



Master's thesis

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The Future is Now

Science Fiction as Social and Political Analysis
in Saci Lloyd's *The Carbon Diaries*

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Table of Contents

Acknowledgements

1 Background	1
1.1 <i>A Global Crisis</i>	1
1.2 <i>The London Smog</i>	3
1.3 <i>Perspective and Setting in The Carbon Diaries</i>	7
1.4 <i>The Potential in Science Fiction</i>	11
2 In the World of Carbon Rationing	15
2.1 <i>Narrative Technique</i>	15
2.2 <i>Carbon Rationing</i>	21
2.2.1 <i>Distribution of Resources</i>	25
2.2.2 <i>Political Unrest</i>	28
2.2.3 <i>Coping with Change</i>	32
2.3 <i>Climate Change Is Everyone’s Responsibility</i>	34
3 Conclusion	39
3.1 <i>Critical Aspects</i>	39
3.2 <i>Science Fiction or Realism?</i>	42
Works Cited	45

Appendix

The Thesis' Relevance for my Work in the Norwegian Educational System

Abstract

1 Background

“To use the world well, to be able to stop wasting it and our time in it, we need to relearn our being in it” (Le Guin M15). Ursula Le Guin’s message is clear; we need to start making changes in the way we live. The question, then, is not concerned with *if*, but *how* one should adapt to a world facing environmental degradation. Author, Saci Lloyd, has explored one alternative for adapting to climate change, in her young adult, near-future dystopias: *The Carbon Diaries 2015* (2008) and *The Carbon Diaries 2017* (2009). The first novel was the winner of the Green Book Festival USA and the Newton Marasco Foundation Green Earth Book award after its release, and both novels have gained considerable critical acclaim.¹ In the novels, themes such as gender-roles, nationalism, extremism, privatisation and capitalism are addressed, disguised under the bigger issue of climate change. The aim of this thesis is to analyse how Lloyd uses science fiction as a genre and climate change as an overarching theme to criticise certain conflicts and tendencies in British society and, to some degree, on a global level. In addition, I wish to include some reflections on the didactical potential of using literary works such as these for educational purposes and the development of an environmental consciousness in the younger generations.

1.1 A Global Crisis

There is considerable scientific evidence that the world is facing the consequences of human environmental destruction.² Heise states that the term Anthropocene has been taken into use, in order to denote the current geological epoch, which is marked by a new scale of human activity and agency (“Introduction” 3-5). Although unintended, the marks of human activity are often irreversible, something that the list called “Top 10 Environmental Disasters”,

¹More about awards and nominations can be found on Saci Lloyd’s own website, www.sacilloyd.com.

² According to environmental scientist Dr. Haydn Washington and creator of the blog “skeptical science” (about being sceptical about global warming scepticism) John Cook, scientists have been aware that climate changes *could happen* since the beginning of the 20th century. They have been aware that climate changes *would happen* since the 1980’s. Even though climate change is an established scientific fact, there are still people who call themselves sceptics. Washington and Cook claim that climate sceptics are in reality deniers, because they refuse to believe in overwhelming scientific evidence, simply because they do not like the truth (Washington and Cook 1). Furthermore, Professor of Business Ethics, Denis G. Arnold, argues that, really, there is not much debate among scientists concerning climate change. In fact, research shows a consensus among climate scientists that anthropogenic, human made, climate change is reality (Arnold 4). Those who have ever claimed otherwise are not climate scientists, hence they are not to be considered climate experts and not the ones we should listen to. For more information about climate change denial, see: Haydn Washington and John Cook’s *Climate Change Denial: Heads in the Sand* (2011), and: Denis G. Arnold’s *The Ethics of Global Climate Change* (2011).

published by *TIMES*, shows. This list was published in 2010 and includes disasters such as the Chernobyl accident in 1986, The Kuwaiti Oil Fires of 1991, and the desertification of the Aral Sea, which Ban Ki-moon described as a “graveyard of ships” (Cruz). Moreover, John Abraham claims in “Global Warming Is Causing More Extreme Storms” that scientists have known for decades that increases in greenhouse gasses will cause global warming. Still, governments have failed to do anything about it, and the earth has continued to warm. Global warming manifests itself, among other things, through rising sea levels, heat waves, drought, more intense rainfall and more intense winds (Abraham). It is almost certainly incorrect to think that the impact of those changes lies in the future, when we are, in fact, feeling the aftermath already. In August 2017, the United States was devastated by hurricane Harvey: according to Environment editor in *The Guardian*, Damian Carrington, global warming made hurricane Harvey’s catastrophic rains three times more likely. The same goes for Storm Desmond, which hit the UK in 2015. Desmond, along with two subsequent storms, brought heavy rains, which left many families with damaged homes. Scientists from the World Weather Attribution claim that a rainfall event like Storm Desmond is more likely to happen now than in pre-industrial time, due to human-caused climate change. In other words, the extreme weather we see in recent years is no coincidence.

The cultural responses to environmental challenges have been many. Photos of starving polar bears, dried up waters with stranded fishing boats, and sea-animals tangled in plastic are shocking, yet not uncommon in recent years. Nature programmes about different species and eco-systems, as well as post-apocalyptic and dystopian fiction, can also be considered a response to environmental issues.³ In fact, there are many examples of environmental activism portrayed through literature and film. Authors like Margaret Atwood and Ursula K. Le Guin often include environmental critique in their works, and environmental destruction is a central element in many popular science fiction films, such as Ridley Scott’s *Blade Runner* (1982).⁴

³ Former American Vice President, Al Gore, famously tried to educate citizens about global warming via an extensive slide show, which was made into the documentary of the United States, called *An Inconvenient Truth*, released in 2006. It became a huge success, winning two academy awards. A sequel was released in 2017, called *An Inconvenient Sequel: Truth to Power*, but did not gain as much critical acclaim.

⁴ In Margaret Atwood’s *The Handmaid’s Tale* (1985), human fertility has decreased drastically because of environmental pollution, and the *MaddAddam* trilogy (2003-2013) depicts a North American landscape ravaged by ecological disaster.

Ursula Le Guin is also concerned with the environment in many of her works. For example, her science fiction novels *The Dispossessed* (1974) and *Always Coming Home* (1985) are both recognised as “green utopias” (Garforth 393; Mathisen 56), which explore environmental hope.

Saci Lloyd, who was born in Manchester in 1967, has dealt with climate change as the result of pollution and global warming in her two YA dystopias: *The Carbon Diaries 2015* and *2017*.⁵ According to Basu, Broad and Hintz, dystopian writing that engages with pressing global concerns has the capacity to frighten and warn (1). In their view, cultural products such as literature and art have a unique ability to make a change for the better. While environmental concerns have a tendency to seem far away, both in time and geography, arts and literature can help bring them closer. “It invites us to imagine the world differently, to listen beyond newspaper headlines to hear those quiet stories about the Anthropocene whispered in small encounters” (M9), Swanson et al. claims in *Arts of living on a Damaged Planet*. Thus, arts and culture can play an important role in dealing with environmental issues.

1.2 The London Smog

Historically, one could argue that London has been associated with pollution ever since the industrial revolution. Although it is an event referred to as “the great storm” which leads to the decision to start carbon rationing in Saci Lloyd’s books, it is implicit that the overall problem leading to climate change and dramatic weather conditions has to do with pollution, carbon dioxide in particular. The London fog, a product of coal fires and industry, is a well-known phenomenon in literature.⁶ For instance, fog is often associated in the popular imagination with Arthur Conan Doyle’s criminal narratives about Sherlock Holmes in Victorian London. In Conan Doyle’s *The Adventure of the Bruce-Partington Plans* (1908), a description of fog appears in the first line of the short story: “In the third week of November, in the year 1895, a dense yellow fog settled down upon London” (Conan Doyle 1).⁷ Throughout the text, the word “fog” is repeated twenty times, and weather plays a central part of the plot.

Other figures associated with the London fog are Jack the Ripper and Charles Dickens. The former, murdered at least five women in the East End of London in 1888 and has been the subject of crime fiction ever since. According to the author of *London Fog: The*

⁵ As one might gather from the name “YA”, which is short for “young adult”, YA literature is traditionally characterised as literature written about and for teenagers (Garcia 5).

⁶ Smog is probably the more appropriate term for what is often referred to as “fog”. As a natural phenomenon, fog is, according to *The Oxford Dictionary*, defined as “water droplets suspended in the atmosphere or near the earth’s surface which obscures or restricts visibility”, while smog is “a fog or haze intensified by smoke or other atmospheric pollutants”. The terms are used interchangeably in this paper.

⁷ The description of the fog as “yellow” indicates that this is smog rather than fog. Christine L. Corton writes in her article “Beyond the Pall...How London Fog Seeped into Fiction” that fog is associated with Sherlock Holmes, even though there is little fog in Conan Doyle’s tales. In fact, “The Bruce-Partington Plans” is one of few stories where London fog is used as a plot device.

Biography (2015), Christine L. Corton, Jack the Ripper's crimes were indeed committed at the very height of London fog's density and frequency, but contemporary meteorological reports reveal that the murders happened on clear nights (Corton "Beyond the pall"). However, the weather forecast for the day of the murder of one of Jack the Ripper's victims, Elizabeth Stride, stated that there would be "fog or mist all day, except for a few hours in the morning, when the top was clear, but the sky covered with eirro-stratus moving from the west" ("The Weather").⁸ Whether there was fog or not in the hours when Jack the Ripper committed his crimes, the fiction inspired by the events would not scream "Jack the Ripper" without it. Neither would Charles Dickens' writing, which is also commonly associated with this weather phenomenon. Corton claims that Dickens was the first to conjure the image of foggy Victorian London in fiction. One example can be found in *Bleak House* (1853), where the city of London is defined by its fog. Another example can be seen in *Our Mutual Friend* (1865), where fog is used metaphorically for moral corruption caused by a lust for money. After Dickens, other writers followed, and the London fog became a frequently used feature in literature, particularly set in 19th century London (Corton "Beyond the Pall").

The London fog in literature is not necessarily an exaggeration of reality. During the 19th century, Londoners were frequently exposed to incidents of dense smog, often leading to injuries and deaths. According to Bill Luckin, Londoners were shocked by severe episodes with fog during the 1870s and 1880s (34-35). Not only did the fog lead to accidents, it also proved toxic to the elderly, very young and those with weak lungs. Many were alarmed about the consequences of the fog at the time, not only for health reasons and concerns about accidents, but also because it affected plants and turned out to be an economic expense to people living in London (Luckin 38-40). Citizens were deprived of healthy sunlight and had to keep their windows shut. In addition, they had to wash their homes, themselves and their clothes more frequently because the smog was dirty. This led to a rise in anti-urbanism, which saw the London fog become associated with a lack of morality and inherited weakness. The upper and middle classes travelled out of London when they had the chance, sequestering themselves in the suburbs, highplaces, countryside and mainland Europe, while the working classes had to stay. The lower classes, of course, did not have the economic means to travel, which led to a further segregation between the classes and the identification of the working class with dirt and an immoral lifestyle (Luckin 42).

⁸ It is reasonable to assume that "eirro-stratus" has similarities with what is today called "stratus clouds". If this is the case, this weather phenomenon refers to the lowest lying cloud type, which in some cases appear in the form of mist or fog ("Stratus Clouds").

Luckin gives an example of an author who used the London fog in his work, William Delisle Hay (1853-?), and argues that Hay was inspired by a real incident of smog in February 1880 when writing his science fiction novella, *The Doom of the Great City; Being the Narrative of a Survivor, written AD 1942* (43).⁹ The finished fictional text was published later in 1880 and describes how the London fog suddenly turns into a killer smog, suffocating anyone who inhales it. The novella is written in the form of a letter from an 84-year old man to his grandchildren in 1942, describing how London was hit by a toxic smog sixty years prior, in 1882. In addition to criticising the heavily polluted air in London at the time, Hay also uses the smog to symbolise the social, economic and political insecurities of the late Victorian city (Luckin 43). The narrator describes London as “foul and rotten to the very core, and steeped in sin of every imaginable variety” (Hay 4). The people of London lived in blasphemy, and “purity of life was a simple impossibility” (Hay 4). He accuses the aristocracy and especially women of vanity: “Feminine indulgence in extravagance of attire was the bane of London” (Hay 7), he claims, as well as accusing working class women of choosing prostitution over chastity. Men, on the other hand, “were human then as now” (Hay 8). In short, the citizens of London had lost their way. Hay uses science fiction as a social critique for reasons that are politically reactionary and criticises what he sees as immorality.

The fog, which in the end suffocates everyone in London, is described as “no mere mist... it was that mist supercharged with coal smoke, with minute carbonaceous particles, ‘grits’ and ‘smuts’, with certain heavy gases, and with a vast number of other impurities” (Hay 9). In the novella, Londoners had grown accustomed to the fog, and did not see the potential danger, although it had claimed the lives of several elderly and poorly people. On the day that the killer-fog hits, the narrator is out of town, by coincidence, visiting a family living in semi-rural Dulwich. As a result, he sees the “dense brown fog-bank” (Hay 13) hanging over London the next day. When the postman fails to arrive, they grow concerned and decide to investigate what is going on. They discover people and horses lying dead in the street, and the narrator goes in to the city to find his beloved sister and mother, who sit peacefully in their basement holding hands, dead like everyone else. He describes some of the bodies he sees along the way, notably more focused on people from the higher classes. “One common doom, one common sepulchre of gloomy fog, there was for the richest and the poorest, the best and the worst alike” (Hay 18). He even describes walking past Buckingham Palace, implying that the fog reached the royal family as well. On only one occasion does he

⁹ According to Troy J. Basset at *The Circulating Library—A Database of Victorian Fiction, 1837-1901*, the year and date of Hay’s death is unknown. He was living in 1896.

point to the bodies of two “miserable [children] in the gutter...barefooted, filthy, half-naked outcasts of the street”, and continues that “to them death had been but a release from life” (Hay 20). To some extent, Hay’s criticism continues the kinds of observations we see in William Blake’s poem “London”. In the opening lines of the first stanza “I wander thro’ each dirty street, / near where the dirty Thames does flow” (1-2), the word “dirty” is repeated twice, painting a picture of a filthy London, similar to that of Hay.¹⁰

Although the London fog improved at the beginning of the 20th century, it has continued to be an issue of concern even in modern times. On 5 December 1952, the smog in London became so dense and toxic that it killed thousands of people, after which it was referred to as “the great incident of 1952”. Excell explains that due to an anticyclone hanging over the region, polluted air became trapped close to the ground and led to the formation of a sulphurous, toxic shroud which persisted for the next five days. Recent research estimates that “the great incident” caused 12000 deaths, and it became a crucial turning point. It prompted a global transformation in how we deal with air pollution, which was no longer seen as a necessary evil (Excell). As a result, the Clean Air Act came into force in 1956, banning the burning of polluting fuels in certain areas across the United Kingdom (UK, Dept. of legislation). Public health vastly improved after this, and the act represented a global milestone in environmental protection.

London’s air quality problem has not gone away, even though air pollution by coal is largely a thing of the past. Pollution in London still claims several thousand lives a year, but the current sinner is the toxic gas nitrogen dioxide, according to Jon Excell. The source of this type of pollution is mostly emissions from transport. Thankfully, there are ways to reduce emissions of NO₂, such as hybrid and electric transport. Still, this proves that the polluted air in London remains an issue, and that smog is something associated historically and culturally with the city. Writers such as Hay, as well as Dickens and Doyle, use the London fog not only to create a tone or setting, but as a critique. Even though there have been changes since 1952, pollution levels show that further action is needed to clean up the air entirely. Still, “it is exceptionally challenging to persuade people to change their habits—and to persuade government to force this change” (Excell), which is arguably the main reason why the world is doing so little to prevent environmental catastrophes.

¹⁰ This version of the poem is from *Blake; Complete Writings with Variant Readings* (1966), edited by Geoffrey Keynes. In the later version of the poem, published in 1794, the word “dirty” has been switched with “charter’d”.

1.3 Perspective and Setting in *The Carbon Diaries*

What Saci Lloyd does in *The Carbon Diaries* is to imagine the possible societal outcome of restricting the emission of carbon dioxide. The books about Laura Brown, a teenager who has to face the consequences of living in an era where climate change is altering the norms of modern existence, have become immensely popular among British and American teenagers (Thorpe). Her first novel, *The Carbon Diaries 2015*, was published in 2008, while the second, *The Carbon Diaries 2017*, was published in 2009; in other words, both books are placed at least seven years ahead of publication and therefore try to imagine what effects action and inaction in the present might have in the future. When she first started writing about the environment and climate change the issues were still a niche concern (Thorpe), but that is not the case today. During an interview with Vanessa Thorpe from *The Guardian*, Lloyd said that “everyone knows [about the environment], but everyone has a reason why they, personally, do not have to worry about it yet” (Lloyd qtd. in Thorpe). To do something about that she made up a story about the potential outcome of not caring. Working with teenagers aged 16-19 as head of media at NewVIC, a sixth form college in Newham, Lloyd had a good starting point for writing books for young adults. In the same interview with *The Guardian* in 2010, Lloyd explained that she used her experience of working in a tough urban environment in her first novel:

It was very much there in the background and the ambience, but it is not such a big part of the second book. The kids I teach in east London are predominantly working-class kids from Ghana, Pakistan or eastern Europe and, although I have listened to them and learnt from them, when you actually write dialogue you have to decide how colloquial and how specific you want to go, because their language changes all the time. (Lloyd qtd. in Thorpe)

Keeping up with the newest trends when it comes to teenage language is a challenge, especially when you are writing about teenagers seven years ahead in time, yet Lloyd has managed to capture a young audience by writing about a serious topic in a humorous and not too pessimistic way. Moreover, her novels are diverse in terms of multiculturalism and the representation of LGBTQI characters.¹¹ Laura’s friends, school mates and neighbours have

¹¹ LGBTQI, as an acronym, stands for lesbian, gay, bisexual, transgender, questioning and intersex. There are several different adjectival acronyms for the same purpose, and these are ever changing and evolving. If this label excludes or denies any kind of sexual identities that are not traditionally heterosexual, that is not my intention.

different ethnicities, and she has a gay neighbour and friend, Kieran, who starts his own dating-bureau called “carbon dating”.¹²

Both novels are set in Greenwich, which is a historical London borough. Greenwich is known for the Royal Greenwich Observatory, which established the longitude of Greenwich as a baseline for time calculations. In the 1880’s, this became the starting point for international time zones, famously known as *Greenwich Meantime*, or GMT (Betts). As a setting, it is difficult to think of a more central place than Greenwich. The world’s time settings are measured against the Greenwich mean time, and the suggestion might well be that what happens in the novel, in one sense, is what *will* happen in the rest of the world. In addition, Greenwich is where one can find the Royal Greenwich Observatory, the National Maritime Museum and the Old Royal Naval College (designated a UNESCO World Heritage site in 1997) (“Greenwich”). Greenwich as a naval centre could consequently be linked to the British Empire, which involves trading and colonization. These are activities that lead to increases in pollution, and by using Greenwich as her setting, Lloyd could be said to associate environmental contamination with industrialisation and imperialism.

In her first novel, it is evident that climate change has become an urgent global problem, and the UK is the first country to take action against it. Laura corresponds with her American cousin, Amy, and their letters are a useful device for providing information about the situation in the United States. In addition, Laura watches the news and reads the newspaper, which gives an indication of what is going on in mainland Europe. In the second novel she travels to France and Italy to participate on the front line of a global war, caused by drought. The UK is encouraging the rest of the world to follow their example. Greenwich, as a central and historical place both in terms of activities that lead to environmental degradation and as a global centre, is a good place to start.

The narrator of both novels is Laura Brown, a teenage girl. The books take the form of her diary, with chapters of different length. Both of them stretch over a whole year, 2015 and 2017. 2015 is the first year of the UK carbon rationing system, while 2017 is three years into carbon rationing. According to Joe Sutliff Sanders, “YA novels more often feature frequent

¹² Science fiction (shortened to SF) as a genre has been criticised for lacking diversity, and more SF writers have become aware of this as a problem. It is argued that the SF canon consists predominantly of white male writers from the US and the UK, and that as a result science fiction lacks an equal representation of female narratives and SF writers, LGBTQI representation and racial diversity, despite SF’s unique ability to explore otherness and alienation. In this respect, Lloyd is highly unconventional, not only because she is a woman, but because she portrays a multicultural and diverse London from the perspective of a female. See Isiah Lavender III’s “Critical Race Theory”, Jane Donawerth’s “Feminisms”, and Wendy Gay Pearson’s “Queer Theory” In *The Routledge Companion to Science Fiction* (2009) for more information.

chapter breaks” (443), which provide opportunities for rest and achievable goals for a reading session. Sanders goes on to argue, that YASF is characterised by having a larger font and generous spacing between the lines, giving readers the reward of turning pages faster (443).¹³ Keeping this in mind, choosing a diary as the structure of a novel, with frequent use of reported dialogue and images, like Lloyd has done, is a clever way of breaking up the text for the reader.¹⁴

Telling both stories through a teenager’s diary has some similarities with the epistolary genre in the sense that it allows for a sense of intimacy, and an illusion of linguistic transparency and sincerity (Goring et al. 363). A drawback of *some* epistolary novels is that they focus on only *one* correspondent, so that the narrator is potentially unreliable, and Laura’s diary presents only her point-of-view in every sense. Epistolary novels allow for different perspectives through correspondence with others, while a diary only presents the perspective of a single person. It is primarily through Laura that readers learn about the climate situation and its consequences. Still, readers get to know other characters, for instance through Laura’s reproduction of dialogue. An example of this is when Laura and her friend, Adisa, are handing out flyers for an upcoming concert at school, and Adisa invites Laura’s crush, Ravi, while he is with a girl he is dating, Thanzila, who Laura dislikes:

Adi held out a flyer. ‘Hey, you wanna come?’
I hissed, ‘Adi!’
Thanzila stopped and looked at him like he was a bug crawled out from under a log. ‘Oh, right, your band. That’s sooo cool.’
‘So see you there?’
‘Ohh, right... The thing is it’s not really my scene. I’m more of an R&B girl, I mean, isn’t this kinda like white people’s shit?’
‘Take a look at my skin’, replied Adisa, coolly. ‘It’s not about colour, it’s about *giving* a shit, Thanzila.’ (Lloyd, 2015 157)¹⁵

Although this is written as an entry in Laura’s diary after the event took place, it feels immediate partly because it happened the same day as she wrote about it. The use of dialogue is a clever way of introducing other characters and creating the illusion that the reader is witnessing interaction between characters, even though everything is recorded by Laura. It becomes particularly evident that the dialogue is coloured by Laura’s thoughts and feelings

¹³Joe Sutliff defines science fiction for young adults: “YASF ... refer[s] to fiction with a certain agenda: in addition to satisfying whatever criteria are necessary for the text to be called “sf”, it must also address the real needs and experiences of adolescent and teen readers” (442).

¹⁴ Lloyd has also used larger font, double spacing and widened margins.

¹⁵ This excerpt illustrates the diversity represented through different ethnicities in the novel.

when Thanzila is present, and we are given no reason to like the girl. Even though the reproduction of dialogue seems objective, the comments given below make sure that we are influenced by Laura's point of view.

Another example of the lack of other perspectives is the depiction of Laura's parents. It is obvious that they are struggling to adapt to carbon rationing and that it puts a strain on their marriage. Yet, using Laura's perspective only, the tension and problems between her parents seem ridiculous rather than serious and upsetting.

Mum took me out for lunch in some weird vegetarian canteen in Blackheath. She was *very, very* cheerful. Breakdown time, folks.
'Well, this is nice. Just me and you!' She laughed, waving a piece of tofu at me.
'Yeah, I guess.'
She squeezed my hand.
'It's going to be Ok. I wish we were all celebrating together, but I think we just need some time apart. My therapist says I need to centre myself before I can function again as a mother figure.' (Lloyd, 2015 289-290)

At this point in the novel, Laura's mother has moved out and rarely gets in touch with her daughter. It seems like Laura is left to herself most of the time, with her mother trying to find herself, her father trying to find a new purpose after he got fired from his job as a travel and tourism teacher, and her sister being away selling carbon points on the black market. One gets the sense that Laura finds the situation at home difficult to deal with, and it becomes evident that the issues within her family affect her school performance. Seeing things entirely from Laura's perspective might appeal to a teenage audience, for whom parents inevitably appear slightly ridiculous and redundant. For instance, the comment "breakdown time folks" seems aimed at her readers, who will probably recognise the awkwardness. There is something comic and absurd about the scene—not least when the Mother "waves a piece of tofu" in the air. When Laura's mother talks of herself as "a mother figure" who needs to "centre" herself, the terms from popular psychology appear slightly pompous and self-centred. Even though these are serious issues that many teenagers might be able to relate to, the tone in the novel never gets too grave and always has a humoristic touch. This makes Laura a likeable character as well. She appears strong, independent and funny, even though her life seems like it is falling apart.

Because the readers get insight into Laura's thoughts and emotions, we are given the illusion of the immediacy and openness of the epistolary form. This is also conveyed through the use of language. She inconsistently changes between spelling "cool" as "kool", uses phrases like "I guess" and believes her teacher in Critical Thinking "definitely needs more

sex” (Lloyd, 2015 16). Because a diary is personal, the language has to be as well. As shown in the examples above, Laura *sounds* like a teenager, using informal and colloquial language. She uses swear words, slang and writes fragmented sentences. An example of her use of incomplete sentences is from one of the shorter entries in her diary: “Went to band practice. Broke my E-string. Don’t care. Everyone was being really nice, which just made it worse. Dad is still drunk” (Lloyd, 2015 102). This typically random entry refers to Laura’s dad drinking too much after he got fired and Laura’s crush, Ravi, dating someone else.

On several occasions during the novels, Laura includes illustrations and figures—for instance of her school assignments, of the Carbon Dating Application Form and the poster for a band she likes, called *Hydrogen*.¹⁶ Although it seems unlikely that someone would spend much effort on collecting posters and printing images to tape them into a diary, the inclusion of images is another way of breaking up the text, making the novel more appealing for a young audience, who are more accustomed to a culture that combines the visual with shorter and more informal (or ungrammatical), verbal elements. The use of personal or private text combined with images and illustrations also mimics the use of blogs, showing that the author understands the kind of media used by the younger generation.

1.4 The Potential in Science Fiction

In terms of genre, *The Carbon Diaries* are usually classified as dystopian science fiction novels for young adults. Unlike much science fiction literature, however, *The Carbon Diaries* do not involve futuristic science, such as time travel or space travel. Rather, they feature a near-future setting, exploring the potential consequences of the way the environment is currently being treated. When it comes to genre, and the genre of science fiction more specifically, there has been much debate regarding what actually constitutes science fiction, speculative fiction, fantasy and dystopian fiction. Margaret Atwood argues in her collection of essays called *In Other World’s: SF and the Human Imagination* (2011), that none of her fiction is science fiction, but that it is *speculative fiction*. She claims that because her works, such as *The Handmaid’s Tale* (1985) and *Oryx and Crake* (2003-2013), contain no intergalactic space travel, no teleportation and no Martians, they should not be considered science fiction (Atwood 2). According to what Ursula Le Guin writes in her article “The Year of the Flood by Margaret Atwood”, Atwood argues that the events in her novels could have

¹⁶ For some examples of images used in the books, see “Book Images Gallery” on Saci Lloyd’s website, sacilloyd.com.

happened or may already have happened, which means they cannot be science fiction. Speculative fiction, then, as classified by Michael Svec and Mike Winiski, “is about things, technologies that *could* happen but just haven’t when the book was written” (38). If one follows Atwood’s argument, *The Carbon Diaries* too should be classified as speculative fiction.

However, there are those who disagree with Atwood’s definition, among them Ursula K. Le Guin. In fact, Atwood and Le Guin carried out a public debate about the issue back in 2009, which is presumably the inspiration for Atwood’s publication in 2011 (Thomas 27). Le Guin, on her part, claims that “*The Handmaid’s Tale* and *Oryx and Crake* [...] exemplify one of the things science fiction does, which is to extrapolate imaginatively from current trends and events to a near-future that’s half prediction and half satire” (“The Year of the Flood”). Whereas, Atwood believes that aliens are science fiction, not speculation. Whether to classify *The Carbon Diaries* as science fiction or speculative fiction depends on which stand ones takes in the debate about science fiction as genre.¹⁷

According to Alexa Veik Von Mossner, the novels qualify as *critical eco-dystopias*, as they use ecological catastrophes to encourage personal, political and ecological change (70). A dystopia involves a setting in an oppressive society and using that setting as an opportunity to comment in a critical way on some other society, typically that of the author or the audience (Booker, *Dystopia* 5). In the case of *The Carbon Diaries*, the oppressive element is the loss of freedom, that comes about as the result of restrictions placed on the release of carbon dioxide, which limits the amount of time available for showering, driving and the availability of imported foods, among other things. The British Government in the books has decided to control carbon emissions in order to deal with global warming and climate change, which have become matters of urgency due to extreme weather across the globe.

The aim of dystopian fiction is to make the reader think critically, then transfer this critical thinking to her or his own world (Booker, *Dystopia* 5), which is presumably what

¹⁷ One could speculate whether Atwood’s disapproval of being labelled a writer of science fiction has to do with science fiction, as a genre, having a lower status in the literary hierarchy. Atwood writes in *In Other Worlds: SF and the Human Imagination* that: “though sometimes I am not asked, but told: I am a silly nit or a snob or a genre traitor for dodging the term ... I didn’t really grasp what the term *science fiction* meant anymore ... is it merely a shelving aid, there to help workers in bookstores place the book in a semi-accurate or at least lucrative way?” (2). It seems that the vague lines between what is science fiction and not leads to some works being labelled science fiction, even though their writers do not consider their works to be SF. M. Keith Booker and Anne-Marie Thomas point to the unique fan cultures and communities, as well as SF’s unique position to incorporate political commentary as strengths of being considered “low” and popular literature in the introduction to *The Science Fiction Handbook* from 2009, yet SF is still not considered “high” literature and does involve a certain stigma.

Lloyd wants her readers to do, with respect to climate change.¹⁸ Although *The Carbon Diaries* is dystopian, the picture painted is not too gloomy and depressing. There is still room for hope, leaving the utopian idea within touching distance. Veik Von Mossner even argues that *failing* to provide hope in young adult dystopian writing would be unethical, as young readers need hope for a better and more humane world (71). Making the story about a British teenage girl, not too far ahead in the future and dealing with the consequences of the way readers live, might work as a wakeup call and inspire them to make changes, because it seems familiar and achievable. This certainly seems to be at least part of the purpose of the following passage where—after a dramatic storm, which leads to a flood in the end of *Carbon Diaries 2015*—Laura reflects on how her life used to be before “the great storm” and carbon rationing: “I tell you. You never think it’s gonna happen to you, but all that pollution and dirty fumes and flights and factories and shit we don’t need and suddenly there you are ... waiting to see if your family is ever coming back” (Lloyd, 2015 353). In this reflection, the message to the reader is clear; this could happen to them as well. It is also a reminder of what is important in life, which is family (not travelling by aeroplanes or buying new things). It could also be seen as a warning against becoming too concerned with consumerism and travelling, which, both directly and indirectly, contribute to pollution.

As a genre, Science fiction provides a unique opportunity to make readers think about the present. According to Darko Suvin’s idea of “cognitive estrangement”, it has become a common characterisation of science fiction that readers are placed in a world different to their own in ways that stimulate thought about the nature of those differences, causing them to view their own world from a different perspective (Booker and Thomas 4). While one could argue that all fiction has some element of cognitive estrangement, Booker and Thomas claim that in science fiction, cognitive estrangement is the primary goal and project of the text (4). In this respect, science fiction has tremendous didactical potential when it comes to teaching about issues that seem serious, far away and hard to imagine, such as climate change and environmental degradation. Ursula Heise claims that science fiction “enables authors to criticise elements of society and explore potential future consequences of present day politics” (Heise, “Letter” 1097), which is what Saci Lloyd does with respect to climate politics and several other tendencies in present day society and politics.

¹⁸ In many respects, the aim of dystopias to encourage critical thinking about the reader’s own world resembles Darko Suvin’s influential characterization of science fiction as the literature of “cognitive estrangement”, placing readers in a world different from our own so as to stimulate new critical insights into real-world societies. For more information on Darko Suvin’s characterisation of science fiction see: *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (1979).

In fact, the relationship between science fiction and environmental concerns has been recognised by several critics. Patrick D. Murphy explains in *Ecocritical Extrapolations in Literary and Cultural Studies* that as a genre, science fiction has the opportunity to create an analogy between the reader's consensual world and an imagined world, through extrapolation. The concept of extrapolation in relation to science fiction insists that the writing and reading of SF are intimately linked to getting people to think about the present and the world they live in (Murphy 89). It is this connection, then, that makes SF such a relevant genre to convey messages about nature. Instead of providing mere fantasy, an escape from the real world, the extrapolation emphasises that the present and the future are intertwined (Murphy 89). As already stated, hope is a crucial element in dystopian fiction for young adults. Using *The Carbon Diaries* could potentially be a clever way of educating youngsters about the environment, making them feel like it is something they have to care about and manage, without being too alarming and dispiriting.

2 In the World of Carbon Rationing

Thurs, Jan 1st

Exhausted. The whole family looks like death after an all-day meeting. The last time we were all in one place together for more than 3 hours was when my sister, Kim, locked us in a holiday cottage in France for the whole of Millennium night by mistake. Happy times. Today she locked just herself in her bedroom and sulked until Dad got her to come out. Typical. Mum is Being Very Positive—ranting about when she did voluntary work in the 80s on a kibbutz in Israel, knitting lentil ponchos and it *being the best days of her life*.

Dad muttered that we shouldn't just focus on it being difficult, but think up a New Year's wish list. He typed our answers into his laptop. Ever since he got made Head of Travel and Tourism at Greenham College he zaps everything into Excel and files it as evidence. Mum says The System's got him by the Balls. (Lloyd, 2015 1)

The first entry in Saci Lloyd's *The Carbon Diaries* gives a flavour of the novel as a whole. Lloyd varies between longer sentences and short soundbites, such as "exhausted", "happy times", and "typical", which varies the rhythm to reflect the mood of the teenage protagonist. She also uses font to suggest character (or how character is perceived by the young woman writing): the generic Mother typically speaks in capitals ("Being Very Positive", "The System"), suggesting a flair for the dramatic, or self-important. The Father in the novels appears to be a managerial type, who files information "as evidence", while his wife disdains him for being compromised by "the system". Everything is told in an ironic and humorous way, which establishes a strong sense of voice and sets the mood for the rest of Lloyd's work.

As already mentioned, *The Carbon Diaries 2015* and *2017* are about Laura Brown, a teenage girl from Charlton, Greenwich. In the first book, she is sixteen years old, and describes how the first year of UK carbon rationing affects her life in diary entries throughout the year. In the second novel, the UK is two years into carbon rationing, and several countries have followed its example. Laura attends university in London, while her family has fled the frequently flooded Greenwich and moved to a farm in Abingdon. All of Europe experiences rising extremism as a consequence of water shortage, climate refugees and economic recession. In the midst of it all, Laura wants to focus on her political X punk band, *The Dirty Angels*, and tries to figure out how actively she wants to engage in the "revolution", in terms of joining the extremist green activist group "the 2", which several of her friends are involved with.

2.1 Narrative Technique

In terms of narrative technique, both novels are told in the first person, as Laura Brown. In diary form, Lloyd cleverly mixes between reproducing dialogue and stating Laura's thoughts.

Through dialogue, other characters are introduced, and readers get several perspectives and opinions apart from Laura's. One example of this is from the first part of her diary entry from July 2nd:

Last few weeks of college. Oh yeah! We had our final Energy Saver session with Gwen Parry-Jones today. Nathan came in dead late. He was totally wiped out after trying to fit his family's water meter. Basically, he drilled into a pipe and totally flooded the kitchen.

'Man, it was hectic. My mum was bare angry, there was plates and carrots floatin' around the room. She kep' screaming *where the stopcock, where the stopcock, you fool!* Like I know! I ain't no plumber.'

GPJ spread her hands. 'Yes, but soon you're going to have to know. We can't take water for granted anymore.'

Nate sucked his teeth. 'What's wid that? All it do is rain, rain, all winter long—and as soon as the sun come out I get me mum screamin' at me.'

'Well, the water industry got privatised in 1989 and since then Thames Water's been taken over again and again. Right now it's owned by a bunch of Germans—'

'Yeah, man, they don't care about us, it's just business.'

'But soon it's going to be political. Water's rapidly becoming the most serious social issue of this generation. You can see it starting already in Spain. There's been no rain in North Africa for two years and thousands of immigrants are flooding across Europe through the Spanish borders.'

'Yeah, yeah, world comin' to an end. I know, miss,' Nathan growled. 'But look at my trainers—all messed up.' (Lloyd, 2015 186-187)

This example illustrates how two characters, with their own set of opinions, are introduced through Laura's recitation of a conversation. It allows Lloyd to educate readers and let Laura be a "typical" teenager, who is allowed to disagree with others and think her teachers are old and stupid. In this case, the educator is Energy Saver Teacher, Gwen Parry-Jones, who carries out a discussion with one of Laura's fellow students. Gwen Parry-Jones, as a character, frequently fulfils the role of educational spokesperson, and what she explains about water becoming political could be seen as a foreshadowing of the second novel, where her prediction has become reality. Again, the strengths of the book emerge—especially the humour, in the contradiction between what Nate is asked to do (install a water-meter) and his self-defence ("I ain't no plumber"), and the typically teenage preoccupations with his own concerns ("but look at my trainers"). Nate's speech is well-rendered: he *sounds* like a teenager ("bare angry", "wid", "kep", "comin"), as does Laura ("dead late", "totally wiped", "totally flooded").

One could argue that this way of introducing other characters in a seemingly objective way points to a potential disadvantage of the diary form, which is that it privileges a first-person perspective. Laura does not even partake in the conversation, she simply listens and records it in her diary. At the same time, as we have two teenagers' views and priorities

represented, Lloyd astutely uses the voice of an older, less colloquial, teacher to supply background information that is necessary for the plot. Gwen Parry-Jones is teacher, and in some ways an educator at the meta-level because she is not only educating her pupils, but the readers. What she explains about the privatisation of water is not fiction. On the contrary, Thames Water is an actual company, which supplies about a third of the water and sewage systems in England and is the UK's biggest water utility (Plimmer and Espinoza). The decision to privatise water and sewers in 1989 has been heavily criticised, and there have been several voices of concern. Sir Ian Byatt, head of the UK water regulator, Ofwat, expressed to *The Financial Times* in 2017 that he found it hard to resist the idea that "they [Thames Water] are more concerned with money than with serving the public" (Byatt qtd. in Plimmer and Espinoza).¹⁹ Using Parry-Jones in this way allows Lloyd to give straightforward information in a way that would sound odd coming from her teenage protagonist. And although Parry-Jones sounds pedantic, this can be excused because she is, after all, a teacher whose job it is to inform, not entertain.

Incorporating dialogue between several characters breaks up the potential monotony of the first-person narrative and can also be linked to Mikhail Bakhtin's concept of the *dialogic*, which involves presenting the truth as something negotiated between several voices, rather than something pronounced by one (Klages 93). Bakhtin claims that language is the product of verbal interchange between two or more individuals, especially as represented in literary writing. He even argues that dialogue is to be found in utterances and discourse, which is not overtly interactive (Hawthorn 76). In this way, Lloyd overcomes the overly subjective tendencies that some commentators have pointed to in the epistolary genre (a genre that is partly replicated and exaggerated since Laura is writing a diary) and reproduces the essentially dialogic quality of the genre as it is characterised by Bakhtin.

Readers get the opportunity to learn about matters that Laura knows nothing about through her reproduction of dialogue with others, and through conversations she has overheard. For instance, we are made aware of the similarities between carbon rationing and rationing during the second world war through Laura's neighbour, Arthur, who is an 89-year-old man who lived during the war (Lloyd, 2015 149-151). She also repeats a conversation she

¹⁹In fact, Thames Water was, according to Plimmer and Espinoza, hit by the largest regulatory fine in UK corporate history for river pollution and failing to maintain and manage key equipment, after an incident in 2013, where the river Thame, a tributary of the river Thames, was discovered heavily polluted, and reported to Britain's Environment Agency. More about Thames Water and the concern against them can be found in Gill Plimmer and Javier Espinoza's article "Thames Water: The murky structure of a utility company" in *Financial Times*.

overhears between some of her male neighbours about women's role in marriage, presenting a sexist and disturbing attitude towards gender roles, which is clearly not Laura's view (Lloyd, 2015, 118). As Bakhtin points out, dialogic speech acknowledges a set of social relations among and between speakers, and hence it is more descriptive of historical and cultural realities than the monologic speech, associated with, for instance, lyric poetry (Klages 93).

The dialogic element in the novel, where other views emerge, can, in addition to instances of dialogue, be seen in Laura's reports of news items. For instance, Laura writes about watching a leading hurricane expert on TV and what he says about climate change:

This leading hurricane expert, Dr Lewis, did an interview from his Colorado State University office. He was all normal, then suddenly in the middle of the interview he just lost it. He banged his fist on the desk: 'The Gulf Stream is desalinating and shutting down right now and it's not going to stop. Storms on this scale are going to happen again and again—and we're going to see damage like we've never seen before. We have to act now, before it's too late.' (Lloyd, 2015 173)

Dr Lewis explains things Laura could not possibly know, yet Lloyd has found a way of incorporating his perspective and that of others (though of course Laura still chooses what to report) and does so in her characteristic style ("all normal", "just lost it"). It also allows Laura to disagree with these opinions and avoid being too moralising. Laura is not entirely in favour of carbon rationing, even though her friend Claire is an activist, for instance. The first mention of Claire in Laura's diary is: "[w]e've just got together after a break for *musical differences* after Claire got heavily into hardcore Straight Edge. She was so militant. You couldn't even unwrap a Snickers around her without a lecture on skinny cocoa-bean farmers" (Lloyd, 2015 7). It is made clear from the beginning that Laura thinks Claire is too extreme in her views. Another example of someone whom Laura feels different from (but still looks up to) is Laura's teacher and active feminist, Gwen Parry-Jones, who is mentioned already.

Lloyd has managed to incorporate yet another perspective through mail-exchanging between Laura and her American cousin, Amy. In the beginning of the first novel, Laura receives an e-mail:

[H]ey girl, howz it hangin? We r doin a skool projecton u guys in the uk and wtched a awesome docu on all the hard shit n stuff. its really cool, we are totally 110% behind you guys all the way. for real.
Anyway, i wanna take my pro up to a hiyer level and put some insane real personal shit, you know, up klose n personal styleie—so im thinking cld u mail me a repo from daa front line, in like a war. waddya think?

eww gotta go. mom and dad are on this real kwaliti family time trip and were flyin to aspen for the wkend to ski n snowboard and like, totally bond. gross.
aimz xxx [...] (Lloyd, 2015 67)

There are several interesting features to point to in this excerpt. Firstly, it is portrayed as a print-out of an e-mail, making it appear like a photo of Laura's *actual* e-mail account, with the text appearing in a box named "main text" and with icons like "saved", "in", "out" and "trash" appearing on the side. This is an example of one of the ways Lloyd breaks up the text with visual elements. Secondly, Amy's writing is characterised by the use of highly informal language, resembling the form of a chat. This involves the ungrammatical lack of capital letters, slang and misspelling of words, among other things. It could be argued that this is a way of giving Amy personality, even though she is never represented through oral speech. Lastly, Amy represents an outsider's view on what is going on in the UK. On the one hand, she says that Americans are "110% behind" the UK, but on the other, she unintentionally demonstrates that she does not feel a moral responsibility to cut back on carbon emission by casually mentioning that she is flying to Aspen for the weekend to go skiing, with no apparent concern for the environmental impact such trips involve. She clearly does not comprehend how dramatically life has changed for her cousin, and she even finds Laura's new reality "cool".

Another feature of the diary form is the sense of immediacy and writing "to the moment". In the second novel, Laura describes how she is arrested in Italy and sent to a prison facility. Consequently, she is not allowed to bring her diary and write in it while she is incarcerated. This results in a self-reflexive aspect of *The Carbon Diaries 2017*, where Laura writes about not being able to bring her diary to jail: "Jesus! A soldier has just burst in, waving his gun... I'm writing this as fast as I can. They're almost definitely gonna take all our stuff away. My bass, my diary...everything" (Lloyd, 2017 283). This excerpt makes the reader aware that it is in fact her diary we are reading, and that most events are written down just after they have already occurred (or, in this case, almost as it is happening). Stating that she is writing this "as fast as [she] can" it appears like she is addressing a potential reader, which seems odd considering that a diary is not normally written with an audience in mind. The next entry, after Laura's diary is taken away from her, appears ten days later:

I can't believe it. This morning we were driven to a train station called Modane on the French border. After we stepped out, they gave us our stuff back—minus cards, money and fones, which were *lost in transit* ... I picked up my bag and returned to the line. As soon as I got

back, I bent down and unzipped it, pawning thru the stuff till I found it ... My diary! (Lloyd, 2017 284)

Laura explicitly states that she has gotten her diary back, even though it is obvious because she is writing again. She then fills in the events of the past ten days. One of the potential drawbacks of the diary genre is that daily events are not always entertaining: the confiscation of the diary allows Lloyd to edit out the mundane and repeated aspects of prison routine and focus on what is dramatic. But it also adds to the novel's credibility: the brief interruptions in the narrative makes the diary somehow more credible.

When choosing a diary as the narrative form, Lloyd commits to reproducing the language of a teenager from London. This involves using informal language, fragmented sentences and a great deal of slang. She has also given some of the characters distinctive language, such as in Amy's e-mails, but also through making a point of reciting accents and previously mentioned characteristics of oral speech. Once again, this way of presenting diversity of voices could be linked to Bakhtin's concept of *heteroglossia*.²⁰ For instance, Emanuel, who is an activist and works as a sound-technician for Laura's band, stutters a lot: "ah...i...uh...dunno" (Lloyd, 2017 358). Another example is when Laura reports what is said by a woman at an activist meeting, who has a clear sociolect: "Wha' we're fer anyhow's? I can't stann' it no more" (Lloyd, 2017 37). Laura's writing appears less overtly oral when she is not reciting dialogue, yet it is still informal. Here is an example of her language taken from Lloyd's second novel:

And so here we are. There's a group of about 40 of us under military arrest inside the town hall. They've taken all our fones and comm devices off us. I don't know exactly what happened to us back there at the protest, but it happened to all of us the same. We're in the shit for sure, but in a way I'm glad, I mean what kind of person turns away from something happening right in front of their eyes? (Lloyd, 2017 283)

As this excerpt illustrates, Laura does not write numbers in letters, she uses abbreviations like "comm devices", and prefers the ungrammatical "off us" instead of "from us". She also writes (the phonetic) "fones" instead of "phones" and uses the colloquial expression "we're in the shit". All these examples are convincing ways of showing that Laura is a teenager.

²⁰ Hawthorn defines *heteroglossia* in *A Glossary of Contemporary Literary Theory* (2000) as: "the multiplicity of social voices linked and interrelated dialogically which enters the novel through the interplay between authorial speech, narrator speech, 'inserted genres' and character speech" (152). Lloyd manages to portray a variety of voices through her use of dialogue between characters other than Laura.

In addition, Lloyd has incorporated several illustrations and images, which break up the text throughout both novels.²¹ In *the Carbon Diaries 2015*, she uses about fifty illustrations of things like excerpts from e-mails, school projects, posters and news items. In addition to providing information, these images give readers a break and help them visualise some of the things Laura is writing about. Not only is this helpful for young readers, but it also mimics modern media such as blogs, which would appeal to a younger audience. This mode of writing also gives room for entries of varying length. Some diary entries consist only of a couple of sentences, while others are several pages long. Also, the author incorporates some of Laura's self-composed song lyrics. This helps break up the text even further and makes the novels easier to read, and visually varied.

2.2 Carbon Rationing

In the world of the novels, the United Kingdom becomes the first nation on earth to institute mandatory carbon rationing, in the aftermath of an incident referred to as “the great storm”, itself the result of climate change. Initially, the goal was to impose carbon rationing by 2030, but because the storm hit so hard, it was decided to proceed fifteen years early. “I guess something really happened to people then. It was like everyone went *That's enough. Stop now*” (Lloyd, 2015 4), Laura reflects in her diary. The rationing system involves a decrease in energy use of 60%, which turns out to be a massive adjustment for everyone. Even though the weather is out of control and her family struggles to stay together, Laura just wants to pass her classes, play with her band and catch the eye of her cute neighbour Ravi, in the first of Saci Lloyd's two novels. Meanwhile, London has to deal with riots, torrential rains, droughts and floodings: “[t]he thing about weather now is that it's gone so big. So like today you're thinking is this just a normal winter storm... or is it going to destroy us?” (Lloyd, 2015 60), Laura writes in her diary after a whole week of rain and wind. Leading up to another storm, Laura writes “[t]he sewers can't cope with all the rain so Thames Water pumped 800,000 tons of shit into the river. Good day for the fish” (Lloyd, 2015 317). This is a complete entry in her diary—simply a report on the weather and a critique of the private water company, Thames Water.

²¹ Saci Lloyd was the former head of Media at NewVic sixth form college and has previously run an interactive media team at an advertising agency. It is perhaps not surprising, then, that visual elements have been incorporated to such a degree in her writing. Examples of images can be seen on her website, sacilloyd.com.

From May to late August, on the other hand, the weather is so dry and warm that London faces a drought:

The Mayor's given in to Thames Water and approved the 2nd drought order. Guess who's got the power there? He's forcing a compulsory water rationing system on us. Effective immediately. Basically everyone's got to get a water meter fitted in the next three weeks. Government vans will deliver them street by street across the city and then we've got to put them in ourselves. The limit's going to be 90 litres per person per day. That's a cut of 60 litres. Go over and the taps run dry. He looked up from his notes and spoke directly into camera: 'If you had to fetch all that water from a well, each person would have to carry over eighteen buckets of water home every day. Think about it.'

Patronising pig. Why don't *you* think about the thousands of litres pouring away every minute cos you're too weak to stand up to Thames Water? ²² (Lloyd, 2015 179)

This passage not only illustrates how water shortage is a central conflict in the first novel, but it also points to the economic aspect—that water in London is privatised, owned by Thames Water, in reality as well.²³ It is well known that business and economy is central in relation to global warming and climate change. Joel Wainwright writes in his article “Climate Change, Capitalism and Degrowth Trajectories to a Global Steady-State Economy” that the historical coincidence of the emergence of global capitalism with the transformation of our planet's atmosphere is no accident. Inspired by Marx's general formula for capital, Wainwright argues that “capitalism is best conceptualised not as a thing but as a growth-oriented process of commodity production and consumption driven by the constant need to realize more value (as money)” (Wainwright). He goes on to claim that one of the most obvious implications for climate change is that capitalism's expansion and accumulation require the constant conversion of the planet into a means of production. One of the reasons why this process is so difficult to reverse is that capitalism has a tendency to deepen inequalities between wealth and power, which in turn is tightly linked to the challenge of confronting climate change.

²² The reality of drought and restrictions on water during the months of summer in the UK are not that far from Lloyd's scenario in the novels. Over the past years, there have been several hosepipe bans in southern and eastern England. There was a hosepipe ban in 2017, and there are fears of drought in southern England in 2018 as well, because of a year of dry weather (Carrington “South-East England at Risk”). A BBC news article from 2017, states that the average consumption of water in the UK is 150 litres a day per person. Southern Water chief executive Ian McAulay, encourages customers to cut their consumption to 100 litres a day (“Southern Water drought warning as dry winter looms”). Although slightly exaggerated, the problems regarding water shortage and drought in the UK are not science fiction.

²³ In the excerpt, Laura indicates that thousands of litres of water are pouring away, because of leaking pipes. As with many of Lloyd's scenarios, this one is also derived from reality. In 2012, Thames Water sustainability director, Richard Aylard, described Thames Water leakage rates as “high”, partly because 20% of London's water pipes are over 150 years old (“Hosepipe bans brought in for drought-hit areas”). Lloyd's critique seems to be aimed at water companies, such as Thames Water, imposing restrictions on water usage while they are unwilling to replace the leaking pipes. Moreover, she criticises the privatisation of natural resources (such as water) to begin with.

Wainwright states that a meaningful response to climate change will require sacrifice, transnational alliances and trans-class cooperation, which is difficult within a capitalist economy, where wealth inequalities make it difficult to build coalitions around a shared sacrifice. This seems to be Lloyd's point as well, as the Mayor of London, in the novels, does not have any real power over the water supplies, because they are owned by Thames Water. When crisis strikes, there is not much to be done when one body has all the economic and legal power. Because of this, the government has to continue to make choices that benefit business rather than people.²⁴

Lloyd dramatizes (in every sense) how carbon rationing has an impact on all aspects of life and is impossible to ignore. As Laura memorably puts it "rationing has really dicked all over my life" (Lloyd, 2015 110). Normal routines like eating at McDonald's, going to the gym and driving to work suddenly become luxuries people cannot afford. In addition, the political impact of imposing carbon rationing is massive. During the summer, Britain suffers from severe water shortage as a consequence of extreme heat, which in turn leads to desperation, riots and looting. Suddenly, people risk prison for stealing water. On the other hand, storms lead to power breaks and floods in the autumn and winter. In the space of less than a year, Britain seems less open and less safe; extremism is on the rise on several fronts, as is racism and sexism. "Life has changed so much for us in the past 5 months, it's like watching sci-fi", Laura writes in her diary (Lloyd, 2015 134).

The political and societal impact of carbon rationing and climate change becomes even more evident in Lloyd's second novel, where Laura is at university in London. She writes about government paranoia, extremist groups, violent demonstrations and green activists being incarcerated for up to several months for demonstrating. The political leaders seem still to be concerned with business and profit, at a time when the world is facing a global crisis. An example from the second novel illustrates how divided the UK has become politically, and how Laura feels conflicted about what is going on:

²⁴ In reality, the privatisation of water was introduced in order to allow water companies to raise money to meet European directives on water quality. However, Sir Ian Byatt claims to *Financial Times* that "the system rewards companies for spending money on capital investments whether or not it is in the interest of customers. This often comes at the expense of more mundane operational tasks, such as preventing sewage from seeping into the water, stopping leaks on its 10,000 miles of pipes and installing water meters—one of the most effective means of preventing water waste" (Sir Ian Byatt, qtd. in Plimmer and Espinoza). Moreover, he claims that hundreds of people were evacuated from their homes and businesses in December 2016 when burst pipes caused three floods in London suburbs in just one week. He describes the privately driven water business as "an unholy alliance between politicians and capital markets" (Sir Ian Byatt, qtd. in Plimmer and Espinoza), which seems to be the general view in Saci Lloyd's novels as well.

Another bomb, and this time in a Polish community centre in west London. The United Front have claimed it. There's bits of east London like Ilford and Beckton totally under their control—3 estates in Silverton have hooked themselves up to a generator and declared a 'state of independence', with white thickos in Burberry guarding the roads in. Not that anyone in their right minds wants to get in. I always used to think the UF were nasty, all that *send 'em home* shit, but after the refugee crisis in Italy, I really, truly hate them.

Anyway, I just got to keep my head down, keep focused on where I can make a difference with the band. That's all I've got to do. I get scared I'm on the other side now, that I just want it easy—but it's all just getting so extreme so fast. Today I read this thing in the news with some spokesman from the **2** saying they are prepared to kill the Prime Minister to bring the Gov down. I mean, the guy's an idiot, but where are they gonna get by killing him? (Lloyd, 2017 346)

Lloyd dramatizes extremist and dramatically opposed views about the British nation to emerge through Laura's *précis* of various news report. Laura's *own* response—non-violent, tolerant, sceptical about authoritarianism and extremism of *any* kind, wanting a normal life in a democratic society where culture (through the shape of her music) can be seen to make a difference—represents the middle ground. In the world of the novel, there is polarization: on the left side, a green activist group called “the 2” opposes the government and wants to do even more to save the environment. On the other side, a fascist movement called “The United Front” has started a fight against immigrants and wants to prevent people they consider non-British from taking “their” jobs, access to water and other resources.²⁵ Laura points out that the same conflict is taking place throughout Europe, and she finds it hard to separate right from wrong. This kind of political division is not a phenomenon Lloyd has invented: on the contrary, history has proven that failures of government policies often provoke opposite reactions from citizens, where some call for the reversal of the policy and others favour its continuation in stronger form (Dixit and Weibull).²⁶ One could argue that a reaction such as this is realistic and even likely in the event of imposing such a drastic policy as mandatory carbon rationing.

A mistrust of the Government is also evident in the passage, and Laura seems to be reflecting about whether expressing herself through political music is enough, or if she should

²⁵ In this example, there is an attack on a Polish community. The extremist group mentioned expresses a view that they want immigrants to leave the UK, not unlike the tensions in British society about levels of economic and political immigrants, which recently lead to Brexit. A survey carried out by British Social Attitudes, published in June 2017, showed that Brexit, the result of the EU referendum in 2016, was, in large, the result of widespread concern over the number of people coming to the UK—many of whom have done so under EU's freedom of movement rules. In 2016, statistics published by the BBC showed that Poland was the most common non-UK country of birth for people living in the UK. Arguably, Lloyd has foreseen the potential conflict, which is not too far from today's reality.

²⁶ A historical example of political polarization could be seen when the British economy was performing badly under the Labour government in the 1970s. The Conservatives, led by Margaret Thatcher, called for drastic market-oriented reforms, while traditional Labour supporters claimed the *real* problem was the failure to adopt true socialism (Dixit and Weibull).

participate more, even though it is both difficult and terrifying. The feeling of uncertainty is present throughout both novels. In fact, one could argue that the most central conflict in *The Carbon Diaries* is about the battle between just wanting to be a normal teenager and the moral responsibility of living in a world facing the consequences of environmental degeneration. On the one hand, Laura wants to play with her band, but on the other, band practice means spending carbon points she could be using on food or heating. Moreover, she feels a moral obligation to do more to alleviating the conflicts society faces both globally and locally. Playing in a band with a political message is not always enough. This uncertainty and wish for everything to be “easy” is relatable for a teenage audience, yet the moral obligation Laura feels is educational in the sense that it encourages the reader to be ethically reflective and to think about what he or she could do to prevent the environmental catastrophe humanity is facing. After all, young adult dystopias often seek to both please and instruct; Basu, Broad and Hintz argue that YA dystopias seek to teach serious lessons about the issues confronting society and offer readers a pleasurable retreat from their quotidian experience (5). This could be said to be the aim of *The Carbon Diaries* as well.

2.2.1 Distribution of Resources

One thing that Lloyd does very successfully in *The Carbon Diaries* is to show how staying passive, turning a blind eye to changing weather and carrying on as normal, could potentially be the world’s undoing. She highlights how consumption, travel, driving cars and unlimited supplies of water are not things one should take for granted. Laura explains how carbon rationing will affect her own family in Lloyd’s first book:

The cars gonna be cut way back, all of us get access to the PC, TV, HD, stereo for only 2 hours a day, heating is down to 16°C in the living room and 1 hour a day for the rest of the house, showers max 5 minutes, baths only at weekend. We’ve got to choose—hairdryer, toaster, microwave, smartphone, de-ioniser (Mum), kettle, lights, PDA, e-pod, fridge or freezer and on and on. Flights are a real no-no and shopping, travelling and going out not much better. It’s all kind of a *choice*. (Lloyd, 2015 6)

This excerpt illustrates how carbon rationing drastically changes little things one takes for granted in everyday life. Not only are travelling and holidays abroad impossible (which Laura’s sister Kim gets upset about when her gap year to New York is cancelled), but fairly mundane activities such as using the toaster and taking a shower are something one has to be conscious of. As already stated, Laura’s American cousin demonstrates how most people are unaware of how their lifestyles contribute to global warming, and thus, do not feel *enough*

moral obligation to *choose* a greener lifestyle. Lloyd shows how people are perfectly able to make these changes when they *have* to—and the implication is that, to some degree, readers should be thinking about the impact of their actions already *now*.

The specifics of carbon rationing involve a cut in the country's energy use of 60%, which is a massive adjustment to get used to from just one year to the next. Laura explains:

Basically, we've got a carbon allowance of 200 Carbon Points per month to spend on travel, heat and food. All other stuff like clothes and technology and books have already got the Carbon Points built into the price, so say you wanna buy a PC but it's been shipped over from China and built using dirty fossil fuel then you're gonna pay a lot more for it in Euros—cos you're paying for all the energy that's gone into making it. (Lloyd, 2015 6)

Simply reading the specifics might not make much of an impact on readers, but one gets plenty of examples of what this change involves in terms of both short- and long-term effects. The first novel addresses several of the short-term consequences such as the use of electricity in a household, transport, oil and gas, and restrictions on the use of water, which could be less challenging to comprehend and relate to for readers. In addition, this excerpt highlights the fact that consumers are indirectly responsible for the energy that goes into the production process when one buys a product. For some readers, this fact might be an eye-opener and make them conscious of where products come from, how they are produced, and how the production contributes to global warming. This could be seen as another educational example.

If one is unable to keep within the 200 points, the novel shows, there are consequences one has to face. A Carbon Department keeps track of each household's carbon points, and if one family member overspends, the whole family gets in trouble. This turns out to be the case when, Laura's sister, Kim, refuses to keep within her carbon allowance:

The Smart Meter cut off the oven in the middle of macaroni and cheese and we had to sieve out the hard pasta chunks and suck up the cheesy sauce on its own. Dad drummed his fingers on the table.

'I don't understand this, Julia—I've been trying all week to get through to the Carbon department, but I keep getting put on hold. You've no idea how much *Greensleves* I've been subjected to.'

Mum shrugged. 'That's what happens when the system takes over, Nick.' (Lloyd, 2015 65)

Society post carbon rationing is less characterised by freedom and democracy than before. The Government has become more restrictive and keeps an eye on everyone. Carbon rationing is by no means optional, and not something one can buy oneself out of—at least not legally. The consequences for overspending involve going to a *Carbon Offenders facility*,

starting a *Carbon Offenders programme* or attending *Carbon Offenders classes*, all of which members of Laura's family, including herself, have to go through at some point during the first novel. This aspect of the novel demonstrates how the Government needs to become more restrictive in order to make sure massive changes are followed through, and that refusing to comply is no option. It also highlights some of the difficult aspects of realistically imposing such a change on people; it is undemocratic, oppressive and restrictive; yet, does the end justify the means? The goal to reverse global warming and potentially avoid a global environmental catastrophe is undeniably important, but it means that people have to have decisions made for them and changes imposed, which infringes on their democratic rights. These are some of the questions Lloyd brings up in her novels. How could these changes be imposed in the best possible way?

There are several aspects of carbon rationing that are matters of priority, such as giving extra carbon allowance to the emergency and health services. For instance, Laura mentions that her friends' dad, who is a veterinarian, has a special carbon allowance, and hospitals are prioritised during the drought and water shortage of the first novel (Lloyd, 2015 134). Still, it becomes apparent that carbon rationing is not always fairly distributed: "[a]t first they set up a free trading system so that if you were rich you could just buy up carbon in cash and live how you wanted" (Lloyd, 2015 6). The idea of making carbon rationing into a business where people can buy extra points is unmistakably capitalist in its origin and is presented as something that appears deeply unfair. Lloyd therefore links the novel's events to a broader discussion of social class and poverty, which is indeed relevant to the global issue of confronting climate change. One already knows that capitalism creates an unequal distribution of wealth, increasing the differences between rich and poor, both in terms of economy and power. In addition, it is no secret that climate change will hit, and has already hit, low-income countries the hardest.²⁷ The passage also indicates that people oppose this capitalist view of making rationing a question of economy, and that speaking up and actively demonstrating when something is unfair matters. Still, carbon rationing is not a fair business, and a black market quickly arises where sufficient means can get you an extra carbon allowance.

Perhaps more interestingly, there is an obvious disparity in terms of distribution of resources, not only on a global level, but locally, between urban and rural communities. In the second novel, Laura's family moves away from the capital city to a farm in Oxfordshire.

²⁷ See John Vidal's article "Climate Change Will Hit Poor Countries Hardest, Study Shows" in *The Guardian* for more information.

Laura's mother actively participates in the local community and opposes Government attempts to drain the local water reservoir:

Dearest L

Why are you upsetting your father? That's my job, darling. I don't know why he thinks you'll be any safer at home when the whole of Oxfordshire's gone wild with the Reservoir Defence campaign. All the locals are getting involved, even the hideous Mrs. Huckstable was dragged away from the Village Green Sit In by the Police last Tuesday. Can you imagine?! And it's spreading across the country. The People are taking back their power and finally saying sod off to this stupid bunch in power. They can't just keep draining local water away anytime a big city gets in crisis. Country people have rights too, y'know? (Lloyd, 2017 234)

This excerpt is a text message from Laura's mother, which points to the local battles being fought by ordinary people within ordinary communities. Lloyd manages to focus on both global, national and local aspects of climate change, by making Laura's mother part of a *local* campaign, while Laura is abroad and engaging in the water-conflict on a more *international* level in the second novel. In this way, Lloyd has the possibility to "zoom" in and out and investigates the potential consequences of climate change at different levels. This allows Lloyd to show how climate change is not only a national concern, but a global one. Turning a blind eye and thinking it is not your problem is not an option, because it *will* become everyone's problem in a matter of time. Lloyd also emphasizes how the consequences will be both major and minor: campaigning for the local water reservoir is one front fight, while working with climate refugees on the borders of Europe is another. Lastly, "zooming" out of London is a way of making *The Carbon Diaries* relevant for much larger audience, attracting European and American readers, as well as British.

2.2.2 Political Unrest

An important aspect of *The Carbon Diaries* is how the introduction of a mandatory carbon rationing system creates political instability and discontent. There are several examples in both novels of people demonstrating and rioting, showing the connection between carbon rationing and civil disorder. Still, not all of the problems causing protests and unrest can be blamed on the rationing system; the effects of climate change lead to several disasters such as storms, floodings and droughts, which in turn lead to power cuts, property damage and, most importantly, water shortage. Most of the demonstrations, riots and campaigning have to do with discontent with the UK leaders. In the first novel, Laura overhears a conversation

about how the UK imports its gas from mainland Europe, and how the UK is not able to supply themselves. “ ‘What happened to our own gas off Scotland?’ ‘All gone... We import it all now—and our storage facilities are tiny. The UK only keeps about eleven days’ supply for the whole country. Some European countries keep as much as fifty, sixty days.’ ... ‘But if they knew this was going to happen—why didn’t they do something?’ ” (Lloyd, 2015 23-24).²⁸

Laura frequently reports of looting, rioting and demonstrations, as an indicator of the growing public mistrust and dissatisfaction. The government response is to turn to secrecy and violence in order to maintain control. One example of this can be seen when Laura asks her friend Claire about why there has been nothing on the news about a massive protest, which prevented an airbus from taking off at Heathrow airport. Claire explains: “ ‘I told you, they took everything off us. Vids, cameras, cells. There was even a BBC cameraman who got arrested. They took all his gear and footage off him. Destroy the evidence and it never happened. Right, Laura?’ ” (Lloyd, 2015 106). Another example can be seen during the water shortage, when things turn violent, and the police open fire against protesters in London, killing five people. Laura reflects about the events in her diary: “Later, when it was all over, the Mayor did a broadcast ... Protection of democracy, blah, blah. It’s a load of bullshit. People are literally starting to die from the heat. I’m starting to get scared in a way I never have before” (Lloyd, 2015 227).

Lloyd does not attempt to glorify how life changes after taking measures against climate change. Life in the post-carbon society is considerably more violent and less safe than before. Though climate change poses a grave threat to humanity in the coming years, it is clear that Lloyd uses the fictional response of the UK government to explore the present-day restrictions on privacy and democracy. In the last years, the Conservative government has introduced various kinds of legislation which curtail civil liberties, such as the Investigatory Powers Bill, which became an act of Parliament in 2016, and the Counter-Extremism Bill, which has yet to be legislated because of its failure to legally define “extremism” (Townsend).²⁹ Both of these bills were proposed after the publication of *The Carbon Diaries*, yet they demonstrate that Lloyd is right in (at least some of) her predictions of the future.

²⁸ Although not entirely relevant to this example, it is worth pointing out that the North Sea oil and gas reservoirs were vital to the Scottish government’s case for independence, prior to the vote for Scottish independence in 2014 (Black). Once again Lloyd brings up political issues that turn out to be relevant for real-world UK politics, even though she does not go further into the debate about Scottish independence.

²⁹ According to Cara McGoogan, the Investigatory Powers Bill “legitimises the security services’ surveillance powers while adding checks on their ability to gather information about citizens without a warrant”. The UK parliament states in a report that “counter extremism has evolved over the past few years with an increasing

The conflicts concerning nationalism, protectionism and attitudes toward immigration increase in the second novel, where tendencies from the first novel have escalated, and the government and the police are no longer trusted to be protecting the interest of common people. There is a divide between green activists on the left side and a fascist movement on the right, as the consequence of economic recession and unemployment in the UK. Both sides turn to violence, and it becomes clear that the world is facing a global war due to the lack of water. People are fleeing to Europe from Africa and The Middle East, but Europe is facing a water shortage of its own and turns to drastic measures in order to keep refugees out. Lloyd portrays several sides of the global water crisis:

US warships have rocked up on the far side of the Mediterranean overnight. Shit. Tano reckons it's better to stay until the crisis calms down, but GPJ says we should get moving.

Nate frowned. 'But is Europe gonna get dragged in?'

'I don't know, but for sure we'll send troops to borders like Sicily and target immigration aid places like this, too. Your mum must be doing her nut!'

'Well, that's the thing. I've been trying to get thru to her for days but she's not picking up.'

Gwen frowned. 'Maybe it's because it's all kicking off at home—the drought's spreading and great swathes of the countryside have gone up in protest with the Citizen Tax. If I know your mum she'll be up to her neck in it.' (Lloyd, 2017 244)

Lloyd places Laura on the front line of the global crisis, by stranding her in Italy. Meanwhile, the local aspect of the crisis gets through as well because of Laura's mother's activism, as mentioned previously. One learns a few pages later that the reason why Laura cannot get hold of her mother is because she has been incarcerated for involvement in a protest to protect a local water supply. The Citizen Tax mentioned in the passage is a desperate attempt from the Government to gather extra revenue.

Laura writes about the need for change in the form of a new government, which thinks differently and acts differently in a changing world, instead of continuing to benefit businesses as if climate change and carbon rationing never happened. In her diary, Laura recites a dialogue she has with her former teacher, Gwen Parry-Jones: " 'You know what, Laura? I don't care any more, about talking, meetings, peaceful protests... all I care about is putting an end to this disgusting, messed-up, futile, hypocritical system that is screwing the planet' " (Lloyd, 2017 268). Parry-Jones has decided to join the extremist green movement,

focus on addressing non-violent extremism. In the wake of the recent terrorist attacks in Westminster, Manchester, London Bridge and Finsbury Park, the Government's counter-terrorism strategy, which includes counter-extremism, has come to the fore of the agenda" (Dawson and Godec 4). Mark Townsend argues in his article in *The Guardian* that May's intention to broaden extremism's definition could potentially diminish the law's protection of civil rights, such as freedom of speech, freedom of religion and freedom to protest.

“the 2”, in order to try to make a difference. Lloyd manages to point out how extremism might seem like the only right thing when times are desperate. Several of Laura’s friends join “the 2”, including her boyfriend, Adisa: “It’s all gotten so heavy so quick. It’s like I’m being dragged in against my will. I don’t even believe in politics, all that left and right... it’s all crap... [...]. Maybe Adi’s right, there is no choice now” (Lloyd, 2017 242).

Laura finds it difficult to choose between what is right and wrong, and she feels that she has to choose a side. Politics have been significantly polarized in the novels, and it seems as if there is no “in between” two extremes. It could be argued that the “extremes” in the *Carbon Diaries* resemble the divide between fascists and communists in the years leading up to, and during, to the Second World War. The resemblance to rationing during World War II is pointed out in the first novel as well, and it makes clear to the reader that history repeats itself. As such, the novels could be seen as a way of educating and warning readers about the danger of repeating history. Making Laura reflect about political matters and feeling uncertain about how far she is willing to go, is a way of complicating what is right and wrong. Teenagers are known to be full of idealism and creativity, which is something that is both encouraged and warned about in *The Carbon Diaries*. On the one hand, the world is changing, which calls for new leadership and a flexible society, in which case, the idealism and creativity of the younger generation is essential. On the other hand, one could argue that Lloyd warns the readers about becoming too extreme in their views and shows that violence is never a good solution.

At some level, the books show that it is impossible for a single individual to save the world, and that building up local communities and being politically active on a lower scale are good places to start making a difference.

I’ve got such a surge of hope. We’ve been given another chance and there’s no way we’re letting this one slip thru out fingers. I’m lying here on my bed, my bass next to me—and one thing is crystal clear. A part of my life is over, the part where I tried to fit in, to keep it like it was before. I’m done with that shit. I don’t know what the future will bring, and I don’t care anyway. Me, my family, my friends, the *angels*, the message, the fight. No bombs, no guns, no escape. All I want is a straight-up fight with all the crooked, thieving, lying, two-faced, cheating bastards. That’s the only thing that matters to me any more. Revolution! (Lloyd, 2017 400)

In the final entry in Laura’s diary, she finally arrives at what she feels is the right thing to do. In a way, this could be seen as taking some kind of middle ground; she has to do *something*, and there is no use pretending that everything can continue as it did before. At the same time, she does not want to get violent. One could argue that *The Carbon Diaries* encourages readers

to get involved and to care about the world, be it through music, actively participating in local communities or working with climate refugees. The moral is that through passivity, nothing will change.

2.2.3 Coping with Change

In *The Carbon Diaries*, coping with change both in terms of altered weather conditions and drastic carbon rationing are central elements. Perhaps more in the first book than in the second, there are humorous retellings about how people are coping through Laura's diary entries. Her father, for instance, loses his job as a Travel and Tourism teacher, because his course becomes redundant. He has to find out how to adapt to society with carbon rationing and embarks on different projects to fill his time. At one point, Laura writes: "I don't believe it. Without asking Mum, Dad has traded in her car for a wheelbarrow full of tools, 5 hens, a cockerel, a scooter, a pig and a sty! He's like a village idiot" (Lloyd, 2015 183).

On the other hand, Laura's mother joins a women's skills group in order to try to adapt and learn useful skills. Feminism is an important aspect of Lloyd's novels as well, and she has emphasised how facing so many challenges could turn back time in terms of gender roles. Laura's teacher, Gwen Parry-Jones, is an active feminist as well, who leads the women's skills group called *Women Moving Forward*. According to Laura's mother, " 'WMF is not a cult... it's a valid expression of revolt on behalf of disenfranchised women in the rationing era. We are rediscovering our female strength' " (Lloyd, 2015 279). It becomes clear that people need to find a new meaning and adapt to society post carbon. Everyone has to change how they live and decide how they are going to participate in building the new world. The mother and the father react in ways that are typical of their characters, gender and political class. The Father has something of a mid-life crisis, going in a wildly different direction, but also doing something that *seems*, on the face of it, to be quite practical. The Mother uses language that touches close to cliché—"disenfranchisement", "revolt", and "female strength" are valid goals, but slightly worn terms. But the mother, too, looks for practical ways to make a difference.³⁰

³⁰ In times of crisis and war, the particular challenges facing women tend to be de-prioritised. For instance, this can be seen in refugee camps. Landale and O'Dowd write that women in Syrian refugee camps have been sexually exploited by men delivering aid on behalf of the UN and international charities, in a BBC news-article. Furthermore, female hygiene products, such as sanitary pads, are often not available, or too expensive to be prioritised for refugees (Venema).

If there is a criticism here, it is that these responses do not give us much insight into the full complexity of responses to the situations the novels dramatize. This is also found in Lloyd's consideration of LGBTQI rights in a doomsday scenario. Gender roles, feminism and LGBTQI rights are aspects which Lloyd addresses to some degree, particularly in the first novel. A character called Kieran, who is a friend of Laura's, represents the LGBTQI community, and addresses some of the concerns about what it will be like being gay in the post-carbon world: "[i]t's the hunter-gatherer, macho, sink-unblocker's world now. What will become of a little skinny hairdresser guy like me?" (Lloyd, 2015 5). One could argue that Kieran is a shallow and stereotypical representation of the gay community, which is why I have chosen not to address this aspect in too much detail. Still, it is worth pointing out that Lloyd has included an LGBTQI aspect in her novels, and to some degree, considered potential challenges for the LGBTQI community. The point to make is that in times of crisis civil rights are deprioritised, or even entirely neglected—and Lloyd's strategy may be to appeal to precisely these groups—women, and the LGBTQI community, to suggest that climate change will have negative consequences. This point is further emphasised by adding a comment about Laura's American uncle, who developed fundamentalist views after the US is hit by a devastating hurricane:

[T]he worst thing of all is that my dad has mutated into a wacko religious nut—something snapped inside him when the news came thru that the redskin's stadium had collapsed he just fell to his knees and sobbed[.] [T]hey'd set up this really cool shelter downtown with crispy cremes and hot water an all but oh no cos of daddyo we came on down to da heavenly kingdom of god with the reverend bobby mClure doing his 24/7 preachathon for the lost souls of the tragedy. [B]obby's word on the whole deal is insane he's blaming it all on unbiblical and inhuman relations ... basically the gays.³¹ (Lloyd, 2015 177)

As this example points out, religion is somewhere people may find comfort and meaning in times of crisis and hardship, but it is also a place where one can find people to blame if one goes in a fundamentalist direction. Lloyd warns about turning against one another and finding a marginalised group, like immigrants, the LGBTQI community—even women—to blame when life gets difficult.

³¹ This is another example of an e-mail from Laura's American cousin. In this example, the lack of punctuation and capital letters is striking, and could be said to be another feature of chat-like, teenage language.

2.3 Climate Change Is Everyone's Responsibility

The consequences of climate change are local as well as global, and in the first novel Lloyd has focused more on London and Laura's everyday life, with entries here and there about news reports, which give an indicator of conditions in the rest of Europe and the United States. "There's heavy snow across Europe again. A bunch of us went to the media suite at college to watch Sky. It's so surreal seeing white people crying and huddling in shelters and places where you used to go on holiday" (Lloyd, 2015 62). Entries such as this give readers updates on what is going on outside of the UK, concerning climate change. Laura also reports about the political situation, for instance with respect to a vote in the US Senate, which leads to protests and riots: "There are demonstrations in the US cos of a big climate bill that got voted down in the Senate last night. It was about cutting emissions by 60%" (Lloyd, 2015 228). In addition to "zooming" out and giving the reader a more global perspective, this passage is also characteristic of Lloyd's critique of capitalism, and thus, the United States. There are references throughout both novels to the global impact of capitalist economic policies and forces, which in turn, corrupts the people who would have the power to make the necessary changes. Prior to the vote, the United States is struck by a category-5 hurricane:

A category-5 hurricane has hit the east coast of the States. That's the fiercest type, even stronger than the one that wiped out New Orleans back in 2005. It struck this place called Wilmington in Carolina in the middle of the night. Everyone was asleep because the local news media had told people not to evacuate. It's not even hurricane season yet and the weather bureau said the winds would only be 50 mph. So wrong. (Lloyd, 2015 170)

Even though the evidence of climate change is impossible to ignore, the Senate still votes down a bill about cutting carbon emissions. This is a clear critique of the US's record on climate change, and on the way that public opinion has less to say than powerful lobbyists.

Making the UK the first nation that imposes mandatory carbon rationing in order to take a drastic measure against climate change is a strong encouragement to the rest of the world to follow their example. After all, the UK rationing carbon all by themselves would not make much of a difference. Again, one sees that although the novels are set in the near future, the weather and political phenomena they describe are recognisable. The US has a history of failing to implement climate bills, such as the American Clean Energy and Security Act of 2009, which would have established a cap-and-trade system for greenhouse gas emissions and

set goals for reducing such emissions (H.R. 2454).³² Furthermore, president Donald Trump recently decided to withdraw the US from the Paris climate agreement, which means that the US, as one of the world's largest greenhouse gas emitters, will remove itself from the international effort to address global warming (Milman et al.). In this way, the US appears to be going backwards on emissions.

Moreover, storms are not an unknown phenomenon in the US Hurricane Irma, a category 5 storm, and a record since scientists have been using satellites to watch storms, hit Florida in September 2017, after passing through several Caribbean islands and Cuba (Plumer). One might assume that records like Irma would be a good reason to start discussing climate change, but according to Lisa Friedman from *The New York Times*, discussing the fact that oceans and the atmosphere are warming, and that the heat is turning storms into superstorms, has become a sensitive subject, because science has become increasingly political in Washington. President Trump has derided climate change as a "hoax", confirming the tendency to deny climate change as a fact, despite the overwhelming scientific evidence to the contrary. According to Friedman, the E.P.A. has removed many mentions of climate change from its website and is rolling back regulations aimed at curbing carbon dioxide emissions.³³ With this in mind, one might argue that Lloyd's critique of the US's climate policy is justified.

The first two pages of *The Carbon Diaries 2017* are comprised jointly of a map, illustrating the extent of the global water crisis, and a print out of a news article which explains that 160 countries have agreed to a global carbon rationing card and trade permit system to set global limit for CO₂ pollution.³⁴ This means that carbon rationing has become a global system, and most of the world has indeed followed the British example. The focus in the second novel is considerably more global, through focus on how other parts of the world are being affected by climate change. Still, the outset for Lloyd is in London here as well:

The place has changed so much, it's unbelievable. They're rebuilding the barrier, but there's always money and tech problems, so basically a year after the flood, the whole city is under threat big time. And the water keeps on rising. Last year, the Thames flooded 34 times. And each time it floods, more people leave. Property prices in the bad areas have dropped to joke levels. (Lloyd, 2017 10)

³² The American Clean Energy and Security Act of 2009 was passed by the House of Representatives but was never brought to the Senate for discussion or a vote.

³³ EPA is short for US Environmental Protection Agency.

³⁴ If one draws a comparison between this treaty and the Paris Agreement, the number of countries involved are fairly similar. According to the United Nations Framework on Climate Change, 175 Parties of 197 parties have ratified the Paris Agreement.

Times are changing, and the evidence of climate change is impossible to ignore. In the novel, the Thames Barrier has been destroyed, and is unable to protect London from floods. This is an exaggeration of reality, as, in the real world, The Thames Barrier is supposed to last well into 2100 (Hill). According to David Hill, there has been a steady increase closures of the barrier in recent years. During the winter season of 2013/2014, the barrier closed 50 times, which was a new record. Prior to that, it had only closed 124 times since it began operating in 1982 (Hill). Although it seems unlikely at this point that the Thames Barrier is going to break in the near-future, there is definitely going to be use for it.³⁵

In addition to the changes in London, southern Europe is experiencing drought and a massive wave of climate refugees from African countries. Laura has a conversation with a French activist, after the nationalist party “Front Nationale” has won the French election:

‘But what’s happened? It can’t just be cos you’re on carbon rations now.’

‘No. It’s more complex. It is for protecting what is ours...and with this *sécheresse*...in Africa...’

‘Drought?’

‘*Oui*. It is very bad. It is already in Europe, in Spain. All those stupid *tourisme* golf course dry up the Ebro river. But Afrique, that is the real disaster.’

I frowned. ‘But there’s been loads of droughts in Africa before. Why’s it different now?’

‘Because it’s worst it’s ever been. There’s practically no rain for over a year nor for everywhere...’³⁶ (Lloyd, 2017 190-191)

The global crisis is imminent, which in turn leads to fear and the uprising of nationalism in Europe. This consequence, along with the refugee crisis, could in some ways be linked to the current situation in Europe. Over the past few years, nationalist parties have gained considerable power and gotten much media attention during elections. For instance, the leader of far-right party National Front, Marine Le Pen, got 39% of French votes in the 2017 French election (Clarke and Holder). Moreover, the British decision to leave the European Union could be seen as another way of protecting national interest. According to the BBC, the reason why many European countries are witnessing electoral gains for far right and nationalist parties has to do with the migrant crisis: “the migrant crisis has fuelled a backlash

³⁵ London is not the only European capital to be threatened by flooding rivers. In January of 2018, parts of Paris were flooded up to five meters. 1500 people were evacuated, and the river Seine burst its banks, forcing the Louvre Museum to close. Interestingly, given the topic of this thesis, only Emergency services were allowed to use the river during the flooding (“French Floods”).

³⁶ This is another relevant example of how Lloyd has used dialogue to introduce a sense of heteroglossia. She colours the language with French words to emphasize that the person Laura is speaking with is not a native speaker of English, but French.

against the political establishment, but the wave of discontent also taps into long-standing fears about globalisation and a dilution of national identity” (“Guide to Nationalist Parties Challenging Europe”). Since then, the United States elected former business man Donald Trump as their president, who has claimed, among other things, that he wants to build a wall between Mexico and the US, preventing Mexican immigrants entering the United States.³⁷

It becomes evident that several aspects of Lloyd’s novels could be linked with current events, and one may assume that Lloyd has used climate change as a way of rationalising other conflicts. She indirectly discusses other issues of political controversy, such as gender, public versus commercial sectors, nationalism and democracy, disguised by the overarching conflict of climate change. Using sci-fi as the genre, Lloyd sets her novels in the near-future, creating a safe distance from the real-world present.³⁸ This makes it “safe” to investigate these controversial themes, even though the connection to real-world conflicts is easily detectable. *The Carbon Diaries* balances between educating and warning: readers are provided with a lot of information, as well as being made aware of how the future could potentially look like. In a way, one could see this as Lloyd aiming to provide her readers with the knowledge to avoid her dystopian fiction becoming reality.

³⁷ More about President Trump’s plans to build a wall and the potential challenges can be found in the BBC’s article “Donald Trump’s Mexico wall: Who Is Going to Pay for It?”

³⁸ Saying that *The Carbon Diaries* are set in the near-future is not entirely correct, as both years are in the past of the present day. However, these books are in the near-future of their publication dates, 2008 and 2009.

3 Conclusion

This thesis discusses how Saci Lloyd addresses both national and international conflicts concerning the climate, as well as other political conflicts, such as immigration, privatisation, corporate business, gender roles and nationalism; conflicts which rise to the surface when a society changes drastically. Several of these conflicts are relatable to recent events in the real Anglophone societies, and it is evident that Lloyd has used science fiction as a tool for criticising tendencies in the UK and the US, such as criticising the American failure to implement bills on carbon restrictions. She attempts to appeal to her young readers' environmental consciousness by portraying a likeable protagonist, who faces the moral conflict of wanting to be a normal teenager in a world facing the consequences of climate change. Lloyd's near-future dystopia both educates and warns, yet there are some aspects worthy of critique. As a way of invoking recognisable types for her young audience, Lloyd veers closely on the borders of stereotyping. Moreover, she is quite critical of the American lack of responsibility in the debate about climate, yet she fails to acknowledge the part of British history which has contributed considerably to the spread of thought and technology, which in turn has led to pollution. These are points I will discuss in further detail below before I conclude.

3.1 Critical Aspects

Saci Lloyd manages to warn about the potential consequences of climate change in a humoristic and inspiring way. There is a lot to admire in her writing, but her novels are not without fault. She invokes recognisable types, such as men in mid-life-crisis, angry feminists and camp homosexuals. Clearly, this simplification of characters (creating "types"), is a useful tool for appealing to her young audience. Moreover, these recognisable types enable Lloyd to create comic situations and characters that are not too complex for her readers. However, one could argue that Lloyd veers closely to questionable stereotypes. For instance, in her portrayal of Laura's homosexual neighbour and friend, Kieran. The impression one is given is of Kieran as a flamboyant man, who smokes Marlborough Lights and is slightly dramatic. After having a melt-down because he is uncertain of his future career as a hairdresser (the profession itself something of a cliché, if not implausible), Laura writes in her diary:

Kieran goes to the gym about six times a week, so I told him he had gorgeous peccs, which usually sorts him out.

‘Yeah, yeah, but what’s the use when there’ll be no clubs, no weekenders to Ibiza, no chilled Laurent-Perrier, no Versace? A male hairdresser can’t be taken seriously without a lifestyle!’ (Lloyd, 2015 5)

Even though Kieran *does* find his way in the post-carbon society and starts up a dating-bureau, this example paints a superficial image of him as precious: interested in a party lifestyle, designer brands like Versace, and champagne (rather than red wine or lager). This depiction is undeniably stereotypical and confirms rather than challenges the prejudices some readers might entertain about this marginalised group. Indicating that being gay involves a certain kind of lifestyle might be intended as comedy but is still a contribution to an unfortunate misconception—that being homosexual involves dressing in a certain way, specific interests and a particular lifestyle, and that homosexuals are easily distinguishable from heterosexuals because of these things.

To her credit, Lloyd does draw attention to homophobic tendencies (although this conflict is not as prominent as that between feminists and traditional views of gender roles):

[S]uddenly a rocket fizzed right over me and smashed into Kieran’s upstairs-flat window. Kieran stormed out on to his balcony and started screaming at the the estate about them all being homophobic pigs and hunter-gatherers. Then the whole Leader family came out on the estate balconies and started wolf-whistling him.

... Anyway, it could have been really bad for Kieran, but Tracey was in a gold-tooth mood and sent her cousin, Desiree Leader, with a bottle of Cava to say sorry. (Lloyd,2015 10)

This excerpt shows Lloyd addressing homophobia directly. However, there are two aspects that are worth criticising; firstly, it seems as if Lloyd indicates that homophobia is something associated with the lower social classes. In the novels, it is indicated that the Leader family, who live in a housing estate, are associated with crime (selling carbon points on the black market), and have low intelligence because of their lack of education, all of which draws on a biased set of assumptions about members of a certain social class. Is Lloyd indicating that homophobia is a working-class phenomenon? Or is she attempting to portray homophobia as “uncool”, and thus deliberately associating it with unlikeable characters? Homophobia is also briefly mentioned in connection with Laura’s American uncle, who expresses religiously fundamentalist attitudes. In that instance, Laura and her family clearly distance themselves from this view. Still, although Lloyd manages to show tolerance, acceptance and inclusion towards the LGBTQI community, one could also argue that she associates homophobia with certain members of lower social classes and fundamentalists only.

The second point worth addressing, is that it seems as if homophobic violence is a problem that can be tolerated by offering a bottle of Cava. In one way, one could argue that it is a good thing to show young readers that apologies and positive reinforcement are good qualities, and that Kieran, even though he is gay, is not fragile and victim-like, but rather a strong-minded and independent person, who is not easily hindered from being himself and enjoying his life. On the other hand, buying him off with a bottle of Cava seems to reinforce certain perceptions about homosexual behaviour and homosexuals in general, that can be said to feed into a larger cultural homophobia in the first place; gays can be placated with a bottle of bubbling wine, suggesting that their emotional responses to traumatic events are superficial. This is somewhat equivalent to 19th and early 20th century stereotypes about African-Americans, who were seen as essentially happy, child-like creatures. Lloyd skates dangerously close to stereotypes that are meant to be comic, but which are part of a culture that, at another extreme, leads to the very violence she criticises.

Stereotyping aside, the representation of Kieran as an LGBTQI character in *The Carbon Diaries* is not entirely negative. LGBTQI representation in YA fiction is an under-represented tendency within the genre (although it has broadened in recent years) (Garcia 90). Thus, the inclusion of an openly gay character, who is portrayed as a valuable friend and neighbour, is positive in the sense that it is a way of normalising a variety of sexualities other than that of traditional heterosexuality. Moreover, Kieran manages well in the post-carbon society, despite his initial worry about society taking a turn in the “hunter-gatherer”-direction. Lloyd makes room for the LGBTQI community in her YA novels, which is positive considering that many have previously failed to do so.

Another caveat about *The Carbon Diaries*, is that Lloyd has chosen the UK as the world’s climate leader (albeit in a work of fiction). As a critical reader, it is worth pointing out that Lloyd fails to give any kind of reference to the history of British imperialism, which in many ways can be said to have contributed to the kinds of over-exploitation of natural resources and contamination through industrial pollution and waste that in turn have led to climate change. Lloyd seems to aim her critique at the USA, focusing rightly on the connection between the spread of capitalism and global warming.³⁹ Moreover, she criticises the American democratic system, and its inability to impose climate bills. One could argue

³⁹ John Abraham criticises the Trump-Administration, claiming that they “will be known for wilfully trying to destroy the planet we rely on for health and prosperity.” Furthermore, he argues that President Trump wants to obstruct climate science research, by installing radical science deniers in his administration, for example by appointing Scott Pruitt, who does not comprehend climate science, to head the EPA. For more information, see Abraham’s article in *The Guardian*, “America’s Best Scientists Stood Up to the Trump Administration.”

that although it is fair to criticise these aspects of American society and their consequences for the climate, Lloyd overlooks Britain's contribution to carbon emissions through the British Empire and the spread of the industrial revolution. Even though the effect of climate change as a consequence of the British empire might be indirect, un-intended and hard to foresee at the time it was spread, Lloyd has made Greenwich (and London) the setting of her first novel, which is a historical, British naval centre, and a place of large significance for the empire. Thus, it could be argued that Lloyd fails to show insight when it comes to Britain's culpability in environmental problems, such as pollution, and aims her critique towards other nations, such as the USA.

3.2 Science Fiction or Realism?

Objections aside, there is much to admire in Saci Lloyd's work. As mentioned in my first chapter, science fiction, as a genre, deals with cognitive estrangement, which involves the idea of using a world different to that of the reader in order to stimulate thought about those differences, causing readers to view their own world from a different perspective. M. Keith Booker and Anne-Marie Thomas highlight the potential for exploring important social and political issues as one of the strengths of the sci-fi novel, in *The Science Fiction Handbook* (8). Furthermore, one can use science fiction to avoid polarizing views, and discuss topics that are too sensitive to address directly. The idea that readers of science fiction are to view their world from a different perspective also encourages readers to think of ways that their world could be different, asking questions like "what if" and "why not" (Booker 2). One can say that this is what Saci Lloyd does in *The Carbon Diaries*, with respect to issues such as gender-roles, capitalism, pollution, privatisation and extremism, somewhat disguised under the larger issue of climate change.

I have argued that even though Lloyd's novels are near-future science fiction dystopias, many of the conflicts represented in her novels are still likely to happen or have already happened. She invites her readers to reflect on their moral responsibility with regard to the environment, by showing how being forced to cut carbon emissions impacts on the life of a sixteen-year old. In addition, she explores some of the political conflicts that follow in the wake of climate policies, which are highly relevant in the real world. Lloyd's critique of the American failure to implement carbon bills is in many ways justified; she points to a fundamental flaw in American democracy, which has to do with corporate business and its influence over American politics. More impressively, Lloyd has been able to foresee a

negative development in the American debate about climate change, which has been manifested in president Trump's decision to withdraw the USA from the Paris treaty. In this way, it seems like Lloyd's future has become today's reality.

Lloyd also manages to foresee and capture some of the national, British conflicts, which have proven themselves relevant through, among other things, the vote for Scottish independence and Brexit in recent years. She acts out scenarios dealing with anti-immigration attitudes, nationalism, privatisation of national resources, such as water, showing readers how extremist views could, potentially, be dangerous and lead to a polarization of society. Although many of the conflicts that Lloyd addresses in *the Carbon Diaries* have proven to be highly relevant in the real world, "hiding" her critique as science fiction enables her to do what science fiction is meant to do; she makes her readers think critically about the present world and force them to think about climate change and carbon emissions. On the other hand, one might question whether *The Carbon Diaries* is to be considered science fiction, given that much of what Lloyd imagines in her novels has become reality to some degree. Science fiction or not, *The Carbon Diaries* has the potential to educate and warn; it contributes to the development of an environmental consciousness, which is crucial for inspiring people to take action and make changes in order to slow down the deterioration of the environment.

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Appendix

The Thesis' Relevance for my Work in the Norwegian Educational System

The educative value of this thesis' topic has been in the back of my mind since I started working on it. The reason for choosing young adult literature instead of adult fiction was that I wanted to make my thesis relevant for my future career as a teacher. Thus, I have made some comments on the relevance for teaching in my thesis, and I have already argued that literature, more specifically science fiction literature, is a good outset for teaching about issues that seem abstract, hard to relate to, or terrifying, such as climate change and environmental degradation. It is obvious, in my opinion, why teaching about climate change and the environment is so important. After all, my future students will more than likely have to face many of the consequences of global warming, which means that educating them about environmental responsibility and helping them develop an environmental consciousness is important.

The natural environment is one of six main themes in the Norwegian core curriculum. In the section called “the environmentally-aware human being”, it is explicitly stated that “[s]tudents must [...] learn to look ahead in life and out into the world. Education must awaken their faith in the efficacy of joint efforts and collective action to solve the formidable global problems facing them” (Norwegian Board of Education 38).⁴⁰ Regardless of subject, it is every teacher's responsibility to teach students about global problems, which includes educating them about environmental responsibility.⁴¹ Writing my thesis has made me more aware and competent in terms of *how* I could do that.

In short, I would argue that this thesis is highly relevant for my work in the Norwegian educational system. I have chosen a general example to show how I can incorporate the novels and the issues I have discussed in my thesis when teaching, but there are many more examples I could have included. For instance, this thesis is relevant, more specifically, for my work as an English teacher, where literature, society and culture in English speaking countries are central themes.

⁴⁰ Norwegian Board of Education. *Core Curriculum—For Primary, Secondary and Adult Education in Norway*. 7 Jun. 2015, *Udir*. www.udir.no/globalassets/filer/lareplan/generell-del/core_curriculum_english.pdf. Accessed 29 May 2018.

⁴¹ The core curriculum for education in Norway is in the process of being updated, and the version I have used in this text will soon become outdated. Still, I have reason to believe that the focus on respect for the environment and environmental responsibility will be just as prominent features in the new version.

Abstract

As a speculative mode of narration, science fiction is often concerned with the environment, and the genre enables authors to criticise elements of society and explore potential future consequences of present day politics. Saci Lloyd imagines the potential outcome of climate change in her two dystopian novels for young adults, *The Carbon Diaries 2015* and *The Carbon Diaries 2017*. The novels deal with the consequences of climate change in the UK, where a mandatory carbon rationing-system has been implemented, and they also explore the consequences of climate change on a global level. This analysis considers how these two young adult novels discuss issues such as gender-roles, nationalism, extremism, capitalism, and privatisation, which are disguised, to some degree, under climate change as an overarching conflict. Many of Lloyd's speculations are similar to tendencies that can be seen in Anglophone societies, and one can question whether these works are closer to realism than science fiction. The novels have considerable potential for education and developing an environmental consciousness among young readers.