give corporate leaders enough praise — and glowing brand publicity — to persuade others like them to hop on the bandwagon. Internally, this tactic has become known as "spank and thank."' – Aaron Gill, Business Insider, June 4th 2014

Moreover, if these "enemies" admit defeat, Greenpeace can then use their surrender terms to get them to pressurize a bigger "enemy" for Greenpeace:

'Of course, the success of this technique depends on a company's susceptibility to public pressure. When it came to Asia Pulp & Paper, a large multinational unknown to most consumers, Greenpeace simply looked downstream to find a purchaser of the company's paper that might be more concerned about its brand image. It chose Mattel — specifically, one of the company's most iconic toys, Barbie — which was being packaged with cardboard traced to virgin forests. (The campaign, called "Barbie, It's Over," portrayed Ken, Barbie's longtime beau, kicking her to the curb because, as he put it, "I don't date girls who are into deforestation.")

Mattel soon reached out to APP, and while it was a relatively small customer, the paper company got the message. "It was not about tonnage for us," Aida Greenbury says. "But it really affected peoples' perception of APP. That campaign was very effective."

APP soon opened negotiations with Greenpeace, though not without some hesitation. "It wasn't love at first sight, that's for sure," Greenbury says. "It was very tough, especially for an Asian company, to receive such blunt and harsh criticism. When we first met them, the trust level was not even zero — it was probably minus 50. It was hard to give internal information to a radical NGO. 'Are they going to use it against us?' But they didn't. They used it to help us, and we built up trust. It was an interesting journey."

Last year, APP launched an impressive zero-deforestation plan, which has had profound ripple effects. "The impact of our conservation policy is not only on our concessions," Greenbury points out. "It's on all suppliers entering our supply chain. We think it's our obligation to help our suppliers be able to comply with our policy. So it's quite huge."

Recently, APP took the issue a step further, announcing a plan not merely to end clear-cutting but to restore 1 million hectares of rain forest.' – Aaron Gill, Business Insider, June 4th 2014

As an aside, it is worth pointing out how fickle, and temporary, Greenpeace's "surrender terms" can be. Gill's article was written in 2014, and for several years, APP actively tried to work with Greenpeace to achieve a deforestation-free supply chain. However, in May 2018, Greenpeace decided to yet again choose them as an "enemy", and are now back to campaigning against them – see here. Also, see here for APP's response.

National Greenpeace branches are under constant pressure from the international administration to constantly fundraise, as Gill illustrates by summarising what happened to Greenpeace USA when their membership and donations began to plummet in the 1990s:

'The setup worked well, but a wrinkle had emerged: Greenpeace USA was going broke.

The effort to build a grassroots movement based on retail canvassing and coalition building had taken a toll on the American group's public profile. As a result, its fundraising tanked.

Although the localized approach led to some important wins — for instance, curtailing the dumping of toxins in Louisiana's "Cancer Alley" — they came at the expense of the global organization's key priorities. For instance, Greenpeace USA was missing in action during the negotiations over the Kyoto Protocols, essentially declining to participate. And it opted out of the GMO campaign, which was gathering steam around the world. Membership and donations plummeted by more than 60%. As a result, levies paid to the central office slowed to a trickle.

Eventually, acting on a clause in the bylaws, international body took aggressive action, dismissing Greenpeace USA's executive director and parachuting in a replacement in from Amsterdam with a mandate to clean house.

The acting director laid off 335 staff members out of a total of 400 (mostly door-to-door canvassers) and slashed the annual budget by more than 25%. The board of directors was sent packing.' – Aaron Gill, Business Insider, June 4th 2014

Gill points out that some companies – especially in the tech sector – trust Greenpeace's claims, and when Greenpeace accuse them of anything, they will bend over backwards to try and appease them:

'Tech companies especially have shown an awareness of the dangers posed by carbon emissions, perhaps because they are staffed and often run by young engineers and scientists. "One thing about working with the IT sector," says Gary

Cook, Greenpeace's senior IT analyst, "is we have never had a debate about climate change. They all think it's real."

That helps explain why Greenpeace's campaign to persuade major tech companies — most notably Google, Facebook, and Apple — to power their data centers with renewable energy has been so successful. After being slammed in Greenpeace's 2012 report "How Clean Is Your Cloud?" Apple has since earned praise for committing to using 100% renewable energy to power its iCloud server farms. It even installed solar arrays at its facility in Maiden, North Carolina, rather than tap into the coal-generated power provided by the local utility, Duke Energy.

"The fact that Apple went and did that told Duke that if it sits on its hands, motivated companies can go around them," Cook says. "Other commercial customers started to say, 'Hmm, maybe we should look at this, too.' Duke doesn't make any money if companies generate their own power." Before long, pressure from Apple, as well as Google and Facebook, persuaded Duke to create a program offering green power to major corporate customers rather than lose their business altogether. "Duke never would have done that on its own," Phil Radford says.' – Aaron Gill, Business Insider, June 4th 2014

Appendix 2. Examples of Greenpeace's use of 95%, 96%, 97% and 98% figures

As discussed in section 3, Greenpeace continually invoke "slightly less than 100%" figures in many of their campaigns to create the impression that their campaigns are comprehensive and/or urgent. In this appendix, we have listed a sample of some of the more recent examples. In all of the examples below (which are just a sample), we have highlighted the relevant figures in ***bold italic***:

- "Estimates suggest that as much as ***95 percent*** of the clothes thrown out with domestic waste and [sic] could be used again—re-worn, reused or recycled—depending on the state of the textile wastes." – Greenpeace Germany, "Timeout for fast fashion", p5, 24 November 2016

The above 95% figure was picked up as key by reporters describing the report, e.g.,

- "The [Greenpeace] report notes that up to ***95%*** of the millions of tons of clothing thrown out each year could be used again, according to recent estimates." – Marc Bain, 'Recycling or donating your unwanted clothes "is not a solution" for the planet, Greenpeace says', Quartz.com, November 30, 2016.

They frequently use the figures in their various proposals for renewable energy policies (which we discussed in detail in Section 3), e.g.,

- "The advanced scenario reduces EU-wide carbon dioxide emissions by ***95%*** by 2050…" – Executive summary of "EU Energy [r]evolution – towards a fully renewable energy supply in the EU27", Greenpeace European Unit in collaboration with the European Renewable Energy Council (EREC), July 8, 2010.
- "By 2050, around ***97%*** of electricity will be produced from renewable sources" – also in the same report.
- "Our plan to stop the oil: ***95%*** renewables by 2050" - Greenpeace Philippines, 7 June, 2010.

But, they try to use these figures whenever they can, e.g.,

- "Find ways to help stabilize and reduce human population. Some human rights activists fear that population efforts might violate human rights, but crowding already erodes human rights. Humans and our livestock now comprise ***96%*** of all mammal biomass on Earth. There are limits." – Rex Weyler, "What can we do?", Greenpeace International, 10 June 2018
- "Greenpeace: ***96%*** of litter found in Mediterranean Sea is plastic" – Greenpeace International press release, 8 June, 2017
- "The [PVC] industry is making no commitments on total recycling amounts, but only presents expectations […] ***96%*** of the PVC waste would still go to incineration or landfill." – p4 of "The deliberate smokescreen, alias, The voluntary commitment of the PVC industry", 27 July 2000, Greenpeace's submission to the European Commission's July 2006 public hearing on the PVC industry
- "Greenpeace is continuing its campaign against Thai Union Group, claiming the company has not done enough to alleviate concerns over human rights abuses in the company's tuna supply chain despite recent media scrutiny of its business operations.

[…]

Over ***96%*** of Thai Union's tuna is sourced from areas other than Thailand, yet the company has only committed to a human rights audit for the 4% of tuna caught in Thai waters, along with its shrimp operations, Greenpeace noted." – Undercurrent News, "Greenpeace: New incidents of forced labor on Thai-operated vessels" Nov. 4, 2015

- "A century ago, as many as 100,000 wild tigers inhabited Asia. Now, we've lost ***97%*** of those big cats, leaving around 3,000 in the wild today." – Greenpeace Australia Pacific, "Roar if you love tigers!", 28 July 2014
- "Recent investigations (Sierra Legal Defence Fund, 1996) have shown that ***97%*** of all the logging in the temperate rainforest is done by clearcutting. By the government's own statistics, the rate of timber cut in the province has exceeded Long-Term Harvest Levels for 19 of the last 20 years (Greenpeace Canada, 1998a, p. 5)" – Jeanne Moffat, Greenpeace International, "Victory for the forests: Greenpeace's market campaign for the Great Bear Rainforest", COADY 2001 Learning & Innovations Institute conference.
- "What is true is that Coke produced 110 billion plastic bottles in 2016, which made up a significant fraction of the 12 billion tons of plastic that went into our oceans last year. If Coke introduced a Deposit Return Scheme (DRS) ***97%*** of those bottles would be reused or recycled." – Greenpeace in collaboration with Friends of the Earth Manchester, "Manchester Greenpeace Christmas Coke Campaign Stall", a campaign event on 25 November, 2017

Greenpeace also try to use the figures in their social media campaigns on Facebook and Twitter, e.g.,

- "***97%*** of bottles returned with a Norwegian deposit return scheme. Who thinks we could do system like this? Sign the petition for a UK DRS: http://act.gp/2EjQNvm #EndOceanPlastics" – Greenpeace UK Facebook post, 8 February, 2018.
- '"***95%*** of the value of plastic packaging material, worth US$80-120 bn annually, is lost to the economy." No matter how you look at it; from an environmental standpoint or an economic one, plastics days are numbered. Sign the petition: greenpeace.nz/plastic-free' – Greenpeace New Zealand Facebook post, 25 June, 2018.
- "Not good—More than ***95%*** of the world's population breathe dangerous air, major study finds https://act.gp/2qFjj5f #airpollution" – Greenpeace tweet, 17 April 2018
- "***97%*** of scientists agree that #climatechange is caused by humans, new study says. http://grnpc.org/IgNAb" – Greenpeace tweet, 13 April 2016
- "***97%*** of endangered species are threatened by 3 common pesticides http://act.gp/1WphXWw" – Greenpeace tweet, 12 April 2016
- "For the second year in a row, Costa Rica's grid used over 98% #renewable energy http://act.gp/2iMMSgc" – Greenpeace tweet, 3 January 2017

While canvassing for the 2010 UK General Election, the UK Green Party leader (and the Green Party's first UK Member of Parliament), Caroline Lucas, described on her website how Greenpeace had given her flyers designed to look like "polling cards" but instead presenting the finding from a survey Greenpeace had apparently carried out,

> "I was delighted to be handed "polling cards" showing that ***96%*** of Brighton residents that Greenpeace had spoken to were against nuclear weapons. This was encouraging, as it's in

line with what the Green Party has been saying for years." – Caroline Lucas, MP, "On the campaign trail – Greenpeace, jobcentre and retail therapy", April 13, 2010

They also like to use these figures when describing the Greenpeace organization itself:

- "**Our funding**
  […] More than ***95%*** of our funding comes from generous individual donors, which allows us to make independent decisions and take action on campaigns that matter the most to our supporters." – Greenpeace Australia website, "About" page.
- "Some ***98%*** of Greenpeace's money comes from individual donors…" – John Sauven, executive director of Greenpeace UK, as reported in a July, 14 2014 Guardian article
- "Our direct actions are vital to winning our campaigns, but we can only take action because individuals – people who have made a personal choice to act to stop environmental destruction – are willing to put their liberty on the line. If you'd like to join us, please get active with a local Greenpeace group/network. Please note: ***95%*** of people we invite to attend such a training event have been locally involved for 6 months or more." – Greenpeace UK website, "Taking Action" page

In 2009, the personal care corporation, Kimberly-Clark, who make paper-based products such as toilet paper, facial tissues, etc., agreed to work with Greenpeace to ensure their paper usage met Greenpeace's forest sustainability targets. In 2014, Triplepundit.com organised an hour-long Twitter chat with representatives from both Kimberly-Clark and Greenpeace to discuss their achievements. In it, the Kimberly-Clark representative makes sure to introduce a 97% figure:

> "We were also the first away-from-home towel and tissue products company in North America to seek and obtain Forest Stewardship Council (FSC) chain-of-custody certification for a broad range of towel and tissue products and now over ***97%*** of our K-C Professional towel and tissue codes are FSC certified." – Peggy Ward (Kimberly-Clark), "Greenpeace and Kimberly-Clark Twitter Chat follow-up", Aug 15, 2014.

Appendix 3. Influence of Chris Rose's "How to Win Campaigns" (2005)

Dr. Chris Rose is a former Strategic Advisor for Greenpeace International, as well as the former Deputy Executive and Programme Director of Greenpeace UK. He has also worked for Friends of the Earth, WWF International and other environmental campaigning groups. He currently runs his own UK-based consultancy firm, Campaign Strategy, offering advice to NGOs and other campaigning groups on "how to win campaigns". In the mid-1990s, he devised a new organisational strategy for Greenpeace, which led to the highly successful "Brent Spar" fundraising campaign. In 2005, he wrote a "how-to" manual describing in detail the campaigning strategies he developed and implemented while at Greenpeace.

Dr. Rose's strategies and techniques have been highly influential on Greenpeace, as well as other similar environmental campaigning groups, e.g., Friends of the Earth. This can be seen for example from the following endorsements which are taken from the inside and back covers of his book:

> "They've got Karl Rove. We've got Chris Rose. Bet on us!" – John Passacantando, former Executive Director, Greenpeace USA
>
> "Chris Rose is one of the UK's most successful campaigners, and his vast experience is brought together in this outstanding practical guide. If you believe there is a problem that needs to be fixed, then How to Win Campaigns is a vital resource." – Tony Juniper (former Executive Director of Friends of the Earth, England, Wales and Northern Ireland; former Vice Chair of Friends of the Earth International)

The book is currently in its 2nd edition (2010) and is available from amazon.co.uk.

In this section, we will provide some key extracts from his book (the 2010 version), along with some commentary on their significance, which we believe provide important insights into Greenpeace's philosophies and strategies for fundraising and campaigning. Quotes from the book are indented and printed in a different font for clarity. Some low-resolution screenshots of relevant figures from the book are included for reference.

A3.1. Greenpeace's "Motivation sequence campaign" model

Greenpeace often invest several years into developing a successful fundraising campaign. They find that the campaigns are more successful when they appear to roll out like a story with each of the chosen story elements appearing in sequence before the final fundraising ("call to action") takes place:

1. Identify the "problem",
2. Identify the "enemy",
3. Identify the "solution",
4. Call the troops to arms for the battle ("engagement mechanism")
5. Raise funds ("Call to action")
6. React and report

Dr. Rose summarises this "Motivation sequence campaign model" on p20-22:

"Plan *backwards* from the call to action. That should either be a fixed date (such as an event) or a date that can be estimated sufficiently well to have all the necessary communications, assets and capabilities in place when it arrives. The possible start date is then generated by adding together the critical time periods needed for each stage before the call to action opportunity.

Campaigns usually need to start with awareness. Awareness of the problem, preferably made more compelling by showing the victim.

The campaign sequence illustrated in Figure 1.5 shows how to plan using the basic formula of the fire notice: awareness → alignment → engagement → action. Each part needs to fit to the next like a jigsaw – the 'enemy' needs to be the particular one that fits with that victim, the solution really does have to solve the specific problem, and so on.

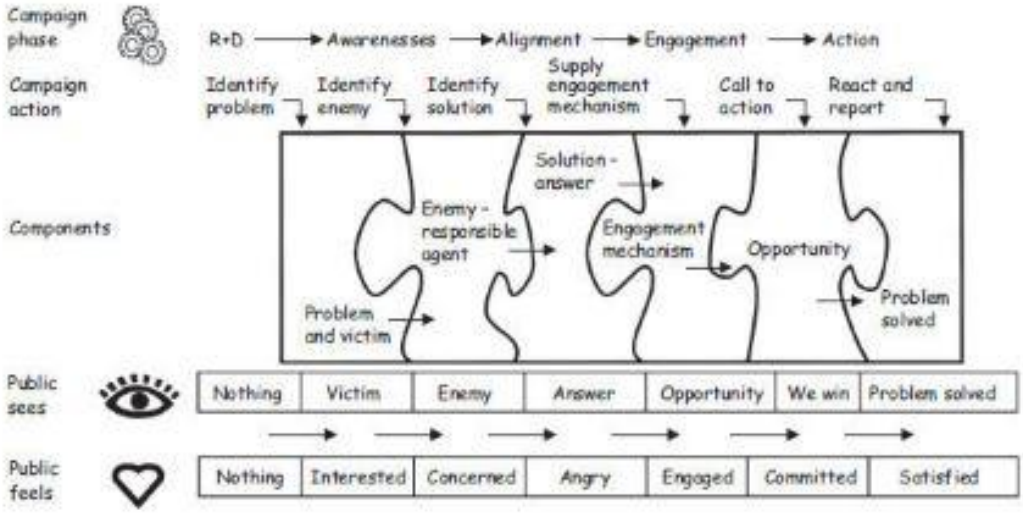


Figure 1.5 *Motivation sequence campaign model*

So in this classic communication path, the story begins when we see the problem – we see 'victims'. These might be human or physical, or animal or even plants. Fish dying from pollution, or a building damaged by acid rain, for example or someone suffering torture. This is the awareness-building phase.

Next we see what or who is responsible, the 'enemy' or causal agent that is to blame – with no cause, a problem is not an issue. This is followed by a period of reinforcement by repetition or 'demonization': former UK Prime Minister Margaret Thatcher was an expert at this; she demonized striking miners, for example. This phase ought to last until the problem is established in the mind of our audience. By this time the public state of mind is one of concern.

If the 'bad news' just continues, the audience gets fed up and withdraws or switches off – the problem is just another tragedy. Concern with no solution will lead to withdrawal; with no constructive outlet it will create frustration, most probably towards the messenger. You can't hold people's emotional attention in that way for long.

When an 'answer' is supplied by revealing a solution, the campaign can progress because we get angry. It's no longer a tragedy but an *avoidable* problem: 'it doesn't have to be like this'. In journalistic terms you have the elements of a scandal (Chapter 8).

Alignment gets everyone looking in the same direction, agreeing what the problem is, who suffers, who's to blame and what the solution is. Skip any of this part and the audience won't see what you are doing as relevant to them.

[...]

For the campaign to call for action, it must have a suitable engagement mechanism ready; and when the timing is just right, give a clear call. In a public advocacy campaign, this might be a call to lobby a politician to pressure the government, visit a shop to lobby the manager about a brand or contact a company about corporate behaviour.

[...]

For a fund-raising group, if the campaign is at all successful, this may be when it goes back to its supporters or stakeholders to explain the success and ask for further help. If campaigners become too obsessed with the media, they may neglect engagement mechanisms, and the campaign generates publicity but no effective pressure. In this way, the campaign rolls out like a story, told from the beginning, with each step revealing something new. It does *not* start by communicating the whole route – if it did, there wouldn't be any change because there wouldn't be engagement, there would be no build-up or focus of pressure.

Unlike a play or film, which progresses irrespective of audience interest, a campaign must not press on until the present stage is successfully completed. It has to gather support for each step – 'to take people with you'. Sometimes this is a long, slow process. An overambitious project may try to take too many people along too far, too fast. An overcautious one may do the opposite." – p20-22, Chapter 1. How to Begin.

Looking back on some of their most successful campaigns, we can see that the entire campaign is often orchestrated to take place over several years.

For example, as discussed in Section 2, when Kert Davies of Greenpeace USA announced in 2001 that they were choosing Exxon Mobil as the 'enemy' on climate change (as opposed to some other oil company, or some other fossil fuel industry), they did not have any "evidence" of villainy other than a non-committal e-mail response from some board members. But, this was just the first step. Kert

Davies then began a project called “Exxon Secrets” with the view to specifically vilify Exxon by alleging (through innuendo) that they were secretly “funding” climate “deniers”. They published their findings in 2004 with a remarkably successful press release which is to this day, the main “evidence” for the popular perception that “Big Oil” is funding “climate denial.

A3.2. Campaigning is the anti-thesis of education

A common reaction many people have when they discover that a particular Greenpeace campaign has oversimplified and misrepresented a particular environmental issue is to argue that they have at least “raised awareness” of “the problem”, and that this can lead to an informed and educated discussion on how to deal with the issue in question. However, Dr. Rose is quite explicit in his book in his opinion that the goal of campaigning is directly opposed to the goal of education. He argues that education increases knowledge and understanding, leading to a more nuanced and reflective discussion, but that this can lead to indecision when there is no clear solution to the problem. Instead, he argues that campaigners should fight **against** education by deliberately oversimplifying the issue and reducing awareness of the available options. In that way, he argues people are more likely to become concerned and angry at what they believe is an urgent problem, leading to action.

He summarises his views on this in his section, “Campaigning is not education” (p23-p25):

> “**CAMPAIGNING IS NOT EDUCATION**
>
> Campaigning involves stimulating action, best achieved by narrowing the focus and eliminating distractions and reducing options, as in advertising (Figure 1.6). Typically, it starts (left column) with a problem and moves a target audience through the stages of awareness (and alignment, not shown here), concern and so on, to action.
>
> In contrast, education expands awareness of options and complexity (right-hand column). It typically takes a problem and shows that it is not so simple as you may have first thought.
>
> The educational model is great for education but not for campaigning. It reaches understanding but not action. Using it to try and decide or stimulate action is likely to lead to confusion and frustration.
>
> Attend meetings of university professors discussing a practicality to see this in practice. In one university I know, a discussion over what to do with a gap left by a 1940s World War II bomb, subsequently occupied by a car park, remained unresolved until the 1980s.
>
> Contesting professors tend to make things complex, and dazzle each other with clever reframing, find angles nobody had thought of, or make reference to additional bodies of information that must be taken into account. Perpetual questioning is how knowledge advances. The same discussion in a bank or a double-glazing company would probably be over in minutes. Questioning fundamentals and reflecting on things is not how business, politics or war advances.

On the other hand, listen to the professors discussing the meaning of life or public motivations, or what music is, and you will probably leave impressed, turning over new insights in your mind, maybe seeing your whole existence in a new way. Ask the bankers and the sales directors to hold the same discussion (or even 'what business is') and you will quickly find it bottoms out in cliché, leaden tautologies and the sort of wisdom you can find in a fortune cookie (Figure 1.7).

Beware campaigners who want to educate others to see the issue in a right way before accepting their support. To be driven by principle is an admirable thing, but to campaign by trying to make others adopt your principles is not likely to be effective. As Gerd Leipold has written: 'Campaign organizations have to be opportunistic, not in terms of their beliefs and values but in terms of reaching audiences.'" – p23-25, Chapter 1. How to Begin.

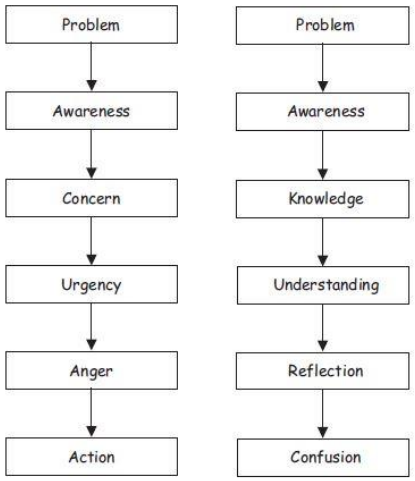


Figure 1.6 *Comparing a campaign model (left) with an education model (right)*

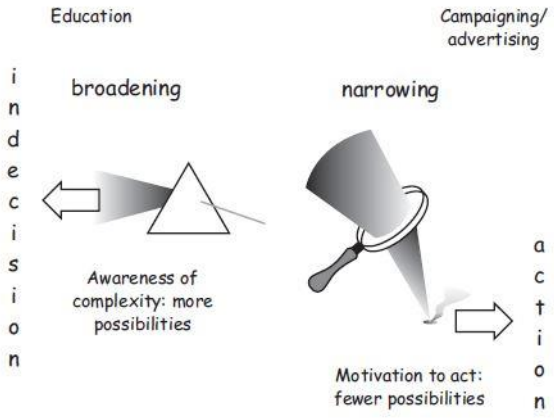


Figure 1.7 *Education and campaigning work in opposite directions*

A3.3. Carefully choosing your villain

Dr. Rose believes that campaigns are most effective when they seem like a classical "story" like the ones we listened to as children. That way, you can shift the discussion from one based on '...facts and rationality' to one based on '...emotions and feelings' [p44, Chapter 2. Communicating with humans]:

"**STORIES**

[...]Campaign communications need to roll out before an audience like a story, from the beginning.

[...] Stories with human interest, based around a person, whether real or not, can move us from right-brain to left-brain communication, from facts and rationality to emotions and feelings. They take us there: 'it could be me'. Like pictures, stories don't need to argue, and you can't argue with them. Because *you* work out the meaning of a story yourself without having it thrust upon you, they can also more easily lead to that rare event, a change of mind.

[...]It is vital that the story, myth, legend, or whatever is chosen is selected carefully." – p43-45, Chapter 2. Communicating with humans

With this in mind, Rose argues that one of the most important parts of a successful campaign is to have a villain, "enemy" or bad guy. If you want to be "the hero" of the story, then you need to find your bad guy. As we discussed in Section 3, and as the Business Insider article discussed in Appendix 1 illustrated, the actual "enemies" identified by Greenpeace are often remarkably arbitrary, and the "evidence" of their alleged villainy is often contrived, tenuous, contradictory, inconsistent and completely taken out-of-context. But, for Rose, it is essential to bring a villain into the campaign narrative at some stage (see also Section A3.1 above).

"CHOOSING AN ANTAGONIST

How a campaign opens is all-important. Who is it against? All campaigns have an opponent: the antagonist, to you, as the protagonist in your story.

Like a tennis player, you may serve for the first point. Where you place the ball will play a part in determining what happens next. Unlike tennis, the campaign game may be joined by any number of other players, including the spectators. It's more like the original versions of football, played between villages, in which the whole community could participate if it felt like it.

The campaigning dialogue is with society, your opponent, your supporters, and sometimes, between them all. The starting conditions help determine the future route of the 'conversations' just as surely as if you stood on a watershed and dropped a toy boat into one headwater or another.

So try to think several steps ahead: use 'what if' scenarios. 'If I communicate this, then what will the reaction be?' Then 'what will I do next – and what will be the response to that?' And so on, as far ahead as you can envisage. Then try another sequences and another.

To pick an opponent, examine the chain of responsibility – from who or what you think is ultimately responsible, to who is immediately responsible. Decide where in that chain to start. Consider:

- How the buck-passing will work
- Public motivation – how do people feel about blaming a potential target (demonology)?
- Likely response – can you ignite a conversation?
- Are some ostensible opponents actually closet supporters, who'd welcome pressure?

Companies, encouraged by their PR companies and some journalists, tend to assume that the main factor in deciding a target is demonology – how big and bad the reputation is. Effective campaign planners, in fact, spend more time thinking through the dynamics – the buck-passing and interests at play.

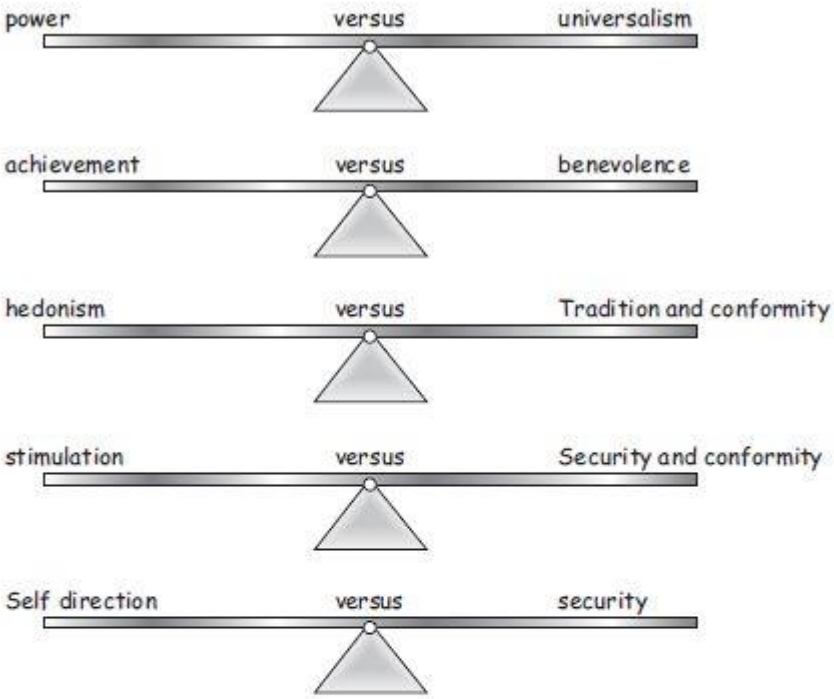


Figure 5.14 *Debates to avoid – Opposed values sets can set up unhelpful polarized debates if the campaign involves a simple head-on assault against diamterically opposed values*

Source: Values dimension antagonisms identified by Shalom Schwartz of Hebrew University of Jerusalem (Pat Dade, personal communication)

To make these choices is very hard if you haven't worked out a critical path. Tip: this is the part of campaign planning that politicians tend to be very good at, so involve them if they are available.

Lastly, be sure to choose your antagonist – don't let values choose them for you. As you can see from the 'Schwartz wheel' (*[a diagram developed by Dr. Rose to quickly identify potential audiences for a campaign]* see page 81), each Schwartz values dimension has opposing values at either end. Vigorous general promotion of one set of values is almost certain to arouse opposition from people who share the opposite values orientation. The most likely one for campaigners to encounter is power versus universalism, but others can also set up an unhelpful see-saw effect in which a polarized debate swings back and forth. This is not what you want to happen unless you simply want a perpetual debate, so think about how to avoid it, for example by finding ways to satisfy, sideline, outweigh or work around opponents with diametrically opposed values sets (Figure 5.14)."

– p141-142, Chapter 5. Campaign Plans.

As well as picking the 'enemy', Rose insists that you must make sure that the 'victim' you have sided with is 'the most empathetic figure in the story'. Again, repeating his claim that campaigning is the opposite of education, he warns that you should **avoid** letting the dialogue progress to a more systematic, objective and knowledgeable analysis. He warns that if this happens, people will begin to lose interest in your campaign. Instead, you should keep the dialogue emotional and focused on the 'victims' you are siding with. He offers advice on how to do this:

> **"STAYING ON THE SIDE OF THE VICTIMS**
>
> A constant media reprise is that the 'real victims deserve our sympathy' (their case is implicitly right). Make sure that the most empathetic figure in the story is you, or on your side. Don't let the media fall out of love with your campaign through the natural tendency for it to dry out and become an elite dialogue.
>
> - Causes start their lives as 'left-field', driven from the heart and over simple instances of injustice or abuse, expressed in everyday language.
> - As time goes by, progress brings calls for systematic evaluation, qualification, objectivity, dispassionate analysis. 'Expert' dialogue develops: this is harder to understand, less public.
> - Knowledge of problems and solutions progresses; the campaign pushes for further change; perhaps losers start to fight back. For example, polluting industries see costs rise and markets shrink as policies favour cleaner technologies. They are self-interested, yes; but what they now kick against is an abstraction, a bureaucratic policy, an esoteric issue and statistics, maybe about risks yet to arise or problems that seem far away.
>
> Now flesh-and-blood 'victims' are appealing for 'fairness'. The woeful business person finds a sympathetic hearing in an economics report on TV, positioned against 'bleeding-heart liberals', 'rules' or 'the interests of frogs'. The campaign 'no longer deserves sympathy' and the media positions the campaigners as the ones to blame.
>
> Avoid this roll-back in two ways: First, don't let it happen.
>
> - Keep the victims' reality locked into the heart of the campaign, be they coral reefs succumbing to climate change, victims of chemical poisoning, cancer patients, or slum-dwellers thousands of miles away;
> - Make them the channels or messengers, or get as close as you can;
> - Keep experts on tap, not on top.
>
> Second, lead renewed calls for progress with evidence of the victims in terms that make them the *most empathetic* characters in the story – not, say, the latest results of a computer model – unless a victim is also the messenger."
>
> – p205-206, Chapter 9. Keeping a campaign going. [Emphasis in original]

A3.4. Importance of (over?)-simplifying the narrative

Albert Einstein is reported to have said that, "everything should be as simple as it can be but not simpler". That is, we should simplify things if we can, but we shouldn't oversimplify. However, as discussed in Section A3.2, Rose believes that the aim of campaigning is **not** to promote knowledge and understanding on the issue. Instead, he believes campaigning should be trying to invoke emotional responses (specifically concern, urgency and anger).

For this reason, Rose has no qualms about oversimplifying the issue in question. He is more interested in constructing a campaign that will engage the public – regardless of whether the campaign has any relevance to the issue or not. They find that moral outrage generates more revenue for them than nuanced discussion of serious issues.

A key theme of Rose's strategy (and one of Greenpeace's) is to design and plan campaigns around a particular image, photograph or series of photographs (or video footage).

> "**CONSTRUCTING VISUAL ECHOES**
>
> One trick of effective visual language is to make people respond to an image without considering whether they have seen it before. Find something powerful and then create a visual echo of it.
>
> In spring 1995, Greenpeace 'invaded' the Sellafield nuclear plant, and blocked various parts to try and stop the separation of plutonium. The action was timed to coincide with talks about to be held in New York on the Nuclear Non-Proliferation Treaty. Greenpeace was concerned to make the Sellafield 'invasion' look interesting, and like an *invading* swarm of people rather than just another white-suit protest.
>
> Sarah Wise, one of the organizers of the campaign, had just seen the Japanese film *Ran*. This featured a battle with hundreds of warriors carrying orange banners streaming across the screen. It enjoyed cult status with TV professionals because of its cinematography.
>
> If they could make the Greenpeace action look like that, she reasoned, TV news editors might say 'I have to have those pictures', rather than waiting (it was on Easter Bank Holiday Monday at 0600 hours) for the skeleton staff in the newsroom to find time to haul some energy or nuclear journalist out of bed to pronounce on whether the story was newsworthy, and trying to describe the footage to them over the phone. So Greenpeace put hundreds of its local group activists in orange boiler suits and gave them pole banners, echoing the troops in *Ran*.

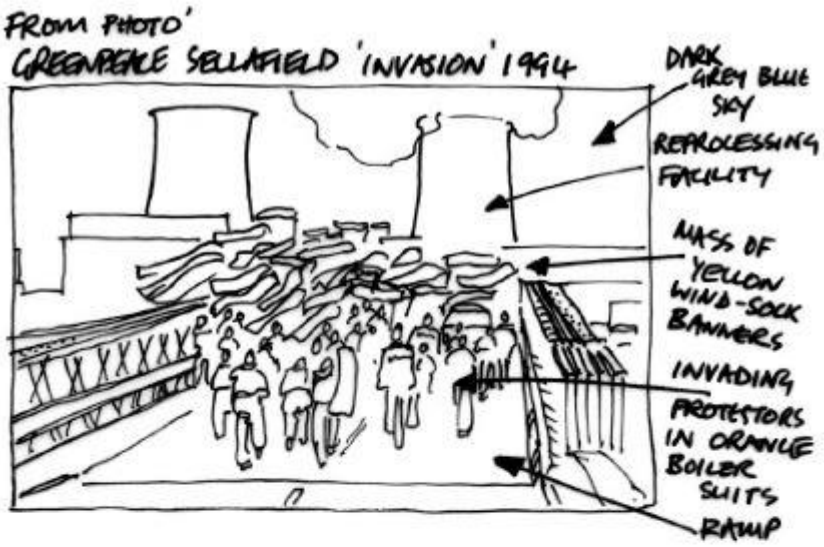


Figure 6.4 *Representation of Greenpeace Sellafield 'invasion', 1994*

Figure 6.5 *Still from Ran, redrawn*

> Wise says: 'It worked so well because the sky was indigo blue in the film, and the scenery was a dark green – not unlike the hills around Sellafield. We considered using smoke bombs to ensure the dark-sky effect, but decided they would be a choking hazard. As it was, the morning was dark and rain-filled, just like in the movie.' The film ran extensively on TV." – p154-155, Chapter 6. Organizing campaign communications.

A common logical fallacy is known as "affirming the consequent". The format of this fallacy is to claim that X will happen because of Y, and then point to Y as proof of your theory, e.g.,

1. If Fred wanted to get me sacked then he'd go and have a word with the boss.
2. There goes Fred to have a word with the boss.
3. Therefore, Fred wants to get me sacked.

- *Example of "affirming the consequent" logical fallacy taken from logicalfallacies.info*

This is flawed logic, but Rose has found that most people don't notice the flaw when they hear an argument made using it. For this reason, he recommends using it as a deliberate technique for convincing people to support your campaign. He calls it, "the self-validating proposition":

> "There's one type of proposition that I call 'self-righting' or 'self-validating'. Like a lifeboat with built-in buoyancy, it stays upright no matter which way you start it off. You can look at it starting from either end, and it will always appear validated. Here, two or more pieces of 'evidence' have a link that can be discovered to be true. They are like the buoyancy tanks. Many are in the form: 'X is true because all As are B', in which the A-B relationship is true, but the connection to X may not be.
>
> For example:
>
> > *All environmental campaigners are just after publicity: (because) all campaigns involve publicity – they're always trying to get on the news, the only time you ever see them is when they're doing some sort of stunt (and so on).*
> >
> > Test:
> >
> > Do all campaigns involve publicity? 'They appear to do so.'
> >
> > Are they always trying to get on the news? 'Seems like it to me.'
> >
> > Is the only time you ever see them when they're doing some sort of stunt? 'Yes, every time they're on TV.'
> >
> > So it's true, then? 'Guess so.'
>
> If you examine this proposition by starting either from who campaigners are, or what's on the news, it seems valid. It works because the audience either draws on his or her very limited existing experience (mainly gleaned from the 'news' anyway) or they check it out by watching the news. The person who wants to use this approach to mislead will be careful to pitch it so that the evidence, likely to be to hand, will validate the proposition. The fact that the audience actually adds it up from their own first-hand experience adds to its veracity: 'Now you come to mention it, that's exactly what I found.'
>
> [...] Saying 'go test it yourself, next time you are...' can be much more powerful than trying to lead a person through a version of your own experience.
>
> More subtle versions of this in spin and propaganda work by use of association and loose ends, laid out like bait. Over a period of time it can be given the *form* of a discovery, the search for truth, and judges any new information with those things. By giving cues and prompts, the orchestrators can ensure the 'right' things get used as evidence and so the 'right' conclusions are drawn.

[...] A self-validating proposition can then be used to further dismiss critics with a vested interest. For example:

Interviewer: '*But Mrs Campaigner, some people are saying that these new engines are much more expensive...'*

Mrs Campaigner: '*They are saying that and if you check you will find that those people represent the car industry who are making significant profits from the current grossly polluting engines, whose emissions as we all know cause asthma.*'

Or she might have added:

'*As anyone who's seen the prices of new cars will know, there's a lot of money being made somewhere. Have you seen the prices?*'

'*Gosh, yes, now you come to mention it.*'

– p178-180, Chapter 7. Constructing campaign propositions

Rose strongly recommends removing any nuance from the discussion, and framing the issue as a simple, binary, "either/or" situation:

"**MAKE THE ISSUE AN 'EITHER/OR'**

A yes/no, 'binary', presence/absence, black/white, either/or type of proposition is more compelling than a matter of degree, such as a how-much or a bit-less. It is more useful and robust, invulnerable to differing perceptions of 'how much is enough'. Monitoring, evaluation and accountability are easier. It allows for 'closure': a supporter can see there can be a clear end point.

[...] Find the 'point of irreducibility' where the two adjacent bits of the issue are differentiated by a single simple difference: one is what you want, and is right, the other is not what you want, and is wrong. Here's your objective." – p181, Chapter 7. Constructing campaign propositions

Rose also recommends making the problem **seem** more urgent and acute than it is:

"**CONVERT THE DIFFUSE TO THE ACUTE**

Political reflexes are stimulated by acute problems, not diffuse ones. The former threaten careers, reputations and interests. The latter can be more safely ignored, not because they are not serious problems, but because watchdogs such as voters, the media and campaigners have a hard time showing that they are there and needing attention now. In this way, 'soft disasters' creep up on us undetected or ignored by political systems." – p182-183, Chapter 7. Constructing campaign propositions

Similarly, he recommends sticking only to dramatic "solutions" which could completely "eliminate" the problem, rather than gradual or partial solutions that "merely mitigate it":

“A big outcome grabs the attention much more than a small one. The technology that, at a stroke, can eliminate a whole factory’s worth of pollution, is dramatic. [...] Propositions to eliminate a problem are stronger than those that merely mitigate it.” – p185, Chapter 7. Constructing campaign propositions

Appendix 4. Influence of Saul Alinsky's "Rules for Radicals" (1971)

Saul Alinsky (1909-1972) was an influential American community organizer whose 1971 book, "Rules for Radicals" has become an important guidebook for community organizers. His book is still in print (Amazon.com link), and there is an unofficial version of the text available on the Internet here.

Alinsky wrote the book as a Machiavellian handbook summarising his techniques for most effectively achieving social change,

> "What follows is for those who want to change the world from what it is to what they believe it should be. *The Prince* was written by Machiavelli for the Haves on how to hold power. *Rules for Radicals* is written for the Have-Nots on how to take it away." – Saul Alinsky, Chapter 1 – The Purpose, Rules for Radicals (1971).

As an aside, Hillary Clinton has controversially been accused of being heavily influenced by Alinsky's approach because she wrote her undergraduate thesis on the book, and was offered a job working for him, e.g., see here. However, according to the Washington Post, she did not necessarily endorse Alinsky's approach.

At any rate, whether or not Clinton is a fan, Greenpeace strategists are fans. More importantly, they appear to have incorporated many of Alinsky's ideas into their approach. In particular, in Chris Rose's book, he speaks favourably of Alinsky's book and recommends reading it,

> "As Saul Alinsky wrote in the now old but still readable tract *Rules for Radicals*...", Dr. Chris Rose, How to Win Campaigns, p6 (2nd Ed.)

With that in mind, it may be helpful to consider Alinsky's views on the problem of "noble cause" corruption, and whether the ends justify the means. In his book, his second chapter was entitled, "Of Means and Ends". In it, he clearly disagreed with the view that the road to Hell is paved with good intentions. He argued that,

> "That perennial question, 'does the end justify the means?' is meaningless as it stands; the real and only question regarding the ethics of means and ends is, and always has been, 'Does this *particular* end justify this *particular* means?'
>
> Life and how you live it is the story of means and ends. The *end* is what you want, and the *means* is how you get it. Whenever we think about social change, the question of means and ends arises. The man of action views the issue of means and ends in pragmatic and strategic terms. He has no other problem; he thinks only of his actual resources and the possibilities of various choices of action. He asks of ends only whether they are achievable and worth the cost; of means, only whether they will work. To say that corrupt means corrupt the ends is to believe in the immaculate conception of ends and principles. The real arena is corrupt and bloody. Life is a corrupting process from the time a child learns to play his mother off against his father in the politics of when to go to bed; he who fears corruption fears life." – Saul Alinsky, Chapter 2 – Of Means and Ends, Rules for Radicals (1971). [Italics in original text]

Alinsky argued that it is quite acceptable to intentionally misrepresent the opposition to make them seem far worse than they actually are. He used the (admittedly interesting) example of the drafting of the Declaration of Independence,

> "Jefferson, Franklin, and others were honorable men, but they knew that the Declaration of Independence was a call to war. They also knew that a list of many of the constructive benefits of the British Empire to the colonists would have so diluted the urgency of the call to arms for the Revolution as to have been self-defeating. The result might well have been a document attesting to the fact that justice weighted down the scale at least 60 per cent on our side, and only 40 per cent on their side; and that because of that 20 per cent difference we were going to have a Revolution. To expect a man to leave his wife, his children, and his home, to leave his crops standing in the field and pick up a gun and join the Revolutionary Army for a 20 per cent difference in the balance of human justice was to defy common sense.
>
> The Declaration of Independence, as a declaration of war, had to be what it was, a 100 per cent statement of the justice of the cause of the colonists and a 100 per cent denunciation of the role of the British government as evil and unjust. Our cause had to be all shining justice, allied with the angels; theirs had to be all evil, tied to the Devil; in no war has the enemy or the cause ever been gray. Therefore, from one point of view the omission was justified; from the other, it was deliberate deceit." – Saul Alinsky, Chapter 2 – Of Means and Ends, Rules for Radicals (1971).

He argued that morals should be kept if you are already winning, but can be abandoned if it helps you "win",

> "So far, so noble; *but*, if I had been convinced that the only way we could win was to use it, then without any reservations I would have used it [*'it' here refers to information about the leader of the opposition being homosexual*], then without any reservations I would have used it. What was my alternative? To draw myself up into righteous 'moral' indignation saying, 'I would rather lose than corrupt my principles,' and then go home with my ethical hymen intact?" – Saul Alinsky, Chapter 2 – Of Means and Ends, Rules for Radicals (1971).

However, while he argued that it can be acceptable to adopt immoral means to achieve your desired ends, he stressed that it is essential to use "moral clothing" to maintain the public appearance that your side is the moral one,

> "Moral rationalization is indispensible at all times of action whether to justify the selection or the use of ends or means. Machiavelli's blindness to the necessity for moral clothing to all acts and motives – he said 'politics has no relation to morals' – was his major weakness.
>
> All great leaders, including Churchill, Gandhi, Lincoln, and Jefferson, always invoked 'moral principles' to cover naked self-interest in the clothing of 'freedom', 'equality of mankind', 'a law higher than man-made law,' and so on. This even

held under circumstances of national crises when it was universally assumed that the end justified any means. *All effective actions require the passport of morality*." – Saul Alinsky, Chapter 2 – Of Means and Ends, Rules for Radicals (1971). [Italics in original text]