## **Ecomodernism and the Climate Conundrum:**

## A Critical Analysis Of Ecomodernism As A Viable Path For Sustainable Development

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Of all the opportunities, we as species, have moving forward with sustainable development and growth, perhaps none is more appealing than that of ecological modernization. Environmentalism and modernization, however, often provoke a particularly troubling paradox. The combination begs the question: how can we advance into the twenty-first century with the attractive features of modernity that we already have — the lightening fast laptops and shiny new cars, the comfortable leather Blundstones and abundance of different foods — while also reducing our impact on the environment? One popular response lies within the ecomodernist school of thought. This paper seeks to critique the ecomodernist theory, demonstrating how its attractive attributes, which often spur a "full speed ahead" reaction in environmentalists and technologists alike, should rather caution us to tap the brakes on our current consumerist tendencies and question the existing power structures that have led us here in the first place.

Of all the opportunities we, as a species, have moving forward with sustainable development and growth, perhaps none is more appealing than that of ecological modernization. At first glance, this pairing of words may seem rather paradoxical, and given the conventionally conservative nature of most environmental agendas, this is entirely understandable; however, the popularity of ecomodernism stems from just that paradox. It begs the question: how can we advance into the twenty-first century with the attractive features of modernity that we already have—the lightning fast laptops and shiny new cars, the comfortable leather Blundstones and abundance of different foods—while also reducing our impact on the environment? The answer lies within the ecomodernist school of thought, developed in the 1980s as a fierce counter-theory to deindustrialization and demodernization.<sup>25</sup> This theory knows a relatively short yet heavily contested history, having been thoroughly challenged from a variety of disciplines over the past 40 years; nonetheless, the framework continues to receive much attention, refining its theoretical

<sup>&</sup>lt;sup>25</sup> Mol, A. P. J. and Spaargaren, G. "Ecological modernisation theory in debate: A review." *Environmental Politics* 9, no.1 (2000): 17-50. doi:10.1080/09644010008414511

basis as it goes, but always, as noted by Mol and Spaargaren, maintaining several "continuities" that reinforce its foundation in capitalist modes of production and free-market environmentalism.<sup>26</sup> Today, ecomodernism ranks high in discussions of sustainable development pathways, particularly in the eyes of scholars such as Ted Nordhaus and Michael Shellenberger, cofounders of the Breakthrough Institute, and fifteen other notable environmentalists who have shared their vision of a highly modern, that is to say technologically advanced and continually growing, future through their text, the Ecomodernist Manifesto.<sup>27</sup> Despite being considered a breakthrough in conceptions of environmental sustainability and the large amount of support the concept has gained worldwide, including from scholars of a diverse disciplinary range, ecomodernism is not without its critics, many of whom propose convincing problematic situations that could arise if we adhere to such a vision. Accordingly, this paper will argue that ecomodernism is an overly optimistic, techno-centric, western-based conception of mainstream sustainable development that is not reasonably critical of its own implications and is therefore not appropriate for policy implementation. First, a brief historical contextualization and critical description of ecomodernism and its related literature will be given. Following this, I will give a critical analysis of the concept built on three main points: first, that ecomodernism provides a reductionist account of sustainable development pathways by suggesting a false binary of how to move forward; second, that it is founded upon a hope for uncertain technological advancement; and lastly, that it is euro-centric and not feasible to apply on a global scale. Alternative models to development will be mentioned throughout, but these critiques of ecomodernism will be made from a position that recognizes the difficulties involved in such alternative methods, and that, consequently, an approach that works within the current capitalist paradigm would naturally be easier.

Ecomodernism finds its roots in the early 1980s as a response to the dominant environmental sociology perspectives at the time, namely, those of deindustrialization and demodernization.<sup>28</sup> Debates between these schools did much to shape ecomodernism as we know it today, and ecomodernism reciprocated the critiques by calling into question core ideas of demodernization theorists.<sup>29</sup> The contemporary interpretation of ecomodernism, however, has become the attractive face of sustainable development due to the work of the Breakthrough Institute and the scholars

<sup>26</sup> Mol and Spaargaren. "Ecological modernisation theory in debate." 22-23.

<sup>&</sup>lt;sup>27</sup> Asafu-Adjaye, J. et al. An Ecomodernist Manifesto. (2015). http://www.ecomodernism.org

<sup>&</sup>lt;sup>28</sup> Mol and Spaargaren. "Ecological modernisation theory in debate." (2000).

<sup>&</sup>lt;sup>29</sup> Mol and Spaargaren. "Ecological modernisation theory in debate." (2000).

who work within it. The Breakthrough Institute is, in its own words, "a global research centre that identifies and promotes technological solutions to environmental and human development challenges."<sup>30</sup> It is, therefore, the goal of ecomodernism to approach modernity in a highly technological fashion, by putting all of our efforts into spurring economic growth that will advance the sophistication and abilities of technology such that we can decouple the impact of human activity on the environment from economic growth. While the interest factor is certainly high for this modernist form of environmentalism, the real appeal for ecomodernism stems from the fact that it does not question the current growth paradigm that characterizes contemporary Western societies. This paradigm has certainly strengthened over the past fifty years with the introduction of neoliberalism and neoclassical economics, but extends back to the industrial revolution and the emergence of the modern capitalist economy and rise of the Anthropocene.<sup>31</sup> The Ecomodernist Manifesto, the definitive text of the Breakthrough Institute, presented a novel perception of how humans may approach a way of life on Earth that questions neither our current practices in terms of consumption and daily activities, nor the dominant Western conception of development, which is one of economic growth. It was, therefore, very well received and a welcome alternative for many to the concept of degrowth, which was not often addressed in public discourse and certainly not in policy circles given the challenges it poses to political and economic elites. Since its introduction, ecomodernism has gained much support from a variety of people within the Western setting. Many of the academics and authors invested in the concept are also directly involved with the Breakthrough Institute, and several of them helped author the Manifesto. On the other hand, others, such as journalists and environmental activists George Monbiot and Josh Halpern, are very critical of ecomodernism. Interestingly, with the exception of those who consider themselves ecomodernists outright, the majority of scholars who endeavour to study ecomodernism from any perspective—be it political, technological, ecological—produce piercing criticisms of the concept that highlight its numerous flaws. Following this trend, we will move on to the critique.

Consistent with past models of development such as modernization theory and Rostow's stages of growth, ecological modernization suggests a linear model of development. As such, it suggests that society can either move forward toward a modern society that is highly industrialized and

<sup>&</sup>lt;sup>30</sup> Breakthrough Institue. About. (n.d.) <u>https://thebreakthrough.org/about</u>

<sup>&</sup>lt;sup>31</sup> Castree, N. (2015). "Anthropocene." *Geography*. Oxford University Press. (2015) https://dx.doi.org/10.1093/obo/9780199874002-0111

technologically advanced, or it can remain stagnant and even fall backward toward an inefficient and impoverished society. In this way, ecomodernism provides a reductionist account of development possibilities for ecological sustainability by presenting a false binary. Following the current growth paradigm that encapsulates contemporary western society, ecomodernism dictates that the only way forward is to continue to grow, to further our economic possibilities through tech advancements and applying it to ecological problems. Not to do so would, given the binary, entail no or negative progress, which would hurt our economic standing. It would also prevent efficient solutions to pressing environmental issues while populations continue to rise and we increasingly suppress nature with urban expansion and pollute it with excessive amounts of chemicals. What ecomodernism does not acknowledge is a diverse array of alternative paths to sustainable development that do not entail rapid technological acceleration and market expansion, such as degrowth initiatives. One example of a degrowth initiative is Buen Vivir, which Vanhulst and Beling describe as "including both the idea of interdependence between society and its natural environment and a conception of the 'universal' as plural reality,"<sup>32</sup> thereby emphasizing the well being of the community and environment together. Ecomodernism, however, affirms that the sole way to move forward in a sustainable manner is to decouple humanity's insatiable desire for economic growth from environmental impact.<sup>33</sup> In a critical engagement of ecomodernism from a technology assessment standpoint, Grunwald outlines how this process has resulted in the synonymity of continuous technological advancement and economic growth.<sup>34</sup> They have become, in his words, "twin concepts." This only emphasizes further the dichotomy that is made between progressing and regressing in ecomodernism, as the only option presented is to expand the technological repertoire—which can still be useful in a degrowth context without the total devotion to technology—but ecomodernism has presented it as part and parcel of economic growth. Further, the ecomodernist dichotomy has a pathological nature to it. In his article on the bipolarity of human responses to the anthropocene, Kupferschmidt identifies a psychological response to the binary of advancing or retreating as one of mania or depression, respectively.<sup>35</sup> The idea of a highly

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<sup>&</sup>lt;sup>32</sup> Vanhulst, J., and Beling, A. E. "Buen vivir: Emergent discourse within or beyond sustainable development?" *Ecological Economics* 101, (2014): 56.

<sup>&</sup>lt;sup>33</sup> Asafu-adjaye et al. An Ecomodernist Manifesto. (2015).

<sup>&</sup>lt;sup>34</sup> Grunwald, A. "Diverging pathways to overcoming the environmental crisis: A critique of eco-modernism from a technology assessment perspective." *Journal of Cleaner Production*. (2016): 1854.

<sup>&</sup>lt;sup>35</sup> Kupferschmidt, P. D. "The Bipolarity of Modern 'Man' in the Anthropocene: Ecomodernist Mania as Case for Unmanning Anthropocene Discourse." *The Trumpeter: Journal of Ecosophy* 32 no. 2, (2016): 102-125.

advanced society in which the natural environment can flourish alongside humanity is both appealing and exciting, but the challenge of it is almost disheartening and the consequences should it not be achieved can be disastrous. This leads to the depression that may be experienced by the potential for failure and having to resort to degrowth. Kupferschmidt likens this process to British psychoanalyst Darian Leader's conceptualization of bipolar disorder:<sup>36</sup>

Leader accounts for bipolar disorder's characteristic thought-patterns and clinical expressions in terms of a contradiction between two competing pathological perspectives. For Leader, the mania and depression that characterize bipolar disorder develop out of an "effort to separate, to maintain an elementary differentiation in the place of a more confusing and more painful set of contradictions."<sup>37</sup>

Thus the ecomodernist dichotomy has created a bipolarity within society, in which we are reducing a complex problem into one of two choices, which are contradictory and whose implications are difficult to fully understand. Kupferschmidt continues, "Unfortunately, the subject has identified itself so intimately with the conflict that it is unable to simply make a rational plan for selfimprovement. [...] The person needs a new state of mind, as the sense of responsibility is paralyzing."38 As a species, we have become so preoccupied by the need to find a solution to climate change, since it is crucial to our well-being, that it has come to define our contemporary existence. Thus, as ecomodernism imposes its binary character on us, we are faced with a paralyzing decision and yearn for alternatives that can still present us with a desirable lifestyle. Ecomodernism, however, gives us no such answers: "Absent profound technological change there is no credible path to meaningful climate mitigation."<sup>39</sup> Kupferschmidt criticizes Nordhaus and Shellenberger in saying they resort to denial in a time of crisis and suggests that "the destructive human capacity for denial can only be remedied by avoiding the polar structure altogether."<sup>40</sup> Therefore, from a psychoanalytic perspective, an adequate solution to environmental crises means moving away from ecomodernism and looking at alternative methods to sustainable development. Ecomodernism presents a false binary of societal advancement and regression that reduces a

<sup>&</sup>lt;sup>36</sup> Leader, D. Strictly bipolar. (Penguin UK, 2013).

<sup>&</sup>lt;sup>37</sup> Kupferschmidt. "The Bipolarity of Modern 'Man' in the Anthropocene." 110.

<sup>&</sup>lt;sup>38</sup> Kupferschmidt. 111.

<sup>&</sup>lt;sup>39</sup> Asafu-adjaye et al. An Ecomodernist Manifesto. 21.

<sup>&</sup>lt;sup>40</sup> Kupferschmidt. 103.

complex problem into a single decision and has implications for our mental ability to solve the problem.

Ecomodernism is also almost entirely predicated on the idea of uncertain technological advancements. The progress in modern technologies spoken of in the Manifesto are clearly of unprecedented power and efficiency: "Transitioning to a world powered by zero-carbon energy sources will require energy technologies that are power dense and capable of scaling to many tens of terawatts to power a growing human economy."41 They are also practically nonexistent: "Most forms of renewable energy are, unfortunately, incapable of doing so."42 Thus the ecomodernist manifesto seems to be heavily dependent on the prospect of sophisticated innovations to modern technologies and the creation of entirely new technologies, with little credibility to reassure us of the feasibility of these propositions. Karlsson uses three metaphors to summarize humans' impacts on the earth and our possibilities for remedying them. 43 He describes ecomodernism as an airplane speeding down a runway moments from taking off into a prolonged smooth and comfortable flight. The problem, notes Karlsson, lies with the fact that at the time of departure, no one knows the true length of the runway as it is covered in a dense fog. He states, "It is not possible to know, at least a priori, the true resilience of nature or to make anything but a crude estimation of planetary boundaries of the human enterprise."44 Although the ecomodernists themselves are very critical of the existence of the nine planetary boundaries, 45 as well as of the limits to growth proposed by Meadows et al., 46 Karlsson suggests that this lack of knowledge or scepticism concerning the abilities of the planet to cope with the stresses we inflict on it should not spur us to race forward, citing a lack of evidence to do the contrary, but rather to give lengthy and careful consideration to the concepts that we are keen to put so much stock into. Ecomodernism, however, encourages the rapid acceleration of investment into market technologies and the deregulation and diversification of the market in this area to allow for the hopeful production of much-needed technological

<sup>&</sup>lt;sup>41</sup> Asafu-adjaye et al. An Ecomodernist Manifesto. 23.

<sup>&</sup>lt;sup>42</sup> Ibid.

<sup>&</sup>lt;sup>43</sup> Karlsson, R. "Three metaphors for sustainability in the Anthropocene." *Anthropocene Review*, 3 no.1 (2016): 23-32.

<sup>44</sup> Karlsson. 28.

<sup>&</sup>lt;sup>45</sup> Nordhaus, Ted, Michael Shellenberger, and Linus Blomqvist. "The planetary boundaries hypothesis: A review of the evidence." Oakland, CA: Breakthrough Institute (2012).

<sup>&</sup>lt;sup>46</sup> Meadows, D. H., Club of Rome, and Potomac Associates. "The limits to growth: A report for the club of rome's project on the predicament of mankind." (Second ed.). New York: Universe Books. (1974).

advancements. It is, according to O'Riordan, a "technocentrist" take on environmentalism, and it is dangerous. The important though it may be to recognize that time is of the essence and that some decisive action may be needed soon, it would be unwise to pursue the rash action encouraged by ecomodernism in the form of unjustifiable assumptions about the rate of progress of technology. Karlsson echoes this ecomodernist stance in stating that considering the significant amount of fossil fuels already consumed and the value we place on them today, "the prospects of 'rebooting' modernity and reaching technological maturity would be uncertain if the current window of opportunity is lost through civilizational backsliding." Again, the dichotomy of forward and backward progress is apparent in the assumptions of ecomodernism regarding technological innovation. But while civilizational backsliding may not be desirable, rapid acceleration of technological progress can be dangerous because it reduces the possibility to learn from and improve upon existing technology for the future. It is an elementary lesson that we must learn from our mistakes before moving forward, but this can only be accomplished if we have the time and opportunity to make mistakes in the first place and then to recognize them as mistakes before it's too late. The rapid rate of progress with ecomodernism eliminates this crucial step.

Furthermore, Grunwald describes this tendency of ecomodernism to take technology for granted as a perspective of excessive techno-optimism. AP Rather than addressing a legitimate growth-critical debate, the Manifesto relies on encouraging rhetoric and vague descriptions to propose a dazzling future and mask the uncertainty involved in arriving at such an outcome. For example, the ecomodernist conception of the process of modernization is described as "the long-term evolution of social, economic, political, and technological arrangements in human societies toward vastly improved material well-being, public health, resource productivity, economic integration, shared infrastructure, and personal freedom." Preceding this definition is the assertion that the ecomodernists reject the reductionist claims that ecomodernism can be conflated with capitalism, corporate power, and neoclassical economics; however, in providing descriptions void of any real meaning and making such optimistic claims with little proof of credibility, they give no reason to

<sup>&</sup>lt;sup>47</sup> O'riordan, Timothy. "Environmentalism and education." *Journal of Geography in Higher Education* 5, no. 1 (1981): 3-17.

<sup>&</sup>lt;sup>48</sup> Karlsson. Three metaphors for sustainability in the Anthropocene. 28.

<sup>&</sup>lt;sup>49</sup> Grunwald. Diverging pathways to overcoming the environmental crisis. (2016).

<sup>&</sup>lt;sup>50</sup> Asafu-adjaye et al. An Ecomodernist Manifesto. 28.

believe otherwise and leave open the assumption that this optimism must come from the economic gain that will benefit the powerful. Weaver et al. acknowledges the potential for technology to make great improvements in the well-being of the planet,<sup>51</sup> particularly with the possibility of clean, efficient alternatives to fossil fuels, but he notes that the track record for modernization such as that which occurred with the industrial revolution—precedes this, and it is not a clean record, literally. That said, the scholars hypothesize that technology had this effect due to the fact that, during its creation, low environmental impact was nowhere near a top priority. 52 Technology was created for the purpose of growth, further division of labour and greater efficiency, but emissions levels and toxic byproducts were not much taken into consideration. So, if technology were created and used for the sole objective of improving ecological welfare, perhaps it could do a lot for the environment and even reverse existing damage. While certainly an intriguing idea, this approach entails a certain degree of assurance that advancements in technology will be sufficient to bring about such results. It is also predicated on the idea that there will be no unintended side-effects or malfunctions of the desired technology in performing its functions, which, as Grunwald notes, is almost always part of the process.<sup>53</sup> First, it is almost guaranteed to have technical malfunctions with new technology and, given the established sophistication of this modern tech, the consequences could be very destructive. In addition to malfunctions, it is possible to have what Grunwald calls "rebound effects." Grunwald states, "As soon as more efficient technologies become available, usage patterns and behaviours often change, thereby reducing or even cancelling out the expected efficiency gains."54 While the side-effects of technology don't have to be disastrous, a reduction in expected positive outcomes of any kind run counter to the objectives of ecomodernism as a whole. Hence, a reasonably critical level of tech assessment in sustainable development planning is of great importance. The significance of it should also be noted from a sociological point of view: "Technology is deeply related to society instead of being something external. The artifacts such as machines, products, or systems are not considered or assessed as such, but rather as elements of socio-technical constellations."55 Therefore, recognizing the close relationship between technology and our social lives, we can more accurately

<sup>&</sup>lt;sup>51</sup> Weaver, P. et al. Sustainable technology development. Routledge. (2017).

<sup>&</sup>lt;sup>52</sup> Ibid.

<sup>&</sup>lt;sup>53</sup> Grunwald. Diverging pathways to overcoming the environmental crisis. (2016).

<sup>&</sup>lt;sup>54</sup> Grunwald. 1858.

<sup>&</sup>lt;sup>55</sup> Grunwald. 1859.

assess the impacts of technology with regard to society, including how we incorporate it into our daily lives and how it influences our agency and increases or even decreases our potential. From an environmental perspective, this allows us to better question whether or not technology itself can solve environmental crises, as the Manifesto suggests. Grunwald contends, however, that from a technology assessment perspective, "technology as such will not be able to solve environmental problems. Instead, a socio-technical transformation is needed which requires technology as embedded in social constellations from the very beginning of technology development. This claim has resounding implications for ecomodernists, who, by virtue of their stance on technoenvironmentalism, necessarily imply a certain dependence by humans on technology to solve ecological issues, instead of recognizing technologies as socio-technical actors embedded in "decision-making processes and in value systems." The techno-centric approach to modernization of ecomodernism promotes rapid technological acceleration without critical self-reflection and abounds in undue optimism.

The lack of global application of ecological modernization further makes it an unsuitable sustainable development option. Many scholars have emphasized the need for small-scale, local initiatives to development in order to achieve lasting results in wilderness preservation, renewable energy sources, and natural area management alongside a growing population and increased pollution. Gudynas highlights, for example, the need to break down the dualism between society and nature, disposing of materialist and consumerist culture, and incorporating the concept of our local natural environments into assessments of our own well-being. The importance of locality emphasizes the fact that, despite living in a presently very globalized world, we cannot focus on, or at least not make viable successful changes in, the wellbeing of the world as a whole, as the environments are incredibly diverse and the cultures surrounding them very dynamic. Attention to local achievements in ecological welfare promotes a biocentric outlook on development and allows greater interaction "in dialogue and in praxis of promoting development

<sup>&</sup>lt;sup>56</sup> Ibid.

<sup>&</sup>lt;sup>57</sup> Ibid.

<sup>&</sup>lt;sup>58</sup> Robinson, J. "Squaring the circle? Some thoughts on the idea of sustainable development." *Ecological Economics* 48 no. 4, (2004): 369-384. doi:10.1016/j.ecolecon.2003.10.017

<sup>&</sup>lt;sup>59</sup> Meadows et al. The limits to growth. (1974).

<sup>&</sup>lt;sup>60</sup> Gudynas, E. "Buen vivir: Today's tomorrow." *Development*, 54 no. 4, (2011): 441-447. doi:10.1057/dev.2011.86

alternatives."<sup>61</sup> We can therefore connect more intimately with our surrounding environments and measure our progress more accurately.<sup>62</sup> Despite these claims, ecomodernism forcefully contends that moving against the grains of a global framework that is already very modern is detrimental to success. The Manifesto suggests we take advantage of our technological prowess and move forward with it on a global scale:

The ethical and pragmatic path toward a just and sustainable global energy economy [...] will require sustained public support for the development and deployment of clean energy technologies, both within nations and between them, through international collaboration and competition, and within a broader framework for global modernization and development.<sup>63</sup>

Thus not only is global modernization the desired outcome, but it is both practical and moral. While ecomodernism presents itself as a very enticing option for development, it becomes increasingly problematic when applied outside of a Western context, particularly given the current international dynamics of unequal power. Modern technologies are part of our everyday lives within the Global North; the appeal of ecomodernism is strengthened by the fact that it does not present much of a stretch to our current technology-dependent societies. To suggest, however, that such a modern path will be implemented globally—to child labourers in Southeastern Asia, or single mothers walking miles to find potable drinking water in much of sub-saharan Africa, or, especially, indigenous communities worldwide who have already been displaced from their lands by capitalist society—is nothing short of deceptive. Calling into question Kellert and Wilson's notion of biophilia on a global scale,<sup>64</sup> Symons and Karlsson state that "full implementation of ecomodernist ideals would require widespread embrace of eco-philic values, high-trust societies and acceptance of thick political obligations within both national and global communities."65 This claim highlights the complex nature of implementing an ecomodernist approach to environmentalism worldwide. Ecomodernism implores the need for "active, assertive, and aggressive participation of private sector entrepreneurs, markets, civil society, and the state" in

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<sup>&</sup>lt;sup>61</sup> Gudynas. "Buen vivir: Today's tomorrow." 446.

<sup>&</sup>lt;sup>62</sup> Kothari, A., Demaria, F., and Acosta, A. "Buen vivir, degrowth and ecological swaraj: Alternatives to sustainable development and the green economy." *Development* 57 no.3-4, (2014): 362-375. doi:10.1057/dev.2015.24

<sup>&</sup>lt;sup>63</sup> Asafu-adjaye et al. An Ecomodernist Manifesto. (2015).

<sup>&</sup>lt;sup>64</sup> Kellert, S. R., and Wilson, E. O. (Eds.), The biophilia hypothesis. Island Press. (1995).

<sup>&</sup>lt;sup>65</sup> Symons, J., and Karlsson, R. "Ecomodernist citizenship: Rethinking political obligations in a climate-changed world." *Citizenship Studies* 22 no. 7, (2018): 685-704. doi:10.1080/13621025.2018.1508414

order to achieve the significant advances in technological progress required to reach full implementation of ecomodernism;<sup>66</sup> however, this participation, as per Symons and Karlsson, is deeply embedded in societal relations and political agendas on multiple levels. Thus, given the wide political support that would be needed for such outcomes to be achieved and the complex nature of intergovernmental relations, it is overly ambitious to assume a relatively smooth transition to ecomodernism within even a Western context.

Further, Symons and Karlsson note the requirement of competent, stable government to deliver the "state-driven and mission-oriented innovation that will be needed to promote ecological flourishing, human progress and other global public goods" in an ecomodernist context. <sup>67</sup> Not only is there a need for intergovernmental cooperation, but a stable and democratic consensus worldwide on the methods and objectives of ecomodernism. However, many regions around the world lack such types of government, such as the authoritarian regimes of the Russian Federation or the People's Republic of China, and would therefore pose significant problems to the global application of ecomodernism. Iraq's nearly thirty years of hostile relations with the US would greatly jeopardize any chance of its following a Western-prescribed development model, and its economy, like that of the UAE and much of the middle east, is significantly based on oil production. The political and economic power of these nations along with the ruling class's control of their people would be entirely lost by a transition to green, ecomodernist technologies. Thus, ecomodernism fails to call into question current global power disparities and tensions between national social classes; its implementation would consequently reinforce them or be considerably unsuccessful. The tensions between sustainability and capitalist growth are at the forefront of the development issue and are heightened by the prospect of global application. As part of a resolution to, or at least a recognition of, the political turmoil faced by the global ecomodernist approach, Symons and Karlsson suggest the concept of ecomodernist citizenship, which illustrates the "rights, duties, subjectivities, and practices" that would need to be observed to follow the ecomodernist continuation of the capitalist growth paradigm.<sup>68</sup> However, even given this prescription, the potential for serious political and social upheaval should be of great concern:

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<sup>&</sup>lt;sup>66</sup> Asafu-adjaye et al. An Ecomodernist Manifesto. 30.

<sup>&</sup>lt;sup>67</sup> Symons and Karlsson. "Ecomodernist citizenship." 690.

<sup>&</sup>lt;sup>68</sup> Symons and Karlsson. 685.

It is not difficult to imagine how these two narratives – of exclusionary, nationalist citizenship and of climate-linked conflict, famine and migration – might eventually converge into a system of deepening global apartheid, in which inviolable barriers separate zones of affluence and impoverishment.<sup>69</sup>

Once again the political and economic barriers faced by ecomodernism reveal themselves to be potentially insurmountable with the simplistic approach of continuous growth and technological advancement. They further demonstrate the incompatible nature of ecomodernism with international politics and the possibility for it to further deteriorate social relations within a country. Ecological modernization is therefore not a suitable path for global sustainable development.

Given the extensive literature on sustainable development available today, approaches to solving the global climate crisis are numerous and diverse. Ecomodernism presents one of the unique options for development that does not hinder economic growth in the process, but rather increases and thrives on it. Its wide appeal stems from its ability to work within the modern capitalist economy and it gains much political and economic support in this regard. In qualifying ecological modernization as simply another conceptualization of mainstream sustainable development and market environmentalism, Adams stated, "Here is the vision of Brundtland, with economic growth in a capitalist economy working within the constraints of ecological sustainability."<sup>70</sup> This paper, however, has endeavoured to prove that a more apt description of the functioning of ecomodernism would be that ecological sustainability is forced to work within the constraints of the modern capitalist economy. Through a structured discussion of the reductionist argument inherent to the message of the Ecomodernist Manifesto, the bipolar nature of mainstream environmentalism, the techno-centric and optimistic attitude of ecomodernism, and finally, its unsuitability for global application, we have revealed some of the concept's innumerable and interdisciplinary flaws, and dismantled many of its founding values. Given the conclusions of this critique, development approaches that utilize the benefits of technological advancement while still maintaining an overall objective of degrowth and localization would be well worth critical investigation.

<sup>&</sup>lt;sup>69</sup> Symons and Karlsson. 686.

<sup>&</sup>lt;sup>70</sup> Adams, Bill. "Mainstream Sustainable Development." In *Green Development: Environment and Sustainability in a Developing World*. (London: Routledge Press, 2008), 110.

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