# Extinction Rebellion: Preliminary cost-effectiveness analysis

## Summary

Social movements are broad alliances of people who are connected through their shared interest in social change. This research focuses on social movements that use civil resistance as a theory of change, as I believe this is under-represented within Effective Altruism (EA). Civil resistance can be defined as political action that relies on the use of nonviolent resistance by civil groups to challenge a particular power, force, policy or regime. In practice, this looks like nonviolent protests and direct action.

Extinction Rebellion (XR) has highlighted the potential for social movements to create positive societal change. However, there has been little quantitative analysis of the exact impact that XR or other social movements have had on shifting public opinion, creating policy change or, in this case, reducing carbon emissions. In this research project, I attempted to quantify the cost-effectiveness that XR has had on reducing greenhouse gas emissions (GHG) and influencing government spending on climate-related activities. These findings suggest that **XR has abated 0.3-71 (median 8) tonnes of GHGs per pound spent on advocacy**. Relative to the top Effective Altruist (EA) recommended climate change charity, Clean Air Task Force (CATF), **this is more effective by a factor of 0.2x-18x (median 7x). However, we have significant uncertainties around this value, explored further in our limitations section.** If true, this indicates that nonviolent protests can be highly effective in achieving positive outcomes and social movement objectives. This leads to the conclusion that social movement theory should be a focus area for impact-focused researchers, advocates and philanthropists, to determine when these opportunities might arise and how to best utilise them.

Throughout this research, I argue for the following claims, which I believe to be strong:

1. Nonviolent protest has been an effective tool to influence public opinion and policy for climate change in the UK.

I'm also arguing for the following claims, but I believe them to be weaker:

1. The most impactful Social Movement Organisations (SMOs) using nonviolent protest can be more cost-effective than existing EA-funded interventions. My cost-effectiveness analysis of Extinction Rebellion indicates that they were more cost-effective, by a factor of 0.2 - 18x, than current EA recommendations for tackling climate change, using a variety of metrics.
2. We should allocate a greater proportion of funds towards early-stage SMOs, for either research or incubation, than what the EA community is currently allocating. I believe this is a good opportunity for hits-based giving, where expected value might be large despite low likelihoods of success, due to significant potential impacts.
3. We need plans to drive social change that are robust to various points of failure - which often manifests in pursuing several theories of change. This is in tension with only funding the single most cost-effective intervention, as some proponents of EA encourage.

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# 1. Introduction

As defined above, social movements are broad alliances of people who are connected through their shared interest in social change. These movements do not have to be formally organised to be considered social movements. A social movement organisation (SMO) is a formally organised component of a social movement. Therefore, it may represent only one part of a particular social movement. An example would be Greenpeace which is a single SMO within the broader social movement of environmentalism.

Civil resistance is one of many strategies employed by social movements to achieve their shared goal. Civil resistance is formally [defined](#) as "an extra-institutional conflict-waging strategy in which organised grassroots movements use various nonviolent tactics such as strikes, boycotts, demonstrations, noncooperation, self-organising, and constructive resistance to fight perceived injustice without the threat or use of violence." Civil resistance will be the social movement strategy I will be focusing on primarily, as I believe it is not considered as a viable theory of change in many cause areas. When I refer to social movements throughout this piece, I often refer to those using primarily civil resistance.

Common examples of social movements are the Civil Rights Movement, the Movement for Black Lives and Women's Suffrage. Examples of the corresponding SMOs would be the [Southern Christian Leadership Conference](#), [Black Lives Matter](#), and the [Women's Social and Political Union](#).

To be clear, I want to clarify what I'm not proposing:
- We fund existing large or established social movements such as Extinction Rebellion, Fridays for Future, Black Lives Matter, etc.[1]
- We fund violent movements, in either material outcome or perceived tone.

What I am proposing is that Effective Altruists should consider further researching and/or funding early stage (younger than 1-2 years old) SMOs through their incubation phase. Specifically, SMOs that have a strong commitment to impact, evidence and effectiveness.

# 2. Methodology

I've opted to use a [cluster-thinking approach](#) for this cost-effectiveness analysis (CEA), approaching my cost-effectiveness estimate from a variety of angles and using a range of different metrics. The rationale being that I will use 3-4 independent approaches to evaluate cost-effectiveness, and take an average of these values to reach a more robust result. In practice, some of the approaches I take are actually independent impacts, so they should actually be summed rather than taken an average of (e.g. the impact of local councils is independent of climate finance impacts). This cost-effectiveness analysis applies to Extinction Rebellion UK from their launch, July 2018, until May 2019.

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[1] I'll expand on this later but this is generally that successful SMOs will gain the ability to self-fundraise most of their money, meaning that our most effective giving opportunities will be smaller and newer organisations.

The metrics I will be measuring are as below:

1) The greenhouse gas reduction impact (measured in carbon dioxide equivalent emissions averted) of local authorities in the UK moving their net-zero target to 2030 from 2050, as a result of campaigning by XR.
2) The greenhouse gas reduction impact of the UK setting a more ambitious [nationally determined contribution](#) (NDC), as part of the UN Paris Agreement framework to mitigate climate change.
3) The greenhouse gas reduction impact of the UK setting a 2050 net-zero target a year or two earlier than without the work of XR, leading to a higher probability of achieving net-zero by 2050.
4) The increase in government spending on climate finance as a result of XR's advocacy

Where possible, I used UK Government data, and this is all referenced in the "Source" column of my spreadsheet.

**How confident I am in each method**
I am the most confident for the analysis of XR's cost-effectiveness using the metric of GHG reduction via local authorities moving their net-zero dates forward, as this seems to be the most clearly attributable to XR's work. I do however explain the reasoning behind my attribution to XR's work in-depth in [this section.](#)

I would describe the other three approaches as having high uncertainty, yet they all produce results in roughly the same order of magnitude (the council net-zero declaration approach produces a value 10x bigger than the UK net-zero date approach) so the convergence of values is a positive sign that our estimates are in the right ballpark.

I discuss limitations and potential improvements to my estimates in [this section.](#)

**How did I get my attribution percentages?**
It's important to note that each calculation above has at least one subjective estimate, namely my estimate for the contribution that XR made towards each policy change (i.e. the attribution). These will be the most contentious values so I thought it was important to give some clarity on what informed my thinking. I also encourage others to copy the [spreadsheet](#) and use their own attribution values to get a sense of how it might look with different assumptions. Some of my thinking for this attribution was informed by a [document by Founders Pledge](#), on how to evaluate policy-focused organisations. You can see further discussion of these points [below.](#)

Based on early feedback on this work and consultation with those who work in climate policy, philanthropy or research, I updated my attribution figures several times. Where possible, I sought to "crowdsource" my attribution figures by asking climate experts (in my opinion) and other researchers who had no affiliation with XR to produce more unbiased estimates.

**Non-quantifiable impacts**
An important caveat is that I've only quantified several impacts that XR had, and left many impacts un-quantified. Some non-quantified impacts could arguably be more important than

all of the quantified ones combined (e.g. starting a climate movement that spread to 80+ countries and 1100+ globally) so this should also be evaluated when considering the effectiveness of XR. Further discussion on these non-quantified impacts can be seen further below or on this tab of my spreadsheet.

## 3. Cost-effectiveness: Extinction Rebellion (XR)

*Disclaimer: There is some subjective assessment involved in this work so there is probably a decent amount of room for improvement.*

This cost-effectiveness analysis applies to Extinction Rebellion UK from their launch, July 2018, until May 2019.

**Summary tables of results (with full analysis here):**

| **Cost-effectiveness of XR on carbon abatement** | | | | |
|---|---|---|---|---|
| | **Pessimistic** | **Realistic** | **Optimistic** | **Notes** |
| **Local Authority net-zero targets: Reduction in CO2e (tonnes) per £ spent on advocacy** | 0.1 | 20 | 204 | Cost/benefit ratio of CO2e averted per pound spent on advocacy, from local authority net-zero targets going from 2050 to 2030 |
| **Nationally Determined Contributions: Reduction in CO2e (tonnes, up to 2035) per £ spent on advocacy** | 0.1 | 1.7 | 4.3 | Cost/benefit ratio of CO2e abatement per £ spent on advocacy, from a new nationally determined contribution (NDC) of 78% reduction by 2035 |
| **2050 Net-zero target: Reduction in CO2e (tonnes) per £ spent on advocacy** | 0.0 | 1.2 | 6.0 | Cost/benefit ratio of CO2e abatement per £ spent on advocacy, from setting a 2050 net-zero target earlier than without the work of XR |
| Effective Altruist recommended Climate Orgs | | | | |
| **CATF - Reduction in CO2e (tonnes) per £ spent on advocacy** | 0.31 | 1.09 | 3.88 | Cost-effectiveness estimate conducted by Founders Pledge, also estimating historical impact |

| **Cost-effectiveness of XR on leveraging government spending towards climate** | | | | |
|---|---|---|---|---|
| | **Pessimistic** | **Realistic** | **Optimistic** | **Notes** |
| **XR benefit/cost ratio: £ in UK govt. climate change spending (proxy being climate finance) increase per £ spent on advocacy** | 8 | 77 | 387 | Cost/benefit ratio in UK Climate Finance spending increases per pound spent on advocacy |
| Other EA recommended Climate Orgs | | | | |

| ITIF Benefit/cost ratio: $ in clean energy R&D spending increases per dollar spent on policy | 0.4 | 28 | 375 | $ in clean energy R&D spending increases per dollar spent on policy |
|---|---|---|---|---|

**3.1) UK Local Authority net-zero targets**

Local authorities, a form of local government, have some influence on their carbon emissions. To start with, we can quantify the number of councils (the most common form of local authority) that have declared a climate emergency and put in a proposed date for net-zero, which currently sits at 300/404 (74%) of all UK councils. No council had declared a climate emergency before July 2018, when XR launched, and most declared after the most reported protests in April 2019. In addition, by September 2019, 149 of the 238 of the local authorities studied here have net-zero target dates of 2030 or sooner. I would attribute XR 10-50% of the credit for shifting the previously agreed net-zero date from 2050 to 2030, due to their Overton Window-shifting demand of net-zero by 2025 and huge popularity in the UK. It seems highly unlikely that approx. 150 local authorities decided to do this exactly within one year of XR launching without significant influence from XR, especially given that XR local groups were lobbying locally for a net-zero target of 2025 for the entire period.

The kind of work that XR was doing in this capacity involves organising protests, as well as engaging with the local government democratic process via attending meetings, speaking with councillors and building local public support. However, it is possible that another organisation could have done similar work to XR, albeit much less effectively, which could have influenced local authorities to set more ambitious targets. If even half of the 180 councils meet their climate targets by 2040, a slightly pessimistic assumption, that means XR would have reduced carbon in the atmosphere by 20% (my median estimate of XR's counterfactual influence on local authority net-zero pledges) x 10 years x 90 councils worth of CO2e. According to the Committee on Climate Change (CCC), local authorities direct emissions account for 2-5% of emissions in their area and they have "strong influence" over another 33% of emissions through procurement, commissioning, place-shaping and more. A good summary of this information can be seen here with a more detailed report by the UK government.

From their launch in roughly July 2018 until May 2019, XR had fundraised £1,032,816.50 and spent £503,513.06. The disparity in these values is due to the very successful April protests, XR fundraised significant amounts (approx. £400,000+) and didn't organise the next large protests until several months later so had a significant funding overhang in May 2019. I'm using June 2019 as the cut-off as I believe this is when they stopped being a cost-effective intervention for EAs to fund, as the movement was now big enough to raise money via crowdfunding and exhausted most of their marginal gains. Using XR's money spent value of £503,513.06, I calculated that their cost-effectiveness was 0.11 - 204 (median 20) tonnes of CO2e averted per £ spent. It is important to note that there is relatively large uncertainty regarding the amount of carbon each individual local authority can reduce. In addition, I haven't accounted for the counterfactual value of all the unpaid labour done by activists within XR, which is talked about in a later section on ways my CEA could be improved.

**3.2) UK Nationally Declared Contribution (NDC) of 78% CO2e reduction by 2035**
Recently announced on the 20th of April, the UK has committed to the following:
  ● UK government to set in law the world's most ambitious climate change target, cutting emissions by 78% by 2035 compared to 1990 levels. This change is set into a legally binding framework called a Nationally Determined Contribution (NDC).

For reference, this previous target held by the UK was a 68% reduction of carbon emissions by 2030, which was already the highest reduction target by a major economy. Using some rough calculations, the previous target of a 68% reduction in CO2e by 2030 is approximately the same as a 74% reduction by 2035, assuming a linear decrease in emissions. This means that the difference in emissions by the change in NDC is 4% of the 1990 level of CO2e. Using the attribution percentages of 1-10% seen in this spreadsheet, that leads to a result of 0.1 - 4.3 tonnes of CO2e averted per £ spent on advocacy, up until 2035, due to XR.

**3.3) 2050 Net-Zero Target**
In June 2019, after the extremely successful and prolific protests by XR in April 2019 and November 2018, the UK government became the first major economy (and G7 country) to have a legally binding net-zero carbon emissions target, and the second country globally to do so after Sweden. One way in which this leads to a reduction in greenhouse gases emitted is that the public pressure generated by XR might have caused the UK to announce their net-zero target several years earlier than they would have done otherwise. This in turn could lead to a higher likelihood that this net-zero target actually gets met by 2050, for political fear of reputational damage and loss of trust by the electorate, as well as having a head start on actually reducing carbon emissions. Based on a progress report by the UK Committee on Climate Change (CCC), it's reasonable to believe that the UK currently is not on track to meet our net-zero target, so additional public pressure could be vital in achieving policy change to match the UK's commitments.

Modelling several scenarios in this tab, e.g. that the UK hits net-zero at the dates of 2050, 2051 and 2052, leads us to a range of 0 - 6 tonnes of CO2e averted per £ spent on advocacy. Here my key assumption is that in the counterfactual world with no XR, the UK might not have made climate emergency declarations or such ambitious targets and policies until 1-2 years later, which means they would have a higher probability of missing their net-zero by 2050 target. I've modelled this as dates when they actually hit net-zero. Specifically, I believe that in 100 worlds without XR, on average, in 2 of them, the UK will miss their net-zero 2050 target by one year. In reality, it's very possible that the UK will miss the 2050 net-zero target anyway but it seems plausible that XR's advocacy could have sped up this process in either case.

**3.4) Change in UK Government Climate Finance Spending**
Given that UK Government Climate Finance spending was £3.87 billion from 2011/2012-2015/2016, £5.8 billion over five years from 2016/17 to 2020/21, and it has now doubled to £11.6 billion from 2021-2026. In these calculations, I'm only accounting for a £3.87 billion increase in the most recent budget change as I assume the government would

have at least increased the climate finance budget by the same increment it did in the five-year period before that, which was £2.03 billion.

Based on conversations with people in Government roles and other factors (media impact, public opinion polls, council declarations, etc.), I would estimate that a 0.1-5% (median 1%) increase in this value attributed solely to the impact of XR is plausible. Another way to frame this is that in 100 alternative worlds where XR did not exist, I believe there is one world where there was only a £2.03 billion increase in climate finance spending rather than £5.9 billion. This leads to a leverage factor of 7.7-387x more money (see calculations) generated for climate change vs money spent on XR. For reference, I've compared XR to a highly-rated EA climate charity recommended by Let's Fund, the Information Technology and Innovation Foundation (ITIF).

An important consideration here is that the funding ITIF created was used for high-impact research into clean energy R&D, whilst the increase in climate finance spending generated by XR probably wouldn't have been directed to such a high leverage activity. Nonetheless, I believe this example illustrates that a social movement can be cost-effective and there is clear room for improvement if XR focused their energy on increasing spending specifically for clean energy R&D.

Cost-effectiveness estimates could also be carried out for more recent movements with more available data, such as the Civil Rights movement, Black Lives Matter or Occupy. This felt much more challenging as I am not familiar with these movements so this could be an area for further study. Some policy-change impacts of BLM are included in the Ayni Institute report however which I have included in Appendix 1. I have not studied how much time or money was spent on achieving these changes, however.

### Non-quantified impacts of XR:

There are other impacts that XR have had that I believe are too challenging to quantify due to the huge uncertainty I have around them. Due to this, I will try to estimate the approximate size of the impact (marginal, moderate and significant) and the direction (negative or positive). The spreadsheet with these summaries can be seen below and here.

| Impact | Size of impact | Direction | Notes | Source |
|---|---|---|---|---|
| **Narrative adoption** | Significant | Positive | 2,043 jurisdictions have declared climate emergency globally, covering over 1 billion citizens across 37 countries. | Climate Emergency Declaration globally |

| | | | | |
|---|---|---|---|---|
| **UK Policy Leadership** | Significant | Positive | UK government to set in law the world's most ambitious climate change target, cutting emissions by 78% by 2035 compared to 1990 levels. In addition, the UK was the first major economy and second country ever to have a legally-binding net-zero target. Whilst this is clearly not fully attributable to XR, I believe they've had a significant impact. | [UK Government press release](#) |
| **Climate Assembly UK (CAUK** | Marginal | Positive | The Climate Assembly UK produced a series of [recommendations](#) to the UK government, on their path to net-zero. The Department for Business, Energy and Industrial Strategy Committee then launched an enquiry into the findings of this report, later [debated](#) in the House of Commons by MPs. The impact of CAUK is outlined in the [evaluation document](#), indicating the it played an "agenda-setting" role in UK policy-making on climate issues, as well as receiving large amounts of positive media coverage | [Evaluation of Climate Assembly UK](#) |
| **Other UK policy updates to reduce national GHGs** | Marginal | Positive | In addition to the policies I've analysed here, XR has likely influenced other climate-related policies in the UK, such as the sales of diesel cars getting phased out by 2030. This is likely to have a small impact in reducing national carbon emissions, which plays a very small role in global emissions and therefore is only marginally useful. | |
| **Public concern around climate (global and UK)** | Significant | Positive | 59% of people globally believe that we should do everything necessary to combat climate emergency and generally believe climate change is a global emergency (approx 65%) In addition, there are 1174 Global XR groups across 77 countries. | UNDP People's Climate Vote |
| **Global policy changes** | Moderate | Positive | The EU (with 28 member states) and 10 additional countries have declared a climate emergency since the 28th of April 2019, just weeks after the April Rebellion hosted by XR. | [Climate Emergency Declarations: Wikipedia](#) |
| **Fatalism** | Marginal | Negative | XR has been accused of using exaggerated data (from a paper called Deep Adaptation) citing that societal collapse from climate change is more likely than the evidence suggests. Consequences of this might be more fatalism around the climate, loss of hope and less willingness to act. | [Article outlining flawed science used and implications of this](#) |
| **Worsening attitudes towards climate change/climate activism** | Marginal - Moderate | Negative | It's possible that the disruptive tactics employed by XR have turned some people off being interested in climate change, losing some level of public support. It's likely however that these people would have counterfactually not been huge proponents or | |

| | | | | |
|---|---|---|---|---|
| | | | advocates for climate action if XR did not exist, so the negative counterfactual impact is fairly low. | |
| **Political Polarisation** | Marginal (in the UK) | Negative | XR explicitly presents itself as apolitical and not siding with any particular parties but instead insisting climate change is a bipartisan issue. Despite this, it does tend to be viewed as left-leaning by most. Broad political support for XR's aims can be seen by the supporters of the CEE Bill, with 118 MPs across eight parties (however with only one conservative peer in support). Furthermore, Budgen (2020) studies the impact of various forms of protest on political polarisation and concludes that there is no "backfire" effect of losing support from various political leanings due to nonviolent protest. | Paper showing that civil disobedience doesn't reduce support for climate change from Republicans |

### 3.5) Narrative adoption and global Overton window shift

Other signs that indicate that XR has been highly impactful is how the Overton window and discourse around the climate crisis has shifted due to their work. I am too uncertain to put numerical values on how good these effects are but I'm 70% positive that they are net-good for climate change both short and long-term.

One example is the adoption of the terms "climate emergency" and "climate crisis" within society, with Oxford Dictionary naming "climate emergency" the word of the year in 2019, showing a 10,000% increase in adoption from 2018. Generally, I think there is some value in referring to the issue as "climate crisis" or "climate emergency" which indicates a more severe issue rather than calling it "climate change", potentially encouraging more ambitious action.

For instance, the EU (with 28 member states) and 10 additional countries have declared a climate emergency since the 28th of April 2019, just weeks after the April Rebellion hosted by XR. In addition, 2,043 jurisdictions have declared climate emergency globally, covering over 1 billion citizens across 37 countries. More detail on XR's role in these declarations can be seen here but there are reasonably strong reasons to believe that XR had a significant (80%+) impact on the UK declaring a climate emergency. The most obvious one being that before XR, no one was advocating for a climate emergency declaration, so there are few other plausible explanations for this increased interest. Whilst the value of these national declarations are challenging to quantify, especially due to cluelessness, I estimate that these declarations are good in the short and long term. I can see them being good for two reasons:

i)    These countries have now legitimised the urgency of the climate crisis and their national policies will need to demonstrate plans to decarbonise, and are now more able to be held accountable for their actions.

ii)   The demonstration of policy leadership by these countries. With some countries already having declared a climate emergency, it is logical to me that other countries globally will follow suit and have the same benefit of more ambitious plans to decarbonise, but in a

greater number of countries. This will be especially powerful if it spreads to countries where carbon emissions are the greatest, such as China or India.

Finally, Extinction Rebellion's demand of reaching net-zero by 2025 has been a radical stance that has shifted the Overton Window of politically feasible net-zero dates. This article shows that XR somewhat influenced the Labour Party in the UK, the main oppositional political party, in shifting their net-zero target from 2050 to 2030. This is another key example of policy leadership that could have ripple effects into other countries as well as societally legitimising significant action on the climate.

### 3.6) UK Policy Leadership

In June 2019, after the extremely successful and prolific protests by XR in April 2019, the UK government became the first major economy (and G7 country) to have a legally binding net-zero carbon emissions target, and the second country globally to do so after Sweden. As of writing this piece in August 2021, there are now 13 countries who have a net-zero target, plus the EU which has 27 member states for a total of 34 countries (excluding some double counting). In addition, there are approx. 50 more countries where net-zero targets are within policy documents or in stages of being passed. This means that to date, 59 countries, representing 54% of global GHG emissions, have communicated net-zero emissions targets, including the world's two largest emitters – the United States and China. A caveat is that many of these NDCs are not legally binding whereas the UK's target is. Regardless, I believe having a net-zero target will make a country much more likely to make progress towards decarbonisation compared to the case of no target.

Whilst this is challenging to quantify numerically, I believe the policy leadership shown by the UK here is significantly positive in reducing global emissions. The actual reduction of UK emissions is a relatively moderate positive impact (due to the UK only emitting 1% of global GHGs). The key assumption is the significance of XR's role in these demonstrations of policy leadership. I would estimate XR to have contributed to the development of this net-zero target (for example by speeding it up by 1-3 years compared to the counterfactual scenario) by between 5-20%, which is significant. I chose this value due to conversations I've had with those who work in Government, the impact that XR has had in raising public awareness around the climate, the political support the very ambitious CEE bill (2025 net-zero target) has received from 102 MPs and generally subjective experience from living in the UK and experiencing how XR has shifted the conversation on the climate.

Other commitments made by the UK:
- The world's most ambitious climate change target, cutting emissions by 78% by 2035 compared to 1990 levels
- For the first time, UK's sixth Carbon Budget will incorporate the UK's share of international aviation and shipping emissions
- This would bring the UK more than three-quarters of the way to net zero by 2050

For reference, this previous target held by the UK was a 68% reduction of carbon emissions by 2030, which was already the highest reduction target by a major economy. This example of policy leadership shown in the UK I believe will have knock-on effects on other major economies (primarily the EU and North America I assume) to encourage them to set

similarly ambitious legally-binding carbon reduction targets, also known as nationally determined contributions. Generally, it can be seen that national policy change has international spillover effects, starting a trend of policies and target setting in this case.

**3.7) Other UK-policy benefits of XR**

    a) **The creation of the Climate Assembly:** The [third demand](#) of XR was the creation of a legally binding [Citizen's Assembly](#), meaning a randomly selected group of citizens would decide the pathway for the UK to reach net-zero. This was a partial success for XR, as there was a [Climate Assembly](#) commissioned by the UK government, however it wasn't legally binding. This Climate Assembly produced a series of [recommendations](#) to the UK government, on their path to net-zero. The UK Department for Business, Energy and Industrial Strategy Committee then launched an enquiry into the findings of this report which was then [debated](#) in the House of Commons by MPs. The impact of the Climate Assembly is outlined in this [evaluation document](#), indicating the Climate Assembly played an "agenda-setting" role in UK policy-making on climate issues, as well as receiving large amounts of positive media coverage

    b) In addition to the policies I've analysed here, it's likely that XR has influenced other climate-related policies in the UK, such as the sales of diesel cars getting phased out by 2030. This is likely to have a small impact in reducing national carbon emissions, which plays a very small role in global emissions and therefore is only marginally useful.

**3.8) Global effects of XR**

    a) International policy

        i) The EU (with 28 member states) and [10 additional countries](#) have declared a climate emergency since 28th of April 2019, just weeks after the April Rebellion hosted by XR.

    b) International concern for climate

        i) In the [largest survey of public opinion](#) on climate change, conducted by the UN Development Programme, 59% of people globally believe that we should do everything necessary to combat climate emergency. Furthermore, approximately 65% of respondents believe climate change is a global emergency. Whilst it's not obvious how much of this was caused by XR compared to other actors or factors, there are some indicators that XR played a reasonably significant role. One, named above, is the popularising of the term climate emergency. Another would be the widespread popularity of XR, with [1194 Global XR groups](#) across 84 countries, indicating that XR had a large effect in catalysing climate action groups globally. Some further reasoning is given below in sections 3.10) to 3.15).

**3.9) Potential negatives of XR**

    a) Polarisation

        i) XR explicitly presents itself as apolitical and not siding with any particular parties but instead insisting climate change is a bipartisan issue. Despite this, it does tend to be viewed as left-leaning by most. However, I think relative to the extent of political polarisation seen in the US, XR's bipartisan approach

has caused minimal political polarisation. Broad political support for XR's aims can be seen by the supporters of the CEE Bill, with 118 MPs across eight parties (however with only one conservative peer in support). Furthermore, Budgen (2020) studies the impact of various forms of protest on political polarisation and concludes that there is no "backfire" effect of losing support from various political leanings due to nonviolent protest.

b) Worsening attitudes to climate change/climate activism
   i)    It's possible that the disruptive tactics employed by XR have turned some people off being interested in climate change, losing some level of public support. It's likely however that these people would have counterfactually not been huge proponents or advocates for climate action if XR did not exist, so the negative counterfactual impact is fairly low.

c) Fatalism around climate
   i)    XR has been accused of using exaggerated data (from a paper called Deep Adaptation) citing that societal collapse from climate change is more likely than the evidence suggests. Consequences of this might be more fatalism around the climate, loss of hope and less willingness to act.

## Other social impacts of nonviolent protests

In addition to raising awareness and building public support for an issue, social movements generally seek to shift the Overton window. The Overton window is the range of policies that is deemed acceptable in public discourse. Social movements and civil resistance can shift the Overton window to make more progressive policies, whether it's about animal welfare, racial justice or climate action, seem more reasonable and therefore have a higher chance of being passed. One clear example explored further below is how Extinction Rebellion had extremely ambitious demands of declaring a climate emergency and achieving net-zero emissions by 2025. The high levels of ambition in these demands meant that previous policies now seemed less progressive, encouraging political parties to adapt their own policies to maintain the support of their constituencies. The work of XR notably influenced the Labour Party in the UK in declaring a climate emergency and shifting their net-zero target from 2050 to 2030. Furthermore, Jeremy Corbyn, then leader of the Labour Party, came out directly to say that MPs should endorse XR's demand of declaring a climate emergency, which they later did.

## Reasoning for attribution - How much of the impact was actually due to XR?

As mentioned above, my thinking for the attribution of these policy changes was informed by a document by Founders Pledge, on how to evaluate policy-focused organisations. Namely, they list several factors when doing so:

1) **How crowded was the field when it started?** - Were there numerous organisations with the same aims and capabilities that could have replaced XR if XR didn't exist?
2) **Role of each actor** - the need to understand the various roles played by different organisations to determine which roles were necessary for achieving a certain outcome.
3) **Consistency of timelines** - Does the timeline for XR match the timelines for decision making within the government and the announcement of policies?

4) **Catalytic nature of the charity's work** - Conceiving and leading a campaign is much less replaceable than joining a campaign. Leading a campaign probably means that the organisation had a greater counterfactual impact.

5) **Nature of the government stance** - Is there evidence the government would have made the changes anyway without XR's campaigning?

Addressing all of these in turn:

**3.10) How crowded was the field?**
Arguments in favour of the field being crowded already:
- Greta Thunberg kicked off Friday For Future (FFF) and School Strikes for Climate (SS4C) with her first strike in August 2018. This led to the first mass coordinated school climate strike in January 2019 which mobilised 45,000 protestors in Switzerland and Germany alone.
- This later led to two large global climate strikes in March 2019 and May 2019, which mobilised 1.4 million people across 2,200 events and hundreds of thousands across 1,600 events respectively.
- There was a wave of climate activism already underway across Europe at the least, if not globally. This would reduce the role XR specifically played in raising public concern around climate and shifting the Overton window.
- There are claims that FFF and SS4C were influential in the large EU pledge for greater spending on climate change mitigation, which would reduce the role XR played in international policy leadership.
- It was a very opportune moment and context for the growth of climate activism. One factor being that in October 2018, the Intergovernmental Panel on Climate Change (IPCC) issued a dire statement: "a failure to limit the increase in global average temperature to 1.5°C above pre-industrial levels, it said, was likely to result in fires, floods and famines", and that we had 12 years left to act. Another factor would be the meteoric rise to fame that Greta faced, boosting the profile of climate change, especially across young people and on social media.

Arguments against the field being crowded and XR being replaceable:
- XR had its first public actions in October and November 2018, which drew 1,000 and 5,000 people respectively, where both occurred before FFF organised large climate protests. This indicates that XR was already growing in size several months before FFF came into the scene fully.
- FFF, SS4C and the UK Student Climate Network (UKSCN, the UK equivalent of FFF) are all organisations of people predominantly under 18, so there is little room for any climate-concerned citizens over 18 to get involved with these organisations. Besides these organisations, no organisations were mobilising large groups of people to take action on the climate, which is exactly the role XR filled. In this case, XR was playing an extremely important role in mobilising people over 18 and increasing the total number of people mobilised.
- Extinction Rebellion was started by quite a unique mix of people who I believe had the rare combination of skills needed to create a successful social movement organisation. From PhD candidates in social movement theory to fashion designers to university students to long-time activists, it was a wide range of skills that was held

together by the motivation to tackle climate change using civil resistance, which is already a strategy that most don't subscribe to. From my personal experience within activism for the past five years, I can confidently say it's extremely rare to find such driven and talented people who manage to launch a project of this scale without self-imploding due to conflict and governance issues. This makes me think that XR was not very replaceable and that it would have been extremely challenging for another organisation to reach the same scale and impact XR did.

### 3.11) Role of each actor
Arguments in favour of XR having a small role relative to other actors:
- XR was only involved in what one might call a "broad" intervention, in that their dominant impact was raising public concern for the climate and generally encouraging climate action, but not meaningfully advocating for a specific set of policies.
- At COP24, there was a big push to get local governments and councils to commit to net-zero, which might explain some/many of the new local council pledges from December 2018 onwards. This happened right about the same time as XR was gaining popularity, so the differences are quite hard to disentangle.
- Other organisations would have been working "behind the scenes" to do specific policy advocacy and lobbying efforts to further the climate policies that did pass. Specific examples would have been the Green Party and Labour Party in the UK who would have put pressure on the existing government to declare a climate emergency.
- Similarly, XR rarely spoke about climate finance so it's highly likely that other climate policy organisations, such as the Committee on Climate Change or Green Alliance, played a much larger role in the change of climate finance policy or setting of a more ambitious NDC.
- The UK has been designated to be the host of COP26, an international climate conference, since September 2019. This makes it more likely that the UK would announce more ambitious climate policies closer to COP26 (in November 2021) to seem more progressive.
- David Attenborough is an extremely influential UK public figure and there's reason to believe that his more climate-focused documentaries, released predominately in 2019 and beyond, played a role in influencing public opinion on climate change.

Arguments in favour of XR having a large role relative to other actors:
- One of XR's key demands, unique to XR alone, was for the UK to declare a climate emergency. This indeed did happen, with most attributing this to XR's protest, indicating that XR did play a significant role in influencing UK policymaking.
- YouGov, a polling organisation, indicated that they think the large increase in public concern for climate change was partly due to Extinction Rebellion (besides other factors such as a David Attenborough documentary and FFF. Analysis by CarbonBrief shows a similar result in attributing some of the increasing public concern to XR

### 3.12) Consistency of timelines
Arguments against consistency in policy timelines:

- Whilst there are no standard timelines for policy development and deployment, it would generally be accepted that it is on the order of several months to years.
- As aforementioned, the UK's increase in NDC ambition was in May 2021, which comes just 5 months before COP26, where countries are asked to submit more ambitious greenhouse gas emission reduction targets, with additional eyes being placed on the UK as the host of COP26 and an expectation for particularly ambitious NDCs.
- The introduction of the 2050 net-zero date came on the 27th of June 2019. This was only several months after XR's largest protests in April 2019 so this could be a reason to lower attribution to XR, as the policy might have been in the pipeline beforehand.

Arguments in favour of consistency of XR and policy timelines:
- Following on from the 2050 net-zero pledge, XR did first emerge in August 2018, with relatively large protests in November 2018 and sustained actions up until (and past) April 2019 so there is a good reason to believe that the pressure they started applying from November 2018 was a non-negligible factor in the net-zero pledge announcement in June 2019.
- Local authority net-zero pledges started coming in fast after the first big protest in Nov 2018 and accelerated after April 2019. There were zero pledges before November 2018, with the first two happening in November 2018, one before and one after the protest. Importantly, the first local authority net-zero pledge happened in Bristol, where XR had a significant presence (along with a Labour and pro-climate mayor). The take-off of these climate emergency declarations and 2030 net-zero pledges increases dramatically over the next few months, with 149 2030 or sooner net-zero pledges by 2019. XR over this period had significant growth, going from approx. [7,000 people on their mailing list](#) in December 2018 to 140,000 in September 2019. The take-off of climate emergency declarations can be seen in the graph below on XR's (outdated) metrics website [here](#)
- Evidence of XR's influence on the [UK's national climate emergency declaration](#) can be seen through the [two](#) [parliamentary debates](#) that took place in the wake of their largest protests in April 2019. This declaration followed extremely soon afterwards, on May 1st. This short timeline can be explained by the fact that a climate emergency declaration does not actually tangibly influence government spending or priorities, therefore it can be passed at quick notice without great need for deliberation or research. Furthermore, the climate emergency declaration demand was unique to XR and not advocated for by other groups.
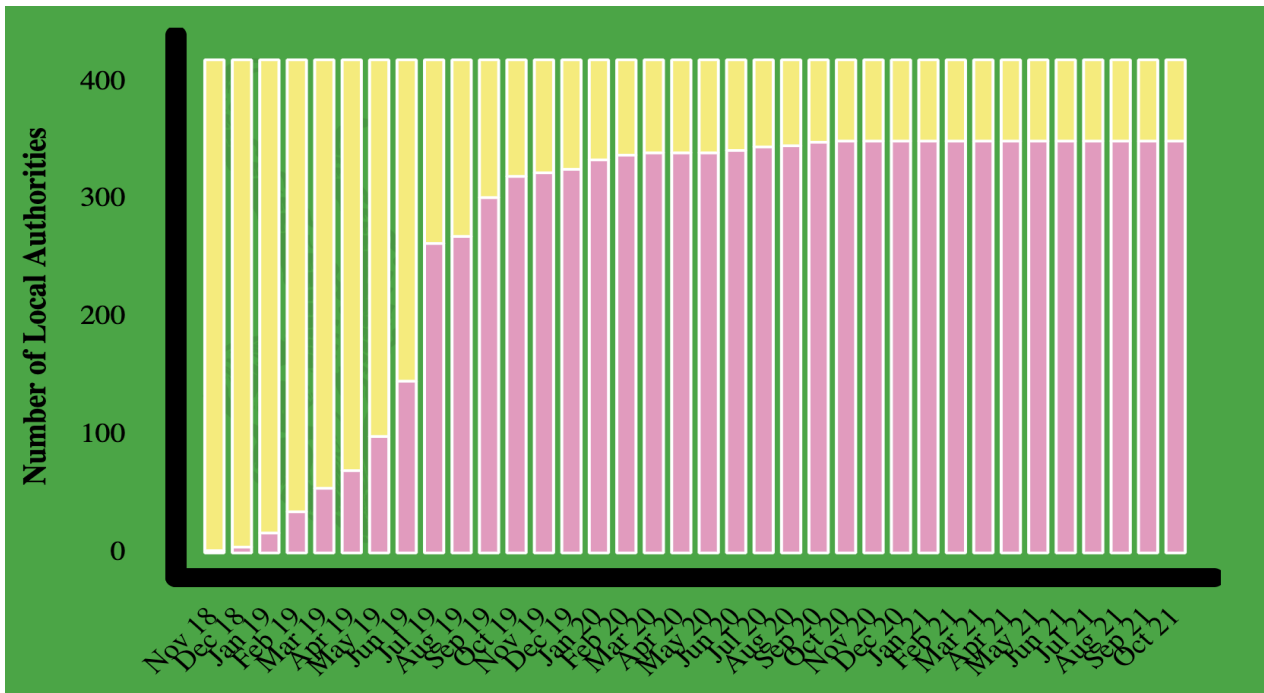
### 3.13) Catalytic nature of XR's work

Arguments against XR's work being catalytic:

- One could argue that the popularity and success of XR crowded out other climate organisations from emerging and being even more effective. I however believe this is tenuous as I highly doubt other organisations would have been as popular and able to mass mobilise as XR did.

Arguments for XR's work being catalytic:

- One argument for XR's work being catalytic is that there was no mass popular climate movement in the UK or globally (Fridays for Future was only youth-focused) before they started. As of October 19th 2021, there are 1194 XR local groups globally in 84 countries, indicating a huge growth over the past three years. Similarly, XR had the largest number of local groups of any climate organisation within the UK, with hundreds of local groups. This has likely catalysed climate actions on all levels of society, across the globe.
- In addition, the work of XR catalysed the birth of other organisations that used similar tactics or were inspired by the success of XR. Notable examples are:
    - The CEE Bill Alliance, a parliamentary bill advocating for a more rapid transition to net-zero within the UK, which has the support of 118 MPs.
    - The Climate Emergency Fund, a grant-making foundation that was created specifically due to the success of XR and continues to fund climate movement organisations today.
    - Similar campaigning organisations: Animal Rebellion, Insulate Britain, Wildcard, and so on.

### 3.14) Nature of government stance

Arguments in favour of the UK government being likely to implement these policies anyway:
- Again, the UK hosting COP26 adds a factor that the UK might have made some of these policy decisions even in the absence of XR.
- The release of the [IPCC 1.5 degree special report](#) on the 8th of August 2018 might have been an influence for the UK government to start taking more urgent climate action.
- In addition, the UK Committee on Climate Change (CCC) has [yearly progress reports](#) to the government which play a role in increasing ambition and climate policy.

Arguments against the UK government being likely to implement these policies anyway:
- Following on from the CCC reports, they indicate we're making slow policy progress towards our targets in many sectors and industries so it seems the UK, like most countries, isn't taking urgent enough climate action across the board.
- Climate emergency declarations was a concept popularised by XR and it's highly unlikely the government would have enacted that without pressure.
- The focus by XR on a 2025 net-zero date was a significant shift in the Overton Window, which probably played a large role in local authorities shifting their net-zero targets from 2050 to 2030. No other groups to my knowledge were campaigning so strongly or popularly for a 2025 target.
- The presence of strong XR groups (e.g. Bristol, Brighton and London) [tends to correlate](#) with earlier net-zero pledges.

In addition, Founders Pledge lists some sources to gather information and testimony regarding the impact of certain organisations and their varying levels of desirability. To specify who I have spoken to concerning the impact of XR, it was two civil servants, one of whom works within BEIS, which is the UK Government Department for Business, Energy and Industrial Strategy, the main department for climate change-related policy. It's important to note that the people I've spoken to were not directly involved in the policy changes listed but rather talking about the general sentiment of XRs impact on their policymaking. Whilst these conversations happened over a year ago, both were confident that XR had impacted the level of ambition within government climate policy, causing civil servants to carry out work that would not have happened otherwise. One anecdote shared was that after the April 2019 protests, when XR was demanding net-zero by 2025 when no one else was, BEIS commissioned an internal report on how challenging it would be to reach net-zero by 2025. This to me is reasonably clear evidence that XR at the very least impacted the level of ambition shown with climate-related policymaking, increasing the likelihood for most progressive policies to pass and potentially leading to policies with greater financial or carbon-related commitments.

Other sources of information that informed my analysis and estimates are as follows, from an order of more credible to less credible:
- UK government announced a climate emergency declaration, one of XR's three main demands, soon after their popular protests in April 2019
- Two parliamentary debates on climate change specifically attributed to the XR protests, seen [here](#) and [here](#).
- Local authorities declaring a climate emergency and making more ambitious net-zero targets soon after the protests in April 2019. The locations of these commitments

also correlate well with the relative size of XR in various locations, with places such as Bristol and London having large XR groups and making these commitments relatively soon. A quick note that this could also be because more green local authorities will naturally have more climate activists so this is not causation by any means.

- Opinion polls showing increasing public concern for the climate and XR being listed as a significant factor.
- Media articles outlining political parties considering climate policy changes, with XR being named as a factor.
- Narrative adoption of the term "Climate Emergency", predominantly coined by XR, by politicians and public figures across the UK.
- Extremely widespread media coverage of XR both in the UK and internationally.

### 3.15) Ways my cost-effectiveness estimate could be improved:

The direction and magnitude of these effects are highlighted by the number of minus or plus signs within the brackets. For example, (-) means this factor could lead to a small over-estimation of the true cost-effectiveness, whereas (++) might be a moderate under-estimation of the true cost-effectiveness, etc.

1) (-) It doesn't account for the counterfactual value and opportunity cost of the paid and unpaid labour for people who worked on XR.
   a) Social movements such as XR are predominantly organised by a large number of unpaid volunteers and a small number of volunteers who receive small stipends to cover basic living costs. I haven't accounted for the counterfactual value of all these volunteers. There are cases where this counterfactual value could be quite high if some volunteers, who might be especially talented in certain areas, would have given their time and energy to other opportunities that could have been an equal or even higher impact. In other cases, volunteers might have simply spent the free time that was going to XR on other less-effective volunteering, such as with traditional NGOs such as Greenpeace, Friends of the Earth or their local Green party. The best counterfactual case is that these volunteers would have not volunteered in any cause or charity at all if it was not for XR. My intuition is that there are few extremely high impact volunteering opportunities so it's not immediately clear to me that there was a more effective place to volunteer for those interested in mitigating climate change and who only had 2-20 hours per week to give. Additionally, most volunteers who were involved in XR did not have the specialist skills or experience to do effective technical climate advocacy as that of the Clean Air Task Force or TerraPraxis, so it's unlikely they would have been even able to land these volunteering opportunities if they did even exist. Due to these reasons, I estimate the counterfactual value of volunteer time to be quite low and if anything, XR catalysed many people to get involved in climate action who would not have done so otherwise, which seems like a large positive for me.

2) (--) Some of the main parameters for calculating the impact of XR involve a subjective assessment of the role XR played in affecting policy, and my motivated reasoning might cause the numbers to be too high.

   a) [Motivated reasoning](#), similar to confirmation bias, are obvious reasons why I might have subconsciously selected data that fits my worldview that protest groups such as XR are effective. In addition, motivated reasoning could have led me to be too generous when attributing causality to XR, giving them a higher percentage of the share for a specific policy change than was accurate. I've gone back several times independently and after feedback from people to revise my attribution rates to XR to a much lower number than they were initially. Of course, this might still have some level of bias so I encourage people to copy the [spreadsheet](#) and use their own attribution values to get a sense of how it might look with different assumptions.

3) (??) I'm highly unsure of the carbon reduction potential of local authorities and how much influence they have over their own emissions

   a) There is a fairly large range given by the CCC in estimating that 2-38% of local authorities emissions are within their scope to change. Greater certainty on this would help me calculate a more accurate value for the impact of XR on reducing local authority emissions.

4) (-) I don't include the fundraising and spending of XR local groups in this calculation

   a) This is quite a small value relative to XR UK centrally so I can't imagine it would add more than 5-10% of the cost.

5) (?) The discount rate/trajectory to net-zero for councils is unknown. I'm assuming they will do so linearly over the timescale of their decarbonisation.

6) (--) An important consideration here is that the funding ITIF created was used for high-impact research into clean energy R&D, whilst the increase in climate finance spending generated by XR probably wouldn't have been directed to such a high leverage activity, meaning it could be less impactful overall.

7) (??) I have very little understanding of the role that XR has in influencing climate finance within the UK. Could have more conversations with people in the Civil Service and other experts/policymakers to see if greater public support for climate change or the work of XR generally could have led to increased spending on climate finance.

8) (???) The narrative adoption impact might only become more visible over the course of 5-20 years. Similarly, intuitively I believe that XR led to a cultural shift in how we view the climate from "climate change" to "climate emergency" and introduced the existential threat element. However, I'm not sure where one can begin to quantify a cultural shift.

9) (-) I don't try to quantify the negatives that XR has caused

10) (???) I've neglected some large impacts, such as the impact of XR on the long-term future, or they have not come to fruition yet.

**3.16) How future cost-effectiveness might look:**

1) (++) We've been able to learn from the activities of XR and other social movement organisations to better implement new SMOs going forward
2) (--) It might be challenging to find another cause area that is easily explainable, broad enough to have a popular base as well as being important, neglected and tractable.
3) (--) It could be that XR is a significant outlier and that the vast majority of movements don't succeed, such that the expected value is much lower than I expect.
4) (-) It's unclear to me how successful these organisations will be in different cultural contexts and countries. I assume it might be less successful in countries that have less familiarity with protest groups, however, I'm quite unsure.
5) (+) I believe SMOs would be most effective in countries with relatively little awareness of certain issues, so it could be cost-effective to focus on regions outside of Europe and North America if advocating for causes such as animal welfare and climate change.
6) (-) Using disruptive tactics too regularly might desensitise people to the sacrifice shown by people getting arrested, meaning nonviolent protest becomes less effective over time.
7) (- / +) Governments and police learn how to crack down on nonviolent protest organisations, with new [policing powers](#), [imprisonment of peaceful activists](#) and [seizing of equipment](#). A counterargument to this would be that this invokes a '[backfire' effect](#), where increasing police repression can actually generate more sympathy, attention and support for a cause.
8) (+) A significant number of people have been involved with protests and direct action, received various training and gained relevant experience thanks to the rise of XR globally. This might mean that these people will both be interested in pursuing movement-building activities for other causes and that they will be better at it, thanks to previous learnings and experience.

# 4. Additional Considerations

*[Note - these are additional thoughts on why social movements should be a focus for impact-focused philanthropists but they're slightly out of date, and we'll be publishing more rigorous work on these questions in the near future]*

**4.1) Tractability: How easy is it to fund and/or incubate an effective social movement?**

Based on the following claims, I believe funding and incubating effective social movements are highly tractable:

1. There are a relatively small number of people needed to launch an SMO successfully

   a. In my opinion and experience, you need roughly 6-8 committed people to work together full-time for a year to have the groundwork to successfully launch a social movement. I'm making this estimate based on information from the Civil Rights Movement, the Sunrise Movement, Extinction Rebellion, and in my personal experience, Animal Rebellion.

2. You don't need many resources or specialist knowledge
   a. Following on from the following point, due to the limited number of people required, I believe you could launch a social movement with reasonable chances of success for less than £100K. This is a relatively small number for the amount of potential positive impact
   b. Launching a social movement can be done by people who have reasonably little experience in activism or campaigning (1-2+ years, but obviously more can be better), provided they have some experienced leaders, mentorship and the right support and information. Most people I have worked with at Extinction Rebellion and Animal Rebellion have never been involved in this work previously yet can excel quickly, as it requires primarily generalist skills. The caveat here is that you would need at least two or more experienced people to design the initial strategy and ensure things stay on track.

## 4.2) Are SMOs impactful at the margin?

Similar to the points on tractability, I think funding early-stage SMOs, before their public launch or in the first year of their activities can be extremely cost-effective and impactful on the margin for various reasons:
1. Before an SMO has launched publicly and can crowdfund, it is extremely challenging to get funding. There would be extremely limited scope to get money from other sources, as most foundations don't fund social movements, so any early-stage grants would be crucial in a successful incubation and launch. The donors and organisations that do fund SMOs tend to focus on established ones, rather than having the capacity or willingness to vet earlier stage SMOs, making it even more challenging and neglected. Once the SMO is launched, I believe a successful SMO would be popular enough to fundraise for themselves sustainably. For instance, the Sunrise Movement had revenue that ballooned from $50,000 per year to $15 million per year in just four years.
2. SMOs tend to pay volunteer/limited wages (on the scale of £12-20K/year in the UK) so you could hire more staff at an SMO compared to a more established non-profit, by a factor of 2-3x. However, there could be a case made to increase the wages of people working in SMOs to reduce the level of financial hardship, ensure volunteers stay committed long-term, and reduce burn-out.
3. Generally, SMOs are started by people working on it part-time without pay and working multiple other jobs to cover their bills. This means the incubation process usually takes several years, or is rushed and therefore sub-optimal. An incubation grant of approx. £100K would mean a team of 5-8 could focus solely on the incubation and launch within roughly a year.

For evidence of this, I calculate XR's cost-effectiveness above as an example of the potential cost-effectiveness of other civil resistance-focused SMOs. As demonstrated, it outperforms existing top-recommended interventions when comparing it from multiple different angles. When including the non-quantified factors such as carbon averted or narrative adoption in XR's case, we see the difference in impact increase in size.

Similar to what is written by Founders Pledge about seeding early-stage non-profits, I believe the same is true for seeding early-stage SMOs. That being, funding SMOs can be impactful and high leverage for the following reasons:
- Since SMOs generally want to grow to become popular mass movements, their intended scale is large. Crucial funding early on can get the SMOs over the incubation hurdle and unlock a potentially huge mass movement which then has the ability to fundraise money from the public that counterfactually might not have been diverted to this cause.
- In addition to unlocking money, the same could be done for human capital, as people often leave jobs and spend many hours working on a movement they would have not done otherwise if that SMO did not exist.

## 4.3) Counterfactual of not incubating or influencing early-stage SMOs

Incubating or funding SMOs in their early stages can help them become more aligned to values of effectiveness and evidence-based decision-making. The risk of not funding SMOs in certain cause areas where social movements develop organically is that they might 'lock-in' negative stereotypes or worldviews about certain interventions which then hinders the progress of the movement in the long run, as it has arguably happened in the climate movement. An example of this is that over the past 30-40 years, biases and stereotypes against nuclear energy have become the dominant ideology, going against the current science that indicates nuclear energy would be important in mitigating the climate crisis. Recent studies show that the impact of Germany decommissioning nuclear power in favour of coal-powered plants led to an additional 5% rise in CO2 emissions in Germany and 1,100 deaths per year. Another example is some chapters of the Sunrise Movement, Greenpeace, Friends of the Earth and other climate groups oppose CCS, another technology that academics support in being essential in mitigating extreme risks by climate change. Essentially, an impact-aligned SMO could take the place of a potentially negative SMO which could greatly alter the success of the movement in the long-run.

In other cases, impactful social movements might develop organically but this generally already happens when an issue becomes mainstream, which could be on the scale of 5-30 years away. For causes that we may care about that aren't mainstream yet but have the potential to be, there could now be a counterfactual benefit of incubating an effective SMO sooner than its organic launch. This will have clear positive effects such as greater time to influence policy, mobilise individuals, build a strong narrative and so on.

Another way groups can shift public support or draw attention towards an issue is by making use of "trigger events". Trigger events are moments in society when due to some internal or external trigger, there is heightened awareness of a particular issue. An internal trigger event is one which is fabricated by the movement itself, whereas an external trigger is an

unexpected and unplanned event. An example of an internal trigger event is when XR planned its first round of protests and an external trigger would be footage from George Floyd being killed by police released online, catalysing the Black Lives Matter movement. SMOs can lay down foundations and organisational infrastructure that allows movements to better utilise these trigger events to further the discourse around issues in society. A strong example would be BLM, which was originally founded in 2013, which has had several waves of heightened protest activity, predominantly due to external triggers such as the murders of George Floyd, Breonna Taylor and Eric Garner, amongst others. It's plausible that without these SMOs laying down the groundwork before trigger events, there would be much less protest and therefore public attention on certain issues, and trigger events would be "wasted". Therefore, in the case of existing SMOs, they might counterfactually contribute to higher salience of an issue compared to a scenario where the movement did not utilise these trigger events, at a specific point in time. Other examples of trigger events for other cause areas could be extreme weather events for climate change, COVID-19 for biosecurity and graphic animal footage investigations for animal advocacy. Trigger events have not been studied in great detail, so there is some room for research in this area to understand to what degree SMOs successfully use them to increase salience and support for an issue.

## 4.4) When social movements are preferable to and/or a useful complement to think-tank or NGO policy advocacy:

Whilst direct advocacy to policymakers is indeed an effective intervention, I believe it is only one part of the puzzle. Whilst direct advocacy might work on certain issues, there are also clear cases where it could break down due to political interests. One example would be the strong animal agriculture lobby making it challenging to progress animal welfare at the pace that animal advocates would like to see. If the political and economic influence of certain industries or actors, another example being the fossil fuel industry, were too great, this would significantly reduce the impact that direct advocacy could make. I believe these problems exist or will exist in the following cause areas: Animal Welfare, Climate Change, Criminal Justice Reform, Voting Reform, Improving Institutional Decision-Making and could exist in areas like Global Governance, Nuclear Security, AI Risk, Bio-risk or x-risks generally (as current actors could seek to de-prioritise future issues for present-day personal gains in funding as an example). Further discussion on potential applications of social movements to EA cause areas can be seen below.

Another situation where changing societal values would help greatly is where technological advancements aren't sufficient to help the cause area to the degree required. The clearest example for me is in Animal Welfare, where if cultured protein doesn't reach price parity with the cheapest animal products, as seems likely by this Open Phil commissioned report, then some non-technological interventions are necessary, such as a shift in societal values, to end the plight of farmed animals.

In these situations, I believe strong public support can have a substantial impact in tipping the scales towards positive policy changes, as we are now seeing in the environmental movement. Essentially, politicians have a vested interest in keeping the public on their side to increase their chances of (re)election, so this can be a tool in driving progressive policy change.

Another benefit of social movement advocacy is that it tends to be a broad intervention, shifting public opinion generally on an issue. This can lead to pressure for policy change across a variety of areas, whereas targeted policy advocacy generally hones in on one specific piece of legislation or policy. Examples might be that CATF advocated for Q45, legislation that provides tax credits for carbon capture and removal deployment. Whilst extremely impactful in spurring low-carbon innovation, I would refer to this as a targeted intervention as it is unlikely to have spill-over effects into other aspects of climate policy, such as climate finance or electric vehicles. On the other hand, popular climate movements like Fridays For Future or XR can spur policy debates and apply pressure to a broad range of policies, from fossil fuel investment to electric vehicles and so on.

On the other hand, there are cases where targeted policy advocacy might be preferable over social movement protests and activities. One example might be in areas where there is no significant counter-movement or left-right political divide, meaning that influencing policy on that topic might be substantially easier than one with vested interests where public pressure is needed. Another clear example is where there are risks of info hazards, where greater public attention on an issue such as biorisk could lead to greater danger if a misaligned actor chooses to use a bioweapon in a harmful way.

## 5. Conclusion

Nonviolent protest has been significant drivers of positive social change throughout history. Despite this, I believe that Effective Altruists have overlooked nonviolent protests and SMOs as promising interventions for certain cause areas. As argued above, there is strong evidence that SMOs can be highly-cost effective in driving policy change and in achieving their aims, at least in some cases. I believe this is a style of intervention where relaxed risk constraints could lead to higher impact for donors, favouring a more hits-based approach.

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