PSGR

Physicians & Scientists for Global Responsibility

Submission to:

Resource Management Review Panel

Considering:

A comprehensive review of the Resource Management System

3 February 2020

Invitation: https://www.mfe.govt.nz/rmreview

The Secretary

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Summary

1. Environmental legislation is vulnerable to what experts have described as increasing and insidious regression. Environmental laws 'should not be modified in a manner which reduces, erodes or compromises the level of protection they accord to the environment'.[1] [2]

2. The original Resource Management Act 1991 (RMA) stated purpose centres around protecting natural and physical resources (the environment) so as to ensure that the social and economic needs of future generations are met; that the life-supporting capacity of air, water, soil, and ecosystems is safeguarded; and that adverse effects are avoided, remedied or mitigated.

3. In short, the intention of the RMA was to protect environmental factors such that life-forms could flourish and that their future generations could evolve and adapt. Thus, in legal form, is the inter-generational environmental interest (all life-forms) identified as the inter-generational public interest.

4. In large part, the evidence is that the RMA has not been administered so as to capture those laudable purposes and intentions. Arguably the principles of statutory interpretation and the principles of administrative law have been substantially ignored.

5. There can be no readily-accessible contention for those breaches because the RMA's establishment of the Environmental Court resulted in a court that did not have either competence or jurisdiction to determine matters of breaches of statutory interpretation; nor of matters of breaches of administrative law; nor of uses of RMA regulatory powers that were arguably counter to the public and environmental interests.

6. Furthermore, there could be no access to natural justice through the form of judicial appeal provided by the Environmental Court because the environment and future generations were 'silent' in their form: they could have no equal voice in an adversarial court system.

7. Therefore the RMA was set to fail both the environment and the inter-generational public interest because there were no effective controls available to steer it along those lawful paths.

8. It is thus submitted that only a structural shift to an investigatory court with the powers of the higher courts to address and investigate *prima facie* submitted cases of breaches of those principles by administrators of the RMA can re-steer the RMA (or successor legislation) in an effective direction that might re-engage the trust of people in government; the admiration of future generations; and the flourishing of a healthy environment.

9. Arguably the purposes and intentions of the RMA have been 'dumbed down' by an obsession with a plethora of 'processes' - many enshrined in amendments to the RMA. The Environment Court presides over compliance with the prescribed processes largely to the exclusion of statutory purpose and adherence to principles of administrative law.

10. The Environment Court is arguably positioned to be a referee between purveyors of commercial technologies – *e.g.* genetic engineering/editing technologies and the agricultural and industrial chemistry – advanced by well-funded advocates as one party *versus* historically weak and under-

[1] Routledge handbook of biodiversity and the Law. McManis Charles R.& Burton O. (eds.). Abingdon:Routledge, pp. 395-407. ISBN 978-1-138-69330-2
[2] Prieur,M. Non-regression in environmental law, S.A.P.I.EN.S [Online], 5.2 | 2012 http://sapiens.revues.org/1405

resourced parties trying to voice the interests of the environment and future generations. Where is the justice in that?

11. In summary, the present structure of the machinery-of-government surrounding the RMA cannot deliver justice for those largely 'silent' voices: they have no effective access to justice.

12. In addition, there is no effective training of local authority staff about the administrative principles and constraints that are supposed to confine the contemplation, taking and exercise of administrative powers. Many central government public servants no longer have that training either.

13. We stress that currently, New Zealand has no effective machinery-of-government in which administration of related (and therefore relevant) other Acts of Parliament and their statutory purposes and intents are administered in a synergistic and mutually-supportive manner.

14. Of further issue is the RMA provision for the Minister to make 'National Policy Statements' (NPS). The use of NPS Ministerial powers under the RMA are also very difficult to challenge by public interests that may possess scientific evidence about risks and hazards which deviate from the consultation scope.

15. Ministers are, by their position, prone to lobbying by powerful agricultural and other industry lobbyists who, as a broad literature demonstrates, who are motivated to ignore and/or conceal environmental risks and risks to the public in their pursuit of commercial interests.

16. If our resource management system cannot protect freshwater the RMA will continue to fail both the environment and the public. It should be a statutory obligation that administrators of the RMA should be conversant with independent science findings that are relevant to the purposes of the RMA.

17. Current main failures can be addressed under five headings (see Appendix, p.6). A national failure to monitor; failure to address chemical complexity at the hormone level (as endocrine disruption); the problem of industry capture by industry interests of regulatory guidelines; of problems with subsidiarity (regional councils being unwilling to test adequately for pollutants); and of uncertainty – when the science is either absent or inconclusive about risks administrators are currently failing in their duty to invoke the precautionary principle in their decision-making; that has to be remedied urgently.

18. A 2019 joint submission to the Ministry for the Environment by the Soil and Health Association and Physicians and Scientists for Global Responsibility (PSGR) outlined complexities behind a failure to address freshwater pollution in an adequate and comprehensive manner. The paper provided detailed suggestions for Reform.[3]

19. Our recommendations to the Resource Management Review Panel are as now follows, they urge that a reformed RMA must require that it is a strict requirement to protect the environmental and public interest in decision-making.

[3] Aotearoa New Zealand Policy Proposals on healthy waterways: Are they fit for Purpose? 2019. pp39-52. ISBN 978-0-473-50130-3 https://psgr.org.nz/component/jdownloads/send/1-root/64-2019-freshwater

PSGR recommendations to the Resource Management Review Panel:

1. Ensure access to an investigatory court with the powers of the higher courts to address and investigate prima facie submitted cases of breaches of principles of administrative law by administrators of the RMA (or successor legislation).

2. Implement precaution at a meta-level in the RMA: The requirement that where there are threats of serious or irreversible damage and the science is uncertain, that decision-makers utilise the Precautionary Principle in the public interest.

In relation to stewardship of freshwater

A. For fresh-water and sediments, the RMA should require regional councils to measure synthetic chemistry and metallic toxins in a form that will enable progress or declines to be identified so as to enable regulatory changes and priorities to be set sensibly. It should be obligatory that such measurements should be published for public scrutiny.

> *'The first step in a risk-based approach to water quality is to identify pollutants, their origin, timing and pathways, and their risks to water quality, including their likelihood and impact'. (OECD, 2017, p. 105)*

B. For effective gathering of such data, regional councils should be required to disclose their reasoning for selection of monitoring points. (There have been occasions where monitoring is conducted in unpolluted regions while polluted parts of a region are left unmonitored.)

C. We propose that testing for diffuse mixtures of synthetic chemicals and trace metals in freshwater and sediment should be required by the RMA and that such data and its analyses should be co-ordinated by and be a responsibility of central government. Results and methodologies should be published for public scrutiny. It should be explicit in the RMA provisions that the scope of analyses should be required to include both endocrinology and chemical toxicological findings reinforced by co-factors that magnify risks and statistical analyses that identifies trends. The data should be collected in a form that enables effective data modelling; predictive analytics; and machine-learning.

D. We propose that both diffuse emissions expertise and endocrine disruption issues and related science disciplines should be funded by central government under a Public-Good Science Fund.

In relation to international linkages

A. We propose that Aotearoa New Zealand should harmonise its regulatory provisions on hazardous substances with those of the European Union as 'trusted regulator' pending reinforcement of NZ developing other links with a group Global Independent Science Network in the longer term.

Conclusion

Environmental legislation is vulnerable to what experts have described as increasing and insidious regression. Environmental laws 'should not be modified in a manner which reduces, erodes or compromises the level of protection they accord to the environment'.[4] [5] Aotearoa New Zealand has a relatively small population but the demands of modernity are significant. Legislation improvement cannot be left to political will, but may also be amended through the courts in the public interest.

We also observe that no mention has been made in consultation documents about the necessary role of the State Services Commission and Parliamentary Commissioner for the Environment in ensuring resource management architecture is appropriately designed in the public interest and to ensure services put in place will result in outcomes consistent with the purposes of the legislation public officials act under.

Finally, Aotearoa New Zealand is poorly informed scientifically, because funding for basic science to address hazard and risk in chemical endocrinology and toxicology is often short term and difficult to access; and because political conventions ensure special interests can fund political parties, lobby governments, shape media perspectives and drive science funding.

Our submission reflects these concerns. We contend that water quality remains at the centre of all debate and if our resource management system cannot protect freshwater it will remain an impotent legislative instrument. Aotearoa New Zealand requires complex guiding legislation so that it might keep pace with science knowledge in the public interest.

[4] Routledge handbook of biodiversity and the Law. McManis Charles R. Burton O. (ed.). Abingdon : Routledge, pp. 395-407. ISBN 978-1-138-69330-2.
[5] Prieur,M. Non-regression in environmental law, S.A.P.I.EN.S [Online], 5.2 | 2012 http://sapiens.revues.org/1405

Appendix I

1. The problem of accessing *independent science*:

20. The deficit in science to protect freshwater occurs at three levels. We do not, as the OECD recommends, monitor diffuse emissions. There is no broad expertise in chemical effects at the endocrinological (hormone level) and funding for scientists is short term and patchy. Our risk analysis is deficient as it ignores a broad spectrum of scientific 'norms' that are implemented and utilised in medicine and pharmacology.

21. Firstly, the current freshwater approach has been markedly limited (some might say captured-by-industry) in its use of science. Monitoring 'the Cinderella science' has been conventionally considered unduly expensive, particularly by regional councils: as a consequence, we have little knowledge of the synthetic chemical and trace metal signatures in our sediment and freshwater. There is no routine monitoring of bio-accumulation of diffuse synthetic chemical emissions in freshwater, or in drinking water sources New Zealand.

22. Evaluation of chemical signatures that arise from diffuse and point-source emissions would enable scientific evaluation of all stressors that contribute to dead-zones, cyanobacteria outbreaks, and produce inhospitable sediment that can be too poor or toxic to act as a nursery for the biological organisms that form the bottom of the food chain. This is currently not undertaken. Such chemical signatures could inform the public and decision-makers, now and for the future. Lacking independent and interdisciplinary scientific analysis, only three pollutants have been selected by the Ministry for the Environment for bottom lines, E. coli, nitrogen, and phosphorous. That is arguably a farce and decades behind best practice regulation (E.g. Europe).

23. We have previously noted[6] that throughout the years of consultation for national freshwater standards, officials have never consulted independent experts in environmental chemicals to understand risks to the freshwater environment.

24. Current freshwater approaches reflect the deficiencies across the RMA, the HSNO Act and consequence of restricted funding allocation to address pollution and its effects on biology (including human) and ecosystems in New Zealand. RMA design can guide standards to support basic science; encourage transparency; require interdisciplinary approaches to pollution; ensure peer-reviewed literature is widely parsed; endocrine disruption risk is incorporated and regulated; mixtures are known and regulated, and the Minister is adequately informed. 'Green chemistry' - knowledge of the eventual fate of man-made chemicals needs to be given considerable weight.

25. As a consequence our new standards lag decades behind European standards: they have no credibility for delivering safe, healthy freshwater; European tourists swim in New Zealand waters that are polluted with chemical cocktails that are banned in Europe.[7] We are effectively in a state of ignorance.

26. If future environmental legislation is to have any beneficial effect it must be matched by funding of independent (not industry) monitoring on a scale that amounts to an effective 'control' and a basis for considering re-shaping of initiatives.

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[6] Aotearoa New Zealand Policy Proposals on healthy waterways: Are they fit for Purpose? 2019 p.10
[7] Aotearoa New Zealand Policy Proposals on healthy waterways: Are they fit for Purpose? 2019. p.15

2. The problem of *complexity*:

27. While the Issues and Options paper seeks to curb excessive complexity *inside* the resource management system, it has not addressed the problem of biological and chemical complexity that is driving pollution, the extinction of species and the erosion of biodiversity. Somewhat surprisingly, the issue of uncertainty and the role the Precautionary Principle might play, have also been left outside the scope of discussion.

28. It is necessary to factor in amplification effects that can arise from climate change and population pressures. Increasing droughts will erode available freshwater sources: increasing floods will destroy the ecology of water-ways. and these same sources will become concentrated reservoirs of synthetic chemicals and their metabolites. Escalating pollution is amplified by population growth, in particular, disbursement of waste-water sludge post-treatment to land and water. Sludge contains pharmaceutical, household and other pollutants which add to freshwater (and eventually pollution of marine environments) from industrial and agricultural sources.

29. The United Nations Environment Programme[8] is very clear, chemical production is accelerating, exacerbating global pollution and shifting towards a pollution-free planet requires 'system-wide transformation'. Chemicals are not broadly 'safe'. European data demonstrates that 62% of the total volume of chemicals consumed are hazardous to health. Numerous papers have documented that endocrine disrupting compounds are similarly harmful across vertebrate life – this includes mammals, fish, birds and reptiles, and that hormone disruption is a significant risk to planetary wellbeing.

30. A strict adoption of 'green chemistry' in policy-making may be the only solution.

31. Agricultural soil treatments are a main source of such toxicity. Such contaminated soils pose a very real risk that contamination from chemicals and trace metals will accumulate and contaminate New Zealand export products, at levels that are banned in European countries.

32. We suggest that many of the inconsistencies within the NZEPA that result in chemical regulation remaining outdated is due to a dominant 'toxicology' culture rather than a culture that has embraced the science of endocrinology and neuroendocrinology.

33. Traditional toxicology assays prioritise harm at hormone level; nor do they consider mixture effects at the hormone level; nor whether a chemistry that mimics hormones that will have a disruptive effect.

34. The science on mixture effects at low levels that can disrupt hormones and increase disease risk is firmly established, and scientific journals detailing the low levels, at parts per billion and parts per trillion, that can harm development through hormone disruption in humans, other mammals, fish, amphibians, birds disrupt fertility, for example by altering estrogen exposures, is now over twenty years old.[9] Unfortunately, there is no established body in Aotearoa New Zealand that has a mandate for long term research. That factor may be connected to the maladministration of the purposes of the HSNO Act.

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[8] UNEP (2019). Global Chemicals Outlook II: From Legacies to Innovative Solutions. Implementing the 2030 agenda for sustainable development. Nairobi: United Nations Environment Program.

[9] Gore, A., Chappell, V., Fenton, S., Flaws, J., Nadal, A., Prins, G., . . . Zoeller, R. (2015). 2015. EDC-2: The Endocrine Society's Second Scientific Statement on Endocrine-Disrupting Chemicals. Endocr Rev, 36(6), E1-E150.

35. Consultation papers throughout the Ministry for the Environment and EPA are plagued by an absence of consideration of mixture effects which can be additive and or synergistic, and this increases biological risk.

36. Our requirement to address complexity is also essential if we are to safeguard our indigenous food systems and honour the principles of the Treaty of Waitangi. There are decades of published evidence detailing the hormone level harm to indigenous populations where people are reliant on traditional diets of fish and marine mammals.[10] Further, traditional toxicology tests ignore the scientific literature confirming that there are profoundly 'sensitive windows' in prenatal, neonatal, childhood and adolescent developments when hormone level harm is likely to occur.

37. Finally, a large scientific literature demonstrates that hormone level effects demonstrated in vertebrate studies can be directly applicable to human health; yet this relevant consideration remains strangely outside government the toxicological compass.

38. It is for this reason that we consider a great deal can be done to insert clauses in the RMA that might lead to downstream obligations that require chemical toxicology and regulation in Aotearoa New Zealand to rapidly transition to adopt an independent science base that has expertise in endocrine disruption from common chemicals at environmentally relevant levels.

3. The problem of *capture*:

39. How might the RMA compel the HSNO Act to assess risk using peer reviewed literature rather than undisclosed industry science kept private via confidentiality agreements; and scientifically consider combined risk from similar chemical groups and address toxicity from hormonally relevant mixture effects?

40. The Hazardous Substances and New Organisms Act 1996 is outdated[11], poorly informing staff whose powers are derived from the Act. This creates a domino-like effect. Staff in the Ministry for the Environment, and at local and regional council levels are consequently poorly informed, yet unaware of the substantial gaps in risk assessment that leaves Aotearoa New Zealand's hazardous substances regime weak in contrast to Europe.

41. While the HSNO Act is outdated, other organisational and toxicological conventions and regulations create the situation of regression in law. The New Zealand Environmental Protection Authority (NZEPA) has for some two decades, delayed and minimised the importance of the potential for chemicals to harm the endocrine systems of vertebrates including humans, and their guidelines and methodologies downplay such consideration and our regulatory environment is decades behind European culture, policy and precedent.

42. Further, the NZEPA's reliance on industry data and reluctance to defer to published independent science literature is of long-standing concern to civil society. Data used in authorisations and risk assessment is predominantly supplied by the industry seeking the approval and is frequently unavailable to the public as it is kept secret by commercial confidentiality agreements.

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[10] Colborn T., Dumanoski D. and Myers P. Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? A Scientific Detective Story. New York:Penguin Group

[11] Iorns, C. (2018). Permitting Poison: Pesticide Regulation in Aotearoa New Zealand. EPLJ, 456-490.

43. This absurdity is now a structured convention. It is a convention that authorisation and assessment hinge on the toxicity of one ingredient, despite clear scientific evidence many ingredients in a commercial formulation exert toxicity. [Herbicides and pesticides whose manufacture produces material trace levels of persistent and bio-accumulative halogenated chorines in the dioxin categories, for example.]

44. The present failure of administrators to consider or draw attention of the public to such dangers is a gross breach of trust that the public necessarily resides in government administrators.

45. The public is left with the obvious impression that government regulation is 'owned' by the industries that feed it with information that is designed to secure regulatory approval, yet excludes any due consideration of the public interest or compliance with required statutory purposes.

46. New scientists within the Authority are not able to induce change, and the Authority has long-standing (and 'revolving-door') relationships with the chemical industry. We understand that the above systems have been pragmatic solutions to limited funding. Yet these entrenched conventions do a disservice to public and environmental health: firstly, they rely on biased industry data and selective science; and secondly, the scope of relevant issues ignores such matters as hormone level toxicities and inter-generational adverse effects.

47. European chemical regulations are the most advanced. We have previously commented that countries including the USA, Canada and Australia regulate chemicals more weakly than does Europe. We have submitted that Europe has become the trusted regulator. To also be trusted, New Zealand should perhaps adopt European regulatory initiatives.[12] We consider that an important factor in Europe's transition – lacking here - has been the adoption of the Precautionary Principle in European legislation at a meta-level.

48. ➢ Implement at a meta-level in the RMA: The requirement that where there are threats of serious or irreversible damage and the science is uncertain, that decision-makers utilise the Precautionary Principle in the public interest.

4. The problem of *subsidiarity*

49. It is overly optimistic leave protection of freshwater to regional councils when they are unlikely to test for diffuse chemicals (or biological agents) due to testing cost.

50. Freshwater quality is managed under the National Policy by regional councils. However regional councils have been reluctant to undertake routine testing. Synthetic chemical pollution is largely a by-product of industrial and agricultural production processes and waste treatment releases.

51. When science is politically unappealing it is unlikely to be done, and authors have commented on this.[13] It is therefore essential monitoring is undertaken to understand levels of *'legacy chemicals, such as DDT; and historical pollutants such as arsenic and lead (which continue to pollute systems as components of industrial chemicals and fertilisers). 'True or really new' can include 'pesticides, pharmaceuticals and personal care products, fragrances, plasticizers, hormones, flame retardants, nanoparticles, perfluoroalkyl compounds, chlorinated paraffins, siloxanes, algal toxins, various trace elements including rare earths and radionuclides'*[14] and the data is published by central government for later assessment by

[12] PSGR Submission to Environmental Risk and Innovation Submission to the Ministry for the Environment: Hazardous substances assessments: Improving decision-making Date: September 20, 2019. https://psgr.org.nz/component/jdownloads/send/1-root/57-trust-reg
[13] Brown, M. (2017). Last Line of Defence. Wellington: Environmental Defence Society.
[14] Aotearoa New Zealand Policy Proposals on healthy waterways: Are they fit for Purpose? 2019. P.9

expert scientists unconnected to regional and local industries. This will form a data base that will inform future generations of scientists.

52. The present failure our society to fulfil the purpose of the RMA is intimately connected to a longstanding reluctance of elected representatives and public officials to monitor environmental chemicals, and the fact that monitoring has not increased in line with technical and equipment innovation, reflecting contemporary contaminant signatures.

53. Industry will defend the boundaries that currently constitute permission for emissions due to a lax and compartmentalised monitoring system.

54. Our White Paper included a case study which drew attention to the vulnerability of regional councils during the policy development process. The case study involved efforts to require freshwater and marine testing include screens to test freshwater for contaminants that may have arisen from airborne agrichemical and industrial sources. It was pointed out that the European Environment Agency acknowledges that these routes are a source of contamination; and that such testing might ensure already established environmental limits could be then policed.[15] Well-resourced industry submissions responded so as to actively defend their commercial interests and the proposals was rejected.

5. The problem of *uncertainty*

55. New Zealand can adopt European precedent and implement a strong precautionary approach, and it can be implemented in the RMA at meta-level to prioritise human and environmental health.

56. New Zealand law experts have recently noted:

> *'Safeguarding long-term interests, however, is not easy. There are strong political incentives in democratic systems for policy-makers to prioritise short-term interests over those of future generations. Powerful vested interests often hinder prudent economic or environmental stewardship. Governments must also grapple with deep uncertainty, policy complexity and multiple intra-generational and intergenerational trade-offs'.*[16]

57. Uncertainty is commonly present in science, but it is how decision-makers navigate uncertainty that is important. Uncertainty may promote action that serves the public interest, or, as often happens uncertainty may prompt decision-makers to not act to regulate or prevent public exposures to a chemical because the science remains unclear.[17]

58. As has been discussed in the freshwater white paper, the ''risk frame' is a social and political concept - mediated by power networks, access to knowledge and social inequality'.[18]

59. This could be observed during the freshwater consultation process, emerging chemical contaminants were left out of discussion because of 'uncertainties in the links' – however this meant that many contaminants that are recognised endocrine disruptors, or contain risk of carcinogenicity, were also left out. This problem was amplified because the scientific experts that might have informed government, were also left out of the discussion. [19]

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[15] Aotearoa New Zealand Policy Proposals on healthy waterways: Are they fit for Purpose? 2019. Pp.24-25

[16] Boston, J., Bagnall, D., & Barry, A. (2019). Foresight, insight and oversight: Enhancing long-term governance through better parliamentary scrutiny. Institute for Governance and Policy Studies. Wellington: School of Government Victoria University of Wellington. P.34

[17] Scott, D Application of the Precautionary Principle During Consenting Processes in New Zealand: Addressing Past Errors, Obtaining a Normative Fix and Developing a Structured and Operationalised Approach (LLM Thesis, Victoria University of Wellington, 2016) pp 64-79 http://researcharchive.vuw.ac.nz/handle/10063/5199

[18] Aotearoa New Zealand Policy Proposals on healthy waterways: Are they fit for Purpose? 2019. P.37.

[19] Aotearoa New Zealand Policy Proposals on healthy waterways: Are they fit for Purpose? 2019. P.7-11

60. The same hormones that course through their bodies, also course through the bodies of all vertebrates, whether a fish, a bird, an eel or a frog, yet scientists struggle to communicate the alarming risk to human and environmental health from endocrine disruption.[20]

61. The local science on hormone disruption is scarce because studies that look at the direct impact of chemical hormone disruptors, including mixture effects, to New Zealand freshwater species is all but non-existent. there is a well-documented literature on the active suppression of scientists who produce evidence that demonstrates risk and dangers associated with new technologies or technologies for which there is a broad public dispute'[21]

62. Doubtless the same challenges will arise with new genetically modified biological penetration technologies that can transfer the editing proteins of DNA and RNA into the cells of a wide range of organisms. If Aotearoa New Zealand lacks the independent expertise (that is not tied to production or development of these technologies), officials may act in favour of release, where there are instances of uncertainty. If we have a greater number of scientists who understand the potential for off-target or adverse effects, we will be able to be informed by these scientists.

63. Aotearoa New Zealand's approach to uncertain events that may erode or pollute our resource base is amplified by our failure to embed a strong version of the precautionary principle in our legislation.

> *'Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'.*

- ➢ We propose that the Precautionary Principle is implemented at a meta-level.

[20] Demeneix, B., & Slama, R. (2019). Endocrine Disruptors: from Scientific Evidence to Human Health Protection. requested by the European Parliament's Committee on Petitions. PE 608.866 – March 2019. Brussels: Policy Department for Citizens' Rights and Constitutional Affairs.
[21] Hess, D. (2015). Undone Science, Industrial Innovation, and Social Movements. In M. Gross, & L. McGoey, The Routledge International Handbook of Ignorance Studies (pp. 141-154). London: Routledge