

A NEW ERA FOR ENERGY COLONIALISM?

A CASE STUDY ON PUERTO RICO, CRYPTOCURRENCIES AND BLOCKCHAIN

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Clara Thiry

Stamnummer: 01500193

Promotor: Prof. dr. Omar Suliman-Jabary Salamanca

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“Only a crisis — actual or perceived — produces real change.”

Milton Friedman

Abstract (NL)

In 2017 verwoeste orkaan Maria de energie-infrastructuur en het elektriciteitsnet van Puerto Rico. De regering blijft tot op vandaag politiek en economisch verlamd, wat aanleiding geeft tot het ontstaan van alternatieve oplossingen enerzijds vanuit de lokale gemeenschappen, maar anderzijds ook van een groep investeerders in cryptomunten uit het vasteland van de Verenigde Staten. Wat dit onderzoek wil bereiken is ten eerste het analyseren van het huidige energienetwerk in Puerto Rico binnen een neokolonialistisch kader en hoe zij economisch, politiek en energiek afhankelijk blijven van de Verenigde Staten. We identificeren drie verschillende, maar onderling samenhangende concepten waarin we de Puerto Ricaanse casus kunnen plaatsen: (1) *settler colonialism*; (2) *energy colonialism*; (3) *energy democracy*. De nadruk wordt gelegd op het belang en de voordelen van gedecentraliseerde hernieuwbare energienetwerken. Ten tweede wordt een discoursanalyse uitgevoerd om de paradox in de houding van de crypto-investeerders bloot te leggen. Terwijl zij zich positioneren in een libertarisch en crypto-anarchistisch verhaal, vertrouwen zij op de juridische status van Puerto Rico om hun experiment, Puertopia, werkelijkheid te laten worden. Dit houdt in dat zij willen aantonen hoe een samenleving kan georganiseerd worden volledig steunend op *blockchain* technologie. Fiscale prikkels en andere aantrekkelijke voordelen worden aangeboden door de Amerikaanse regering aan Amerikanen die naar de kolonie verhuizen en er investeren. Op die manier kon Puerto Rico een experimenteel centrum voor innovatieve technologie en *blockchain* worden. Wat de feitelijke agenda van de crypto-investeerders inhoudt blijft onduidelijk.

Abstract (ENG)

In 2017, hurricane Maria destroyed Puerto Rico's energy infrastructure and electricity grid. The government remains politically and economically paralysed, which gave rise to alternative solutions offered by the local communities but also by a group of cryptocurrency investors from mainland U.S. This research aims at two different things. First is analysing the current energy grid in Puerto Rico within a neo-colonialist framework and how the United States maintains a status of dependency economically, politically and energetic. We identify three different interrelated concepts to who we can position the Puerto Rican case: (1) *settler colonialism*; (2) *energy colonialism*; (3) *energy democracy*. Focus is given to the importance and benefits of decentralised renewable energy grids. Secondly, a discourse analyse is conducted to lay bare the paradox in the attitude of the crypto-investors. Whilst they position themselves in a libertarian and crypto-anarchist narrative, they are relying on the legal status of Puerto Rico in order for their experiment, Puertopia, to become reality. They want to demonstrate how a society can be organised fully relying on blockchain technology. Tax incentives and other legal benefits are offered by the American government to Americans moving to and investing in the colony. That way Puerto Rico is able to become an experimental hub for innovative technology and blockchain. What their actual agenda entails remains unclear.

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1. INTRODUCTION

Jose Santana Torres, a Puerto Rican taxi driver, lost most of his business due to Hurricane Maria in September 2017. As tourists stopped visiting and the whole island was destroyed, his income went down as well. As per accident, a client paid him in Bitcoin. Without knowing what it was exactly, he accepted the payment. Since then, Jose Santana accepts payments in multiple cryptocurrencies.

The hurricanes that passed Puerto Rico in 2017 left destruction in terms of housing and electricity. On the 6th of September more than one million people woke up without any lights in their homes as hurricane Irma passed through the Caribbean islands. Two weeks later, hurricane Maria completely destroyed the electrical grid of Puerto Rico. As most of the island's infrastructure was ravaged, one beacon of hope could resist the natural disaster: Casa Pueblo. As this community house relied on solar power, they were able to transmit information to the people of the village of Adjuntas while the government remained paralysed. In the following weeks and months, the solidarity in the community enabled Casa Pueblo to invest in solar power for 18000 families while the government hadn't yet started rebuilding the electrical grid.

I have chosen to work on the topic of energy and colonialism because of the recent sense of urgency in society to act upon climate change. We can look at solutions from all different perspectives, although I am not suggesting any. What I wish to achieve is to raise awareness around the socio-economic importance of energy infrastructures. For this dissertation I have chosen to focus on the link between energy infrastructures and colonialism and what import role renewables can play. I would like to address two main issues.

The first is the importance of infrastructure in general when we are talking about a colonial relationship. The second is the ability of renewables to democratise and decentralise. "Countries that are able to develop their own renewable sources of energy are better placed to achieve energy security" (IRENA, 2018, p.36). Renewables can do more than give a solution for climate change, but can tackle socio-economic issues and inequality when implemented correctly.

Recent events in Puerto Rico, namely the devastation from hurricane Irma and Maria in September 2017, have illustrated the importance of the stated facts. The hurricane completely ruined Puerto Rico's power grid, leaving millions without electricity. Yet, the

ravages are referred to as an “unnatural” disaster, since most of it is caused by the debt crisis and mismanagement of the grid by PREPA, Puerto Rico’s electric power authority. Research (Klein, 2018) and testimonials have shown that those that were able to invest in renewables before the hurricane were more resilient to the detrimental aftermath after hurricane Maria passed.

Lastly, I’d like to shift focus towards the rise of cryptocurrencies and blockchain in our society as an alternative mode for governance. A group of crypto-investors that have landed and invested their capital and themselves in Puerto Rico. They believe that blockchain, the technology behind cryptocurrencies such as Bitcoin, can also drastically change a society by means of decentralisation. After a shock there are always people coming in to save the place (Klein, 2007). Recent events make an opening for people who see an opportunity in capitalising on the tragedy. This was all made possible in a legal way, using tax laws and the colonial status of the island. What I noticed in the discourse of cryptocurrency investors from mainland U.S., is that they want to invest in Puerto Rico to “bring back electricity to the people”. The last part of this dissertation will be dedicated to the dream of this crypto-investors to establish a ‘Puertopia’ or ‘Sol’. Klein (2018) adds that these people are becoming a countermovement against the independence movement.

This dissertation is based on the following research question:

- (1) To what extent can the current relationship between the U.S.-Puerto Rico be classified within a settler colonial framework in regards to energy politics?
- (2) How does the recent rise of crypto-investments on the island reflect and/or change this relationship?

We can further divide this question in to some sub-questions. These questions reflect the three parts of this research. First of all, it is important to gain insights into concepts and theories regarding Energy Colonialism, Settler Colonialism and Energy Democracy in order to sketch a colonial framework of analyses. An application to the historical context and current situation in Puerto Rico will be provided. Secondly, a deeper analysis into the history of Puerto Rico’s energy system since the American era (1898) will be made. In this part, the importance of hurricane Maria in the context of *The Shock Doctrine* (Klein, 2007) is the focal point. As we live in a technology based society, the importance of cryptocurrencies and crypto investors grows every day. In this third part, the crypto-movement in Puerto Rico will be discussed. First

by reflecting on their theoretical framework, second by analysing if (and how) they keep the colonial relationship alive.

After an elaborate introduction to the important concepts and theories, they will be applied to Puerto Rico's situation. For that, a case study is the chosen method. Case studies present information related to an individual, group, or larger set of individuals. These subjects are analysed for a specific reason. Suggestions for future research will be made, as well as the creation possible theories and a possible solution to the problem (George & Bennett, 2005).

Case study research can rely on post-positivism which is about researching a reality that is socially constructed rather than objectively determined (Noor, 2008). Hence, the task of the social scientist is not to collect facts and measure how often a pattern occurs but to appreciate and identify different constructions and meanings that people place upon their experience. It is more about insight, discovery and interpretation than hypothesis testing. For that reason - being the lack of scientific rigour - this method has been criticised. However, what a case study tries to achieve is creating a holistic view and a round picture.

Following Yin (2014) a case study

“investigates a contemporary phenomenon in depth and with its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident” (p. 16)

Case studies can result into long rigorous narratives. An attempt will be made to avoid this concern by choosing quality over quantity. A single-case design is chosen even though multiple different narratives will be researched. At first sight it may seem as if these narratives - the failure of appropriate reaction of the government after the hurricane which led to community initiatives and simultaneously to crypto investments – find separate roots. Yet they are highly interlinked and follow upon the same context: disapproval of the current organisation of society.

Furthermore, this dissertation wants to investigate how crypto-investors fit in this story. First I will look at the philosophical motivations – mainly libertarianism and anarchism - of crypto-technology and blockchain in general. Following this, an evaluation of the motivations of the investors will be made. Having conducted an interview with a crypto-investor from mainland United States in Puerto Rico who is not a principal figure in the movement, it became clear

that the incentives for investing in Puerto Rico's crypto scene are merely new investment, tax evasion and adventure. Therefore, I made the decision to solely focus on the discourse of the formal and informal leaders of Puertopia. They have a vision of how their Puerto Rican Utopia should look like and invest into making this their reality. A Critical Discourse Analysis (CDA) will be conducted with the use of interviews with crypto-investors and mainly Brock Pierce, who is one of the first crypto-investors on the island and still remains the critical figure of the movement.

2. LITERATURE REVIEW: IMPORTANT CONCEPTS AND THEORIES

Sketching the context for a case study is of high importance. Therefore an introduction to relevant concepts is needed to further comprehend the importance of energy infrastructures. As this subject is fairly new, it asks for an interdisciplinary approach. I will clarify three important interlinked concepts in this matter: settler colonialism, energy colonialism and energy democracy. Firstly, a clarification of the concept will be given in its historical and present relevance. Secondly, a brief application of the concept to Puerto Rico's present situation will be made in order to obtain a more holistic view. More conclusions will be made in the further parts of this dissertation when the context is linked to our current case (See chapter 3 and chapter 4).

2.1. SETTLER COLONIALISM

2.1.1. INTRODUCTION TO SETTLER COLONIALISM

Settler colonialism is a term defined by multiple scholars. Their definitions all have two elements in common. First is the territorial expansion and annexation of land; second is the transfer of population to the colonised territory in order to replace the indigenous people. The most known historical examples are the United States (15th century), Australia (end of the 18th century), and most Latin-American countries where the European colonising state annexed overseas territories and exported their civilians – settlers - and political model based on the modern European state.

Wolfe (2006) puts greater emphasis on the elimination of the native. Although we should be careful not to confuse settler colonialism with genocide. This logic of elimination should be defined as a structure and not as an event. "Elimination is an organising principle of settler-colonial society rather than a one-off (and superseded) occurrence" (p. 388). Settler colonialism destroys to replace, in contrast to genocide. Next to that, destroying denotes not only the practical aspect of the vanishing of indigenous people, but also the symbolical elimination of a society including culture, language, land and claim to that land. Multiple scholars, such as Glenn (2014), confirm that settler colonialism is not a historical event, but an ongoing structure of claiming state sovereignty and jurisdiction.

Nonetheless, one of the first thinkers on genocide, Lemkin (Lemkin & Jacobs (2012)), proposed a definition for genocide close to that of settler colonialism. He defines genocide as "a

coordinated plan of different actions aiming at the destruction of essential foundations of the life of national groups, with the aim of annihilating the groups themselves". The objectives of such actions "would be the disintegration of the political and social institutions, of culture, language, national feelings, religion, and the economic existence of national groups, and the destruction of the personal security, liberty, health, dignity, and even the lives of the individuals belonging to such groups". This definition of genocide overlaps with what we have distinguished as settler colonialism above. However, not all researcher agree on the interconnectedness of these two concepts (Moses, 2010). For the purpose of this dissertation I will use the definition of genocide as found in Article II of the UN Genocide Convention (1948) and distinguish settler colonialism from genocide:

"...genocide means any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such: killing members of the group; causing serious bodily or mental harm to members of the group; deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part; imposing measures intended to prevent births within the group; forcibly transferring children of the group to another group. "

Rifkin (2013) examined how everyday dynamics need to be analysed in order to understand how settler governmentality creates conditions of possibility for the non-Natives. He describes these networks as settler common sense. This term suggests how non-Natives create legal and political pathways towards gaining access to the territories of Natives and Indigenous people. In our current media there is a lot of awareness for the rights of Indigenous people. While these sovereignty claims remain crucial, more attention should be given to policies and legalities of settlement and how settlers remain claiming state sovereignty and jurisdiction.

Veracini (2010) adds that settler colonialism is a situation where "settlers are founders of political order and carry their sovereignty" (p. 3). Therefore, settlers should not be confused with migrants. These are important side notes to comprehend the case of Puerto Rico further in this dissertation. Thus, there is a hierarchical relationship between the settlers and the indigenous people where settlers form the establishment and fulfil a dominant position in society.

A notion that is linked with settler colonialism is the idea of *terra nullius*, Latin for 'land that belongs to no one' (Veracini, 2010; Wolfe, 2006; Glenn, 2014; amongst others). In the settler narrative, the colonial case is justified by alleging that the land is unused by the indigenous

people. The 'civilised' settler state will make use of these lands to their benefit and profit. While this proposition holds no truth in most cases, it was used to legitimise the acts of European governments to colonise whole continents.

Lloyd and Wolfe (2016) point out that settler colonialism takes on different manifestations in the neoliberal world. "Settler colonialism and primitive accumulation have been understood to belong to early stages of capital expansion and accordingly to be formations lodged in the past" (p. 1). In our *Settler Colonial Present* (Veracini, 2015), there exists a "current phase of 'accumulation by dispossession' that has seen the refunctioning of settler colonial logics of law and violence as the means to furthering and safeguarding the neoliberal economic regime" (p. 8). The main focal point now is how the settler state manages the indigenous population, who they see as surplus populations. Current techniques of elimination include Natives' assimilation to the settler society: in Puerto Rico's referenda, independence isn't a popular option, not even in 2017. The dominant discourse in the country is that being under American dominance is good and becoming an American state will give more benefits than independence. Further research is needed to acknowledge or disregard this correlation, especially in the aftermath of the hurricanes.

The thoughts of Foucault are very important in analysis from a post-colonial perspective. Colonial governmentality as defined by Scott (1995) follows the philosophy of governmentality by Foucault. Governmentality is a mix of the concepts of government and rationality. Government in this sense does not refer solely to the state, but to a way of conduct of individuals or of groups. It refers thus to techniques and procedures for directing human behaviour. Self-governance is a form directing the conduct of oneself. Rationality refers to, for example the administration of a state, a way to identify, classify and control people. Before something can be controlled or managed, it must be defined. In this manner, governmentality operates to produce a subject that can be governed

Following his lectures at the *Collège de France* in the '70s Foucault further applies his concepts on neoliberal governance. From that perspective neoliberal governmentality was born. It aims at creating "the strategic production of social conditions conducive to the constitution of *Homo economicus*, a specific form of subjectivity with historical roots in traditional liberalism" (Hamann, 2009, p. 38). In other words, subjects are kneaded to use economic thinking such as cost-benefit calculations and rational thinking for moral dilemmas. In-depth analysis of this concept can be found in the research of Hamann (2009).

The link between neoliberalism and settler colonialism becomes more clear by conjoining the governmentality philosophy. Scott (1995) links the power aspect of governmentality to the colonial rule. He is concerned on the political rationalities of colonial power, which are the ways in which colonial power is organised as an activity designed to produce effects of rule or its targets. Colonial governmentality refers to how the colonial power disabled “old forms of life by systematically breaking down their conditions, and with constructing in their place new conditions so as to enable - indeed, so as to oblige – new forms of life to come into being” (p. 193).

2.1.2. PUERTO RICO'S COLONIAL STATUS

Puerto Rico was a settler colony under Spanish rule until 1898 (Ayala & Bernabe, 2009). Spanish people moved to Puerto Rico to live life in one of the many Spanish colonies in Latin America. In August 1898 the military campaign of the U.S. to acquire the Puerto Rican territory - or the “splendid little war” as it was called by U.S. officials – lasted nineteen days. In December 1898, The Treaty of Paris was signed by Spanish representatives and U.S. officials to formalise the grasp of the United States on Puerto Rico. The United States was seen as the “embodiment of democratic and progressive ideals” (p. 15). Therefore, “There were many indications that the new authorities could count on an initial favourable attitude from almost all sectors of Puerto Rican society” (p.15). Even though many weren't initially hostile towards American rule, their actions – past and present - remain highly contested.

The Charter of the UN (1945) condemns and forbids the member countries of the United Nations to have colonies since this is against the principles of the UN. The 1960 Declaration on the Granting of Independence to Colonial Countries and Peoples emphasises this even more. Therefore the United States changed the formal title given to Puerto Rico since the beginning of their colonisation in 1898 from colony to “unincorporated territory” or “commonwealth” which Puerto Ricans have translated to "Estado Libre Asociado" ("ELA") in the 1953 Resolution (Shaw, 1993). However in practice, Puerto Rico remains a colony to the United States and is subject to the absolute will of U.S Congress. The Territorial Clause of the U.S. Constitution gives the United States total authority to regulate the Puerto Ricans and their territory (Malavet, 2000, p. 4).

The United Nations Special Committee on Decolonisation – Committee of 24 - has called upon the treatment of the U.S. of Puerto Rico before. Since 1972, the committee has asked the United States to respect the right to self-determination of Puerto Rico and the Puerto Ricans.

Some emphasise that Puerto Rican culture is derivative from Latin American and Caribbean identity. New attention to the situation came after the 2012 referendum and the two consecutive hurricanes in September 2017, Irma and Maria (United Nations, 2018).

Go (2000) researched how this mode of government is conducted. This description follows the aforementioned definition given by Scott (1995) on colonial governmentality. With some measure of autonomy, Puerto Ricans are allowed to manage their own affairs. Yet American administration will always supervise from above to provide object lessons in American models of government (p. 334). Puerto Ricans are taught to copy the governmental model of an American state, without actually having the same freedoms as the 50 states do¹.

Referendums were organised in 1967, 1993, 1998, 2012 and June 2017 (See Annex I). These plebiscites gave Puerto Ricans the choice between statehood, independence, or continued commonwealth (status-quo). In the first three plebiscites continued commonwealth was preferred. Since the 1980s, a neo-nationalist wave developed during the two centuries that followed (Ayala & Bernabe, 2009). This movement gave new support to the *independistas*. Combined with socialist and Marxist ideas, a new idea of nationhood was created as a break from capitalism. The movement was based on feelings of solidarity and community. Although it manifests itself in many faces and diverse interpretations, it diffused a relatively positive view of nationhood: “a tendency to celebrate affirmation of Puerto Rican identity as a liberating, empowering expression in the face of colonial domination” (p. 319). The impact of this trend can be noticed in the 2012 and 2017 referenda.

In 2012 a majority of Puerto Rican residents voted to change the territory's relationship with the United States, with the statehood option being the preferred. The number of blank ballots counted one third of all votes. If we count these ballots as anti-statehood votes, the statehood option doesn't amount to 50% of the votes. Washington has yet failed to address this issue (Castillo, 8 November 2012).

Some scholars have questioned if the relationship between the U.S. and Puerto Rico is conform with international law. Even though these referenda are non-binding, questions rose towards the legitimacy of the behaviour of the U.S. The grants given by the U.S., such as the possibility for a Puerto Rican Constitution in 1953, could be seen as giving Puerto Rico the right

¹ Aside from the 50 states and federal district of Washington D.C, the U.S. has ownership over 14 territories of which five of them have permanent civilian population: American Samoa, the Northern Mariana Islands, Puerto Rico, the U.S. Virgin Island and Guam.

to self-determination, as it is defined by the United Nations². On the other hand this can be seen as a camouflage of the colonial relationship (Shaw, 1993).

The same question arises on the legitimacy of PROMESA - Puerto Rico Oversight, Management and Economic Stability Act. The board was set up under the Obama Administration in 2016 to combat the financial crisis in Puerto Rico. Linked to this was the establishment of a Fiscal Control Board (FCB) who implemented austerity measures in line with other neo-liberal policies³ in order to cut costs and end the debt-crisis. The PROMESA bill - Spanish for 'promise' – was contested by multiple members of the United States' Senate and House of Representatives. They feared the bill would make way for a further exploitation of the territory by big businesses and Wall Street. Senator Menendez (dem.) even called the decision "neo-colonialist" (Menendez, 24 May 2016). Despite the democratic illegitimacy - Puerto Ricans cannot directly elect any of the eight board members of the board of the authority^{4 5} - the Act does not address the structural issues that caused the debt crisis and even gives extraordinary powers to these board members. Menendez phrased that "this bill provides little more than a Band-Aid on a bullet hole with regard to Puerto Rico's unsustainable debt". In this regard, Puerto Ricans are merely seen by the U.S. as Native inhabitants of a territorial possession (Caban, 2017). They are denied access to representation, but are subject to all plenary powers. The powers of PROMESA include approving the Governor's fiscal plan, approving annual budgets, enforcing budgets and ordering any necessary spending reductions and reviewing laws, contracts, rules, regulations, or executive orders for compliance with the fiscal plan (PROMESA Bylaws, 30 September 2016).

Yet, there is no consensus on the legitimacy of PROMESA (Caban, 2017). Some argue that it is necessary for the U.S. to vote for the bill because they owe it to the American taxpayers. Others are convinced that PROMESA will be able overcome the Puerto Rican debt-crisis. Nonetheless, the bill resurrected and reaffirms the status of Puerto Rico as a colony to the U.S. Criticism is not only directed at the American Administration, but also at the Puerto Rican

² Following Chapter 1, Article 1, Part 2 of the UN Charter (1945) one of the purposes of the United Nations is to 'develop friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples, and to take other appropriate measures to strengthen universal peace'. Through UN Practice, self-determination has been explained in Declaration on the Granting of Independence to Colonial Countries and Peoples (1960) as: All peoples have the right to self-determination; by virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.

³ Costs were cut predominantly in the public social sector. Health care, pensions and education were the main targets.

⁴ The executive director of PROMESA is Natalie Jarensko, Ukraine's minister of finance from 2014 to 2016.

⁵ Seven board members are appointed by the President of the United States, the eighth board member is the a designee of the Governor of Puerto Rico, Ricardo Rosselló.

elite that is blamed for malmanagement. Caban (2017) confirms that despite earlier promises by President Truman in 1952⁶ to grant Puerto Rico their own government with governing power, PROMESA is a demonstration of the U.S.' colonial power.

Governor Rosselló currently doesn't maintain a good political relationship with the Trump Administration, since they failed to deliver an adapt response to the humanitarian crisis after Hurricane Maria. Trump also accused members of PROMESA and the Governor to have used the aid-relief money to pay off debts (Trump, 2018). More misinformation was spread by Donald Trump via Twitter. For example, on April 2nd 2019 Trump claimed that Puerto Rico has received over \$91 billion in aid and shouldn't ask for more. The numbers are highly misleading since the island has only seen a fraction of that (Trump, 2019). Diplomatic tensions arose when the Puerto Rican government decided to send humanitarian aid to Venezuela. Although the ship, trending online as #BarcoPuertoRico, never arrived in Venezuela, for the United States the decision indicates that Puerto Rico is willing to execute its own foreign policy agenda (Varela, 2019).

There hardly remains any doubt that the status of Puerto Rico to the United States is a colony in practice. Multiple scholars such as Go (2000), Klein (2017), Goldstein (2014a, 2014b), have even defined the relationship between the two countries as settler colonialist. Numerous cases and examples from different academic fields also back this statement. For example, Puerto Rico served as a playing field for numerous chemical experiments with Agent Orange between 1958 and 1968 (U.S. Department of Veteran Affairs).

2.1.3. RECENT DEVELOPMENTS

Recent ravages in Puerto Rico are displaying the impacts of 30 years of neo-liberal politics under flag of the United States. Some critical thinkers are seeing a new stage in the colonial plunder of the island (Reyes, 2017). Official data into the effects of the measures in 2019 taken by PROMESA is not yet available. I will offer a brief overview of the strategy of PROMESA from May 2016 to June 2018 in context to the colonial present (Slavin et al., 2018).

Optimistic in 2016 to overcome a 10-year debt crisis, PROMESA did nothing more than choose its board members. A 10-year fiscal plan that would pay 24% of the debt was approved. The initial plan, without going into detail into the exact economic choices, was set into a higher

⁶ Upon signing the bill that grants Puerto Rico a constitution, Truman declared that "full authority and responsibility for local self-government will be vested in the people of Puerto Rico. The Commonwealth of Puerto Rico will be a government which is truly by the consent of the governed" (22 April 1952)

gear in the second quarter of 2017. The Oversight Board declared multiple public institutions into Title III bankruptcy, amongst them: the Highways and Transportation Authority; the Employees Retirement System; the Puerto Rico Aqueduct and Sewer Authority (PRASA); the Puerto Rico Electric Power Authority (PREPA) and finally the government itself. Mediators were put into place to secure a coordinated plan of action (Slavin et al., 2018).

In September 2017, hurricanes devastated the island and demonstrated how the new austerity measures affects the Puerto Rican population in their daily life. A Fiscal Plan Revision Process was set in place as of October 2017. The 2018 Fiscal Plan for Puerto Rico called for fiscal as well as structural reforms, and more budget cuts to government spending. Rossello opposes the plan as he calls it again 'an austerity plan'. On the 9th of May, the 2019 Fiscal Plan for Puerto Rico was published under the name 'Restoring Growth and Prosperity'. PROMESA was appointed the nickname of *Junta*, which refers back to Latin American regimes of military Juntas, demonstrating the negative attitude of the population towards the establishment.

The Puerto Rican population has decreased by 12% between 2007 and 2017 (UNDP). This effect can be attributed to the low birth rate as a result of decreasing investment in the health sector, to the ongoing effects of the hurricanes and – in a smaller proportion – to sponsored migration. Meléndez (2017) wrote a book on *Sponsored Migration* where he tends to find an answer to two questions regarding Puerto Rico's post-war migration policy. Firstly, why the Puerto Rican government had to intervene into the migration process of its people. Secondly, if Puerto Ricans are U.S. citizens, why did the government have to intervene into the move of these people to the United States?

Puerto Rico's current migration policy is shaped by the heritage of the post-war migration policy where the government wanted to organise the movement of its people by accepting its colonial status towards the U.S. Policies from the past facilitate moving to the U.S. today. Around 5,4 million Puerto Ricans live in the United States, in comparison to a population of 3,3 million on the island (Meléndez, 2017). Today, people move for multiple reasons, but mostly economic prosperity – and all benefits tied to that such as good health care and education - since more than 44% of the islands population live in poverty (UNDP).

The total population on the island peaked in 2004 and started declining at a rapid pace ever since: 3,826,878 in 2004 to 3,325,001 in 2017 (World Bank). The net migration rate⁷ in 2002

⁷ Net migration rate is the net number of migrants, that is the number of immigrants minus the number of emigrants

was at its highest with -145,704. Surprisingly, in 2017 the net migration rate was -70,002 which means that there were in comparison to 2002 less people leaving the territory than entering. The exodus from the island to the mainland started way before Hurricane Maria passed in September 2017. Although more than 400,000 fled the island, in January 2018 there were more people returning to the island than leaving. The people who did leave the island after the hurricanes were those with the most economic and human capital. We can see a 'brain drain' from the island to the mainland. Around 10,000 of demands for FEMA aid came from mainland U.S., and about 6,600 people changed their addresses to mainland U.S.

Sponsored migration works in both directions. The tax exemptions for the island also find their heritage in the post-war period. New tax laws were introduced in 2012 to open up Puerto Rico for export in order to reactivate the economy. Act 20 and Act 22, the Individual Investors Act or Act to Promote the Relocation of Investors to Puerto Rico, have been used for tax avoidance. The aim is to lure mainland Americans to the island in combination with attractive working conditions for Puerto Ricans in mainland United States. Since Puerto Rico has the lowest labour wage, this is not hard to achieve. Act 22 is directed towards *bona fide* residents, who have not been Puerto Rican citizens for the last 6 years, who will be present on the territory for at least 183 days a year and who do not have a tax home outside of Puerto Rico.⁸ These people benefit from a 100% tax exemption on income taxes on all dividends, all interests and all short-term and long-term capital gains accrued after the individual becomes a bona-fide resident of Puerto Rico. Forbes has therefore designated PR as a new tax haven (DeMuth & Gensler, 2015). As a result this law attracts high net worth individuals that do not help (re)construct the Puerto Rican society and leave the government in a state of bankruptcy. This is in comparison to the high poverty rate on the island is quite disturbing (Estudios Técnicos Inc., 2015).

We can recognise certain choices from the American government that are in line with the fundamentals of settler colonialism. Firstly, the fact that Puerto Ricans are seen as immigrants in the U.S. demonstrates that there still exists a colonial discourse. Second, certain actions in particular like the dispossessions by the Junta that follow from the austerity measures and the sponsored migration. As I have noted above, settlers may not be confused with migrants, therefore the offer to make the move permanent and simultaneously sponsor a dominant relationship between Americans and Puerto Ricans is of high importance.

⁸ A fourth requirement is to not have a closer connection to the United States or to any other foreign country than to Puerto Rico. This is a subjective criterium and is in need of contextualisation by a representative of the American administration.

2.2. ENERGY COLONIALISM

2.2.1. INTRODUCTION TO ENERGY COLONIALISM

In contrast to the concept of settler colonialism which is rooted in the European colonisation of overseas continent from the end of the 15th century, energy colonialism is a fairly new concept. Critical thinkers use the term to dig deeper into colonial relationships by focusing on how infrastructure is used to maintain energy dependence. It is used to analyse multiple cases and to gain knowledge in post-colonial structures. Examples include the Spanish gas grab in Algeria (Hamouchene & Pérez, 2016); British search for energy resources like coal, and minerals in Nigeria (Mavhunga & Trischler, 2014); French nuclear colonialism in the Pacific (Danielsson & Danielsson, 1986); amongst many others.

Other older terms related to energy colonialism already have a clear definition. *Ecological imperialism* was first described by Alfred Crosby in 1986 and “refers to the environmental aspects of the political domination of territorial areas and subjugated peoples” (Zimmerer, 2001). “The term also has been applied to the environmental dimension of economic and political domination of poorer countries by global superpowers and institutions” (MacKenzie, 1990, cited in Zimmerer). There is no consensus on the definition of *ecological imperialism*, Zimmerer even states that ecological imperialism includes the use and ideas of the environment by persons and groups that resist the rule of empire. On the research of Crosby, Richard Grove (1996) based his *green imperialism* theory. The founder of the academic field of environmental history wanted to unmask the active role nature plays in influencing human affairs and vice versa.

An important distinction should be made between the colonial practices of extraction and environmental colonialism. This differentiation is due to the ideological and strategic character of environmental colonialism. The extraction of resources imposed by colonialism is grounded in violent strategies, where the colonised party receives nothing in exchange. Environmental colonialism, on the other hand, “functions as an ideological system of exploitation that is planned and operates with the consent and participation of the national elites” (p. 9). This is in line with the neoliberal approach of interpreting natural resources as consumer products (Atilés-Osoria, 2014).

Again, there is no universally accepted definition of energy colonialism since it is a new and multidisciplinary concept. If we decouple the term from its application to certain cases and analyse it within a broader scope, we can find different explanations. Since it is a fairly new

concept, definitions can mostly be found on blogposts and activist pages. Two different approaches can be distinguished in order to understand energy colonialism. They are interlinked yet have to be seen as two separate motions.

First, energy colonialism “refers to a situation where foreign countries or companies take up a region's land or resources in order to generate energy for themselves” (Jones, 2018). This approach is influenced by neo-liberal theory of rational thinking and profit-making at the cost of others. Mattei and Nader (2008) add that one of the primary manifestations of colonialism is the exploitation of the territory's natural and mineral resources, the extraction of its wealth and plundering of its material, cultural and environmental resources. This interpretation offers an explanation to phenomena such as resource wars, yet it marks more an event than a structure. As we have seen above, the logic of colonialism suggests a structure.

Secondly, how it should be interpreted in Puerto Rico's case, is how energy systems are used to institutionalise and maintain a colonial relationship. On the one hand, this means setting up measures and projects to create energy dependence of the colony to the colonial state. On the other hand, this also implies the – direct or indirect - prohibition of Natives to produce and consume their own energy. This hypothesis is one that I will defend in this dissertation and will be further examined.

2.2.2. ENERGY HUMANITIES

U.S. Department of Energy Office of Scientific and Technical Information published a book in 1976 called *Energy Basis for Man and Nature* (Odum & Odum, 1976). This research lays out in 19 references how energy controls our live and how energy is interrelated with, for example, money, production and natural resources. The purpose is to portray how the principles of energy systems support humanity. This interconnectedness of energy, economics and society can be introduced as energy humanity.

Energy humanities is a research field that collects research on the social, political and cultural challenges posed by global warming and environmental change. The use and misuse of energy has a tremendous impact on the shape we find our planet in today. We need to understand energy in order to combat global warming. Energy humanities draws critical attention to the fact that energy is necessary in our modern societies and that without energy our societies wouldn't have evolved to where they are today. In combatting global warming and its multiple consequences, major social, cultural and political changes are necessary. The answer is not

solely a technological or scientific one, humanities and social sciences have their part to play as well. We have to understand the complexity of our interdependence with energy and secondly “map out other ways of being, behaving, and belonging in relation to both old and new forms of energy”. In 1930s, the first research on the social impacts of shifting in energy were attended during the shift from coal-fired steam power to electric motors. Anxiety grows as the realisation of the finite nature of fossil fuels and their grave environmental consequences increases. The demand for energy keeps multiplying for the development of our modern societies is intertwined with energy. Currently, the field of Energy Humanities primarily focuses on fossil fuels as a central point of modernity and how a new relationship to fossil fuels can be developed (Szeman & Boyer, 2017).

2.2.3. ENERGY COLONIALISM IN PUERTO RICO

Puerto Rico is not just dependent on oil, but in particular on American oil. Certain laws and acts are still valid today and have a big impact on the islands energy mix today. The Merchant Marine Act of 1920 (Jones Act)⁹ has as purpose to improve American navy dominance and requires all ships between two ports in the United States to be owned by U.S. citizens and registered under the American flag. Since Puerto Rico is an American territory, all goods entering by cargo must come under American flags. If Puerto Rico wants to import an avocado from the Dominican Republic, it has to come through Florida first. Puerto Rico is heavily dependent on oil for its electricity generation, this in combination with the Jones Act causes a raised cost of goods and energy due to inefficiency. In the aftermath of the hurricanes in 2017 the Jones Act was waived temporarily in order to bring all available resources to the island needed for its recovery (GAO, 2018).

Another example is Operation Bootstrap which is a project launched mid-1940s to modernise Puerto Rican economy and society. Opening up the economy was one of the main objectives of the project. American corporations benefitted from tax exemptions and could capitalise on the low wage costs on the island, which made it an attractive destination to invest. The project could not have survived without foreign capital and technology (Skidmore et al., 2013). There would be complete openness of the Puerto Rican economy towards the U.S., rapid development of the export-oriented manufacturing sector and increasing foreign investment. The agricultural sector was underdeveloped and old economic models were abandoned. The pharmaceuticals and electronics industry, which are highly polluting, benefitted from the program (Santana, 1998).

⁹ Not to be confused with The Jones Act of 1917 that granted U.S. citizenship to Puerto Ricans.

Energy was needed to carry out the modernisation and industrialisation of the development plan of Operation Bootstrap. The first steps towards energy dependency were laid out then and are still present today. American and Puerto Rican economy became intertwined with the island becoming a manufacturing hub for the States. The rise in economic growth in the first years of the project were, for some, a proof of its success. Yet, those dismiss the relevance of sovereignty of the island. The program wouldn't have been as 'successful' without free emigration to the mainland, federal welfare benefits, which only U.S.-citizens benefit from, and the loyalty of the Muñoz administration¹⁰. Operation Bootstrap is therefore seen as a movement that undermined the independence movement and transformed the economy to one which the United States benefit from. The structures for a neo-colonial relation were laid in the 1940s (Santana, 1998).

The dependence on the United States economically and structurally hasn't been a great asset for restoring the energy grid. The absence of local experts for rebuilding the Puerto Rican energy infrastructure is noticed by multiple local activists such as Emma Foehringer Merchant (2018). In the academic field as well, research goes into the rewiring of – or better the lack of - the Puerto Rican energy grid. Recently, professors of the University of Puerto Rico published an article to demonstrate the still ongoing effects of Hurricane Maria on the Electric Power Infrastructure (Kwasinski, Andrade, Castro-Sitiriche & O'Neill-Carrillo, 2019). More links of the energy landscape of Puerto Rico and the energy colonialism paradigm can be found in Chapter 3 and 4.

¹⁰ The Partido Popular Democrático (P.P.D.) is a Puerto Rican political party founded in 1939 who won the 1940 elections with the promise to improve industrialisation and economic prosperity in the country with the end goal of political independence. Their paradigm shifted over the following years to a policy that guaranteed economic support from the United States.

2.3. ENERGY DEMOCRACY

2.3.1. INTRODUCTION TO ENERGY DEMOCRACY

Renewables have the power to democratise. They decentralise the production and consumption of energy. From a political science perspective, decentralisation gives more autonomy to actors with local importance because participation of citizens is higher. Citizens gain more power over the choice of policy and how power is spread. If decentralisation is just, it can be a key feature of democracy. In short, a decentralised system is more efficient on a local level than a centralised one (De Vos, 2016).

The term energy democracy appeared first in reviews from think-tanks and NGO's, before finding an entry into academic literature around 2010. Energy democracy can be defined in multiple ways. Kassulke (cited in: van Veelen & van der Horst, 2018) published the first web article on the subject. She concludes: "A new energy democracy that empowers all consumers, large and small, to become part of the solution, is the only way to go to deal with the root of this nation's (U.S.A.) energy supply dilemma".

Although earlier reports focus primarily on a universal access to energy and electricity, this view evolves to a more holistic approach considering ecology, racism, colonialism, social equality, quality of life (Jungjohann, 2016). Weis et al. (cited in: van Veelen & van der Horst, 2018) wrote a report that enumerates the five dimensions to energy democracy: distributive justice, procedural justice, access to energy, socially appropriate energy infrastructures, socio-ecological transformation. In 2012, multiple groups agreed on a definition during the Lausitz Climate Camp:

"Energy democracy means that everybody is ensured access to sufficient energy. Energy production must thereby neither pollute the environment nor harm people. More concretely, this means that fossil fuel resources must be left in the ground, the means of production need to be socialised and democratised, and that we must rethink our overall attitude towards energy consumption" (Angel, 2016b, p.10).

Angel's (2016a, 2016b) research fits into this critical perspective which can be used to regard Puerto Rico's electricity system. He conceptualises energy democracy as "collective control over the energy sector, counter posed with the dominant neoliberal culture of marketisation, individualisation and corporate control". Moreover, he brings attention to the fact that the

concept brings “questions of conflicting interests, control and ownership, colonialism, class, gender, race; in short, questions of power – to the centre of the energy debate”.

Energy democracy can either be seen as the answer to or as the process of. When viewed as an utopian answer where inequalities can be broken, it is not clear what the difference with energy justice is. Energy justice aims “to provide all individuals, across all areas, with safe, affordable and sustainable energy” (Jenkins, 2018). I choose to see energy democracy as a process and a structure, rather than the mere outcome of eliminating energy poverty.

Furthermore a difference can be made between environmental justice, climate justice and energy justice. For the purpose of this dissertation, focus will be laid solely on energy and environmental justice. Research from Jenkins (2018), McCauley et al. (2013) and Schlosberg & Collins (2014) can offer more insight into this categorisation.

2.3.2. ENVIRONMENTAL JUSTICE

The U.S Environmental Protection Agency (EPA) developed the following definition in 2000, which demonstrates how environmental justice remains subject to scientific measurements:

“The goal of environmental justice is to ensure that all people, regardless of race, national origin or income, are protected from disproportionate impacts of environmental hazards. To be classified as an environmental justice community, residents must be a minority and/or low income group; excluded from the environmental policy setting and/or decision-making process; subject to a disproportionate impact from one or more environmental hazards; and experience a disparate implementation of environmental regulations, requirements, practices and activities in their communities” (EPA, cited in Holifield, 2001, pp. 80-81)

The first use of the concept of environmental justice primarily tried to describe the existence of inequity in the distribution of environmental bads and thus demonstrate how some communities are more affected by environmental risks than others. (Schlosberg, 2009; Schlosberg, 2013). At first, the term only focus on this form of social inequality. Yet, since the passing of hurricane Katrina in New Orleans in 2005, Schlosberg shows how it expanded into to a more inclusive term. Both horizontally into a broader range of issues and topics, as well as and vertically – applied on a global, transnational level.

Government definitions often do not match the variety of existing interests (Holifield, 2001). Environmental justice doesn't only focus on individual impacts, but on the impacts of environmental bads on social cohesion and the functioning of communities, cities and neighbourhoods. It forms a uniting theme for global movements fighting for food security, indigenous rights and against neoliberalism. Summarising, movements that contemplate environmental justice can address topics ranging "from transportation, employment, health, housing, and economic opportunities to broader issues of social disrespect, community diaspora, and political and economic participation..." (p. 43). "Environmental justice battles focusing on issues ranging from asthma in New York to biopiracy against the San in Southern Africa" (p. 43)

Upon these insights the EPA updated their definition of environmental justice to the following, taking into account the more holistic approach as proposed by Schlosberg:

"Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys: the same degree of protection from environmental and health hazards, and equal access to the decision-making process to have a healthy environment in which to live, learn, and work." (epa.gov, n.d.)

In addition to this, the movement evolved into considering the impact of human interaction with nature (non-human world). Not only humans are affected by the maltreatment of ecological systems but also non-humans lose their ability to function. More information on this topic can be found within the research of Schlosberg (2009, 2010, 2013, 2014):

"The shift suggested here is one from environmental conditions as an example or manifestation of social injustice to one where justice is applied to the treatment of the environment itself." (2013, p. 44)

2.3.3. ENVIRONMENTAL RACISM

In this case study, an academic approach to environmental racism can be made. Chavis (1994, cited in Holifield, 2001, p. 83) describes environmental racism as follows:

“environmental racism is racial discrimination in environmental policy-making and enforcement of regulations and laws, the deliberate targeting of communities of color for toxic waste facilities, the official sanctioning of the presence of life threatening poisons and pollutants for communities of color, and the history of excluding people of color from leadership of the environmental movement” (Chavis, 1994, p. xii)

Holifield (2001) notes that it is contested on which elements of this definition focus should lay. The definition of Chavis is often used by environmental activists because it suggest a “deliberate targeting”. One could also interpret the definition in a manner where any decision-making process that burdens minority disproportionately provides significant evidence of environmental racism. The concept of *racism* and *race* are in as much debate as the concept of *justice*, as will be described below. Further research on this topic is needed.

2.3.4. CAPABILITIES APPROACH AND ENERGY USE

These different theories employ the concept of *justice*. Humanity has been looking for a correct and just interpretation of justice since decades and still hasn't found an all-inclusive definition. Nonetheless, most of research on justice has neglected the role of our environment (Holland, 2008). Those who have included environment in their thinking, like Rawls, often do not recognise that its impact are subject to unequal distribution and do not affect all in a beneficial way in terms of wealth and power.

Questions then arises as to why we assume that energy justice should exist and why inequalities in the distribution of energy are seen as an injustice. Here, I have chosen to use the capabilities approach of Amartya Sen and Martha Nussbaum (1993, amongst other references) in order to demonstrate the significance of justice in the environmental sphere. Despite criticism by a minority of researches on the incompleteness of this theory, multiple scholars have applied the capabilities approach on environment/environmental justice issues.¹¹ The capabilities approach has been used by the UN to help create the Human Development Index. I have chosen to use this theory because applications can be found on environmental justice.

¹¹ Martins (2011) concluded in this research that the capabilities approach is not a complete ethical theory and can therefore not be applied to issues concerning environmental justice. Taking into consideration this criticism, I choose to still apply this theory since the majority of scholars do agree on the proficiency and adequacy of the aforementioned theory.

The capability approach offers a theoretical framework for measuring well-being. Firstly, as it is necessary to understand Sen's theory, I will present the core fundamentals, being functionings and capabilities:

“Functioning is what a person achieves. To achieve a given level of well-being, it is necessary to be able to perform correctly a certain number of vital functions, such as being able to move, to house oneself, to remain in good health, to have a balanced diet, to be socially recognised and respected, and to be able to take part in collective decisions, etc. These functionings are therefore very varied, and may be more or less complex” (Ballet et al., 2013)

Capabilities lay at the core of this theory since they make opportunities and freedom to achieve certain functionings, and thus well-being. A certain income (or capability) will not automatically lead to an outcome (functioning) at the same rate. Reasons explaining this include personal differences, environmental diversities, variations in social conditions and differences in community requirements (Day, Walker, & Simcock, 2016, p. 258).

What capabilities should be concerned? While Sen refused to define a list of capabilities, Nussbaum did add a list of abstract capabilities that are in need of contextualisation. Nussbaum added to Sen's theory with the goal of demonstrating how women face different circumstances than man in the liberal state. Her vision of capabilities denotes the conditions that make it possible to achieve things. She includes life, bodily health, bodily integrity, emotions and others in her list of capabilities (Day et al., 2016).

The use of energy is important in achieving certain capabilities. The following thinking is proposed by Day, Walker & Simcock (2016) and can be offered as an example. Domestic energy (energy supply in households) provides domestic energy services such as lighting, heating and cooling, water heating, mechanical power, refrigeration. These services have an impact on secondary capabilities such as washing clothing, preparing food, accessing information. Achieving basic capabilities such as maintaining good health, being educated, having social respect, require secondary capabilities. This last relationship differs over space and time. For example, since the last three decades, it is common in Western Europe to take a daily hot shower, whilst before a weekly bath was normal: “the frequency of bodily washing needed in order to be free of stigma and shame is now much greater, with implications for hot water demand” (p. 260).

Environmental justice can thus be seen as a meta-capability. The environment itself is not a capability *in se*, but it has instrumental value into creating a conducive environment for certain capabilities (Holland, 2008). Next to that, energy was recognised by the UN and the international community as a prerequisite for basic human needs (Lesage & Van de Graaf, 2009, p. 56).

Energy is thus not seen as a commodity, but as a resource, that is necessary for human beings to achieve a certain level of well-being. The generation of energy into electricity calls upon a different question, i.e. why can't we achieve environmental justice in the current energy systems? The struggle for environmental justice cannot be seen without taking into consideration the democratising effect of renewable energy.

2.3.5. THE DEMOCRATISING EFFECT OF RENEWABLES

Renewables play a key role when thinking of energy democracy. Multiple scientific reports from different approaches have shown this effect. A recent rapport of IRENA (2018), *New World Order*, displays this correlation in a clear manner:

“The shift to renewable energy may reshuffle political and economic power, because renewables tend to decentralise and democratise energy systems.” (p. 42)

In addition to this, there is the aspect of the falling cost of solar and wind power which makes it accessible for more people to produce. Passive consumers of electricity can now become active producers and consumers, also called prosumers (p. 43). Another characteristic that is mentioned in the report is that decentralised renewables can help increase the resilience of local communities against environmental disasters. This is of particular importance to the Puerto Rican story.

Burke & Stephens (2018) concluded in their research that renewables give a possibility, not a certainty, for democratisation. If preference is given to a centralised renewable energy system, only the climate crisis will be tackled and not the intertwined economic and social crisis. That way a decarbonisation process is set in place without fundamentally changing the – capitalist – system. Thus, energy is seen as a commodity and not as a resource. Energy democracy advocates a decentralised renewable energy grid where priority is given to community-scale projects who simultaneously decentralise authority and responsibility. Energy should be seen as a capability, not a commodity in order to achieve energy democracy.

The core of a transition towards a clean energy system should be the role of communities. Even though what specific task communities can play in the future remains unclear, 'clean energy communities' (CECs) could play a significant role. Countries such as Germany and Denmark recognise that a transition towards a renewable energy system "requires incorporating energy systems that are tailor-made at the local level as well as centralized power production, and hence the strategic role of municipalities, local stakeholders, and authorities to formulate such initiative" (p. 95). Again, emphasis is put on the structural differences between centralised and decentralised CECs (Gui & MacGill, 2018).

2.3.6. PUERTO RICO'S BATTLE FOR ENVIRONMENTAL JUSTICE

In short, reactions to energy colonialism can be classed under energy democracy and environmental justice, which is also the case in Puerto Rico. Activists as well as scholars have addressed the aftermath of the hurricanes as an 'unnatural' disaster (Onís, 2018; Jones, 2018) or even a man-made disaster. By focusing on the role of other factors than the geological effects, more emphasis is made on the historical and neo-colonial context to the hurricane. It is not analysed as an event, but rather as a structure. This indicates that a lot of the damage could have been avoided if investments had been made in quality infrastructure. (Klein, 2018 amongst others).

Naomi Klein's (2018) recent book on Puerto Rico portrays the current battle for renewable energy in the country. After the hurricanes passed and destroyed the energy infrastructure, the reality of their dependence on others for energy and electricity became very clear. The book illustrates how people that were able to invest in solar power, before Hurricane Maria passed, experienced less harmful effects on their lives after the hurricane devastated the country. Not only in theory renewables offer more resilience, multiple cases show the same effect. Those will be discussed further in this chapter.

Puerto Rico's battle for environmental justice is motivated by two significant evolutions. First is the impact of climate change. Puerto Rico Climate Change Council (PRCCC) (2013) has identified the impacts of climate change on the country which special focus on the coastal areas. Conditions include rise in air and sea surface temperatures, precipitation, extreme events (downpours, droughts), sea level rise, tropical storms and hurricanes and ocean acidification. Yet, the impact of these conditions on non-coastal areas should not be neglected by policymakers. In their report 'Ruta hacia la Resiliencia' (2015) (or 'road to resilience' in

English) PRCCC enumerates certain policy proposals that should be considered by authorities on different levels to be able to cope better with the impacts.

The second current consists of the rebuilding of the energy landscape with a special focus on renewables. These renewables will improve resilience, as proposed by PRCCC and demonstrated by multiple studies, but will also make way for energy independence and social equality in Puerto Rico (Klein, 2018). People that were able to invest in small-scale solar PV's before the hurricane, saw less damage to their power plants. That is mainly because solar panels are naturally more resilient to hurricanes and strong winds and because they use newer technology.

Moreover, the electricity power plants generate is transmitted across huge distances through above-ground wires and an underwater cable that connects the island of Vieques to the main island. After the hurricane, one of the biggest issues was the damage to the electricity distribution and transmission network. High distribution towers were knocked down by the strong winds. The age of PREPA's median electricity plant 44 years old, compared to the U.S. industry median of 18 years (PREPA, 2017, p.10). The vulnerability of the grid towards a hurricane lays bare the infrastructure problems and mismanagement.

The price of electricity is extremely high in Puerto Rico: 20,5 cents/kWh versus 13,2 cents/kWh in the United States (GAO, 2018, p. 31). Multiple causes can explain this, aside from the government debt crisis. The reliance on American oil makes the prices extremely vulnerable for fluctuations in prices in the global oil market. Secondly, the above mentioned old infrastructure does not use up-to-date technology and is thus not as efficient and cost-effective (GAO, 2018).

Despite promises, PREPA and other leaders are not doing much to structurally restore the electricity grid. Residents are taking faith in their own hands and are setting up several initiatives for renewables. For example Casa Pueblo, which is a community-based *autogestión* NGO that started as a cultural centre in the 80s but evolved into an environmental organisation. Their project goes further than just installing solar energy but demands a bigger concern for biodiversity and the environment and a bigger role for communities. Hernandez, the leader of the group, stated that if 68% of houses would have a solar system, the island would be able to generate 110% of its energy necessary. The pink house of Casa Pueblo never lost power after the hurricane and played a big role for the community of Adjuntas in the aftermath of the hurricane. Another project is Coqui Solar. Gathering in community centres,

they try to make solar energy accessible for local residents. A bed and breakfast in Old San Juan, Casa Sol, is fully running on solar power, except for the air-conditioning. Having invested in 30 solar panels before the hurricanes, the owner was able to house guests shortly after the devastation took place. Unfortunately, the poverty rate is high and not everybody can afford such investment. The role the government and PREPA will take remains crucial in this energy transition (Bayne, 2018).

Atilés-Osoria (2014) has noticed already how environmental movements in Puerto Rico are easily criminalised. Since the 1960s a discourse on environmental justice developed with focus of wellbeing of communities. These movements are part of the broader context of the decolonisation struggle that exists in Puerto Rico. Many socio-political movements have been criminalised, including the environmental ones. Mechanism of repression can be the use of political violence to detain, intimidate and demobilise those organisations or the use of law and legal discourses as a mechanism to delegitimise socio-political movements. The mechanisms for repression intensified after 9/11 with the enactment of the Patriot Act. Even though Puerto Rican environmental movements do choose for peaceful civil disobedience as its most used tactic, the government has opted to consider it as civil disobedience and ecoterrorism.

Four different types of socio-environmental groups can be distinguished. The first are the conservationists, environmental NGOs and organisations made up predominantly of academics and other intellectuals. Subsequently, the socio-political-environmental NGOs, formed of environmental, religious, political, social and worker groups. Thirdly are the environmental groups that are fighting against a specific phenomenon that affects some aspect of the environment. And lastly, community environmental organisations, usually composed of grassroots groups that mobilise to protect their own communities (Valdés, cited in Atilés-Osoria, 2014, pp. 11-12).

Deploying a new system of solar power should allow PREPA and its customers to move away from high-cost imported fossil fuels, reduce toxic emissions, and reduce costs for families and businesses. Subsequently, it will be a trigger for reducing social and economic inequality: more people will have access to affordable food, education, health care... The cost of a carton of milk in the supermarket is relatively high because of the cost of refrigerating it. If you are able to afford that carton of milk, you have to have access to a personal refrigerating system in your household in order to keep the milk fresh. In conclusion, the benefits for the island after investing in a decentralised renewable energy system can be immense.

3. A BRIEF HISTORY OF PUERTO RICO'S ENERGY LANDSCAPE: INFRASTRUCTURE AND MODERNITY

3.1. INTRODUCTION

First of all, I will outline the history of Puerto Rico's energy landscape since their American dominance. Foucault calls for writing a "history of the present" in which he puts emphasis on non-discursive practices such as socio-economic factors, institutions,... (Escobar, 1984). It is thus important to gain knowledge into how the energy landscape was created and how this system was maintained over the years to comprehend the current state and future possibilities. Energy infrastructures started booming and gaining importance during modernisation in the beginning of the 20th century, which coincides with the American century in Puerto Rico.

Following research of the U.S. Energy Information Administration (2018), Puerto Rico is most dependent on imported fossil fuels. Their report cites the following numbers:

"For the fiscal year ending in June 2017, petroleum supplied just under half of the island's electricity, and natural gas supplied nearly one-third. Coal continued to supply about one-sixth of electricity, while renewables supplied about 2.4%."

As of March 25th 2019, Puerto Rico's House of Representatives passed a bill (PS 1121) which Forbes has referred to as the "Puerto Rican Green New Deal". While the Trump Administration wants to focus on gas and coal, Puerto Rico wants to invest 100% in renewables. In addition to increasing the island's renewable energy portfolio standard to 100 percent by 2050, the law bans coal power after 2028. It also enables an automatic interconnection to the grid of small customer-sited solar energy systems. In addition to that it creates a 5-year window of full compensation for consumers' solar energy production. PS 1121 talks about improving resilience of the energy grid, on the subsidising of prosumers and enhancing its energy independency. This consumer-oriented approach towards renewable energy grid coincides with the above research on the significance of decentralisation in the process of energy democracy.

3.2. PREPA/AEEPR

3.2.1. HISTORY

The current electrical power grid in Puerto Rico was built by the United States during the modernisation of the 1950's in a manner for it to be dependent on the U.S. The system is dependent on resources such as gas and oil, especially those coming from mainland United States. This trend is continuously being reinforced due to specific policies, such as the above mentioned Merchant Marine Act of 1920.

In 1893 private companies provided electricity to the Puerto Ricans for lighting purposes. The first public power plant, Electric Light Anonymous Plant, was established in 1915 and generated light for public street lamps. Next to that, Puerto Rico created over the following years more and more artificial lakes for hydroelectric power plants. PREPA finds its roots in the 1926 Water Resources Use that was created by the Department of the Interior. In 1937 the administration bought the privately owned Ponce Electric Company and acquired all the island's private power companies which were then incorporated into the public power system. Under the United States' New Deal administration¹², an expansion of the number of (mostly hydroelectric) power plants was made possible. Due to the rising electricity needs of the Puerto Rican population the government founded the Puerto Rico Water Resources Authority (PRWRA) in 1941 to facilitate administration and raise the financing of the electrical grid. In the second half of the century, hydroelectricity was replaced by petroleum burning turbines in Puerto Rico. By the 1970s PRWRA was for 98% dependent on petroleum and only 2% of hydroelectric plants. The name was thus changed to Puerto Rico Electrical Power Authority (PREPA) (Pederson, 2002).

At the same time, the government slowly gained a monopoly position by acquiring all municipally owned power plants. PREPA's position as a monopoly was strengthened by the 1978 passage of the federal Power Utilities Regulatory Act that only permitted independent energy producers to sell to an area's monopoly utility. The company gained a very poor reputation due to mismanagement which caused high electricity prices, frequent black outs and an ageing system (Pederson, 2002).

The role of infrastructure in the process of modernisation and industrialisation is crucial. Thomas Hughes' (1987) work is seen as a standard work on the electrification of western societies. Large technological systems provide structure and organise a modern society. Still today the connection between electricity and industrialisation is uncontested. Although, Karanfil & Li (2015) have noted that the link between electricity consumption and urbanisation

¹² Public program under President Franklin D. Roosevelt to respond to the economic recession of the Great Depression.

differs from region to region and is sensitive towards countries' income level and supply risks. Wealthy countries, more specifically OECD members, experience a stronger correlation between electricity use and wealth creation (Ferguson, Wilkinson, & Hill, 2000). For poor countries this correlation is not as clear. Nonetheless, the global economy as a whole provides a stronger correlation between electricity use and wealth creation than there is between total energy use and wealth. In conclusion, the link of modernisation and electricity consumption is still relevant to this day.

3.2.1. MODERNISATION AND DEPENDENCY THEORIES

As we already established to critical role of energy to modernity, our modern society and development, we can dig deeper in questions on the geographical uneven development between the Global North and Global South. The following theories offer a theoretical approach to development: economic, political as well as cultural. In addition, there are more theories on development that can be distinguished such as *World Systems* theorem by Wallerstein or *Globalisation*, which emphasises cultural aspects and their worldwide communication. The purpose of introducing these frameworks is not primarily to explain the development of Puerto Rico, but to demonstrate in what theoretical context the island saw its industrialisation and how that is still important today. They will be portrayed as “ideal-types” in order to make a brief analysis of development in Puerto Rico.

First of all, the theory of modernisation will be discussed. It tries to formulate an answer to the following question: Why was there such a stark contrast in the developmental experience of a few Western countries and most of the rest of the world? (Valenzuela & Valenzuela, 1978) According to this theory, modern societies are more productive and benefit more welfare, in line with linear development approach (Reyes, 2001). There are three historical events that shaped the modernisation theory of development (So, 1986, cited in Reyes, 2001). The first is the rise of the United States as a superpower after the Second World War and their attached Marshall Plan. Secondly, the Soviet Union extended its communist influence eastwards. The disintegration of the European colonial empires in Latin America, Africa and Asia represent the third event. These new nation-states were in quest of a model of development to promote their economy.

Modernisation is a phased process. Rostov (cited in Reyes, 2001, p. 3) distinguished five phases: traditional society, precondition for take-off, the take-off process, the drive to maturity, and high mass consumption society. “If the problem facing Third World countries

resides in their lack of productive investments, then the solution lies in the provision of aid to these countries in the form of capital, technology, and expertise". As this theory was particularly popular in the 1950s and 1960s, this attitude can be found in the way the United States regarded Puerto Rico and how scholars approached Latin American underdevelopment. Modernisation theory argues that due to the very nature of Latin American societies, these countries are unable to develop (Valenzuela & Valenzuela, 1978). Its traditional cultural values influence economy and result into entrepreneurial inactivity and corporatism. They are also intertwined with their political model; Silvert (cited in Valenzuela & Valenzuela, 1978 p. 542) argues: "there is something in the quality of the Latin American man and his culture which has made it difficult for him to be truly modern ... which has made this part of the Western world so prone to excesses of scoundrels, so politically irrational in seeking economic growth, and so ready to reach for gimmicks". A modern country can have help underdeveloped countries to 'improve'.

The theory of dependency was a reaction to the incompleteness of the modernisation model for Third World Countries. During the mid to late 1960s this perspective became the dominant approach for Latin American development. Here, a combination is found of elements from a neo-marxist perspective with Keynes' economic theory which was embedded in the United States' and European economic model in the 1920s. From Keynes' perspective, four main points are embodied in the theory of dependency. The first is to develop an important internal effective demand in terms of domestic markets. Secondly, recognising that the industrial sector is crucial to achieving better levels of national development, in comparison with the agricultural sector, and can contribute more value to products. Thirdly, increasing worker's income as a means of generating more aggregate demand in national market conditions. The last is to promote a more effective government role in order to reinforce national development conditions and to increase national standards of living (Reyes, 2001).

As we see in the literature study above, electricity demand went up due to industrialisation and higher living standards. Subsequently, more elements by Keynes can be put forward that demonstrate the importance of the theory of dependency in this case study. Such as the promotion of the role of the government in the electrical grid and infrastructure, or the lack of investments in the agricultural sector due to an enormous focus on industrialisation.

Another important economic contribution to this model was made by Prebisch. ECLA proposed a model of import substitution industrialisation encouraging industrialisation in Latin American countries in order to decrease imports and increase self-sufficiency. This had

the reverse effect of creating foreign owned monopolies. For Puerto Rico this was particularly problematic for small farmers (sugar) and artisans whose quality could not compete against the quantity of mass production. A wave of urbanisation and proletarianisation was set in motion (Dietz, 1979).

Just as the theory of modernisation, this model for development was target of much criticism. This led to the development of multiple Marxist and neo-Marxist development theories. Multiple scholars have drawn the link between the modernisation and dependency theory and how they relate to Latin America.

Some argue that both theories go hand in hand, like the research of Valenzuela & Valenzuela (1978). They conclude that the level of analysis for modernisation and dependency is different, respectively individuals and their values and beliefs, and macro-sociological – for example: linkages between elites in peripheral and central countries. Other differences such as a time dimension or the perception of human nature, result to the conclusion that these frameworks are complementary and not competing.

Dietz (1979) argues on the other hand that both are not applicable to Puerto Rico and that there should be distinct theory for this particular case – and for other Latin American nations. Most underdeveloped nations are structurally more dominated by advanced capitalist nations (p. 18). Since U.S. control over the island a rapid concentration of land ownership took place especially in sugar for export. The above mentioned Operation Bootstrap “packaged Puerto Rico as a profit-making island paradise” (p. 25). The lack of investment in agricultural resulted to a dependency of imported food (77% of all food supply).

“The inability to produce the most basic means of survival appears to be a general characteristic of countries experiencing imperialist dominant capitalist development” (p. 27)

Even though the overall economy has grown, most Puerto Ricans have not participated in that economy. Average income has risen, but the price of consumer goods has increased almost double than the income¹³. This model of imperialism proposed by Dietz (1979) differs from dependency theory by arguing that dependency is not the cause of underdevelopment but rather the result of imperialist penetration in Third World countries by advanced capitalist

¹³ From 1973 to 1976 average weekly income increased 6 percent whereas the prices of consumer goods increased by 11,6 percent.

countries. The development towards a capitalist system in Western European countries was made possible by bourgeoisie revolution. In Latin American and Caribbean countries this was achieved through foreign monopoly capitalist penetration. Additionally the period of imperialist penetration was relatively short to block the emergence of a local capitalist class.

These theories of development demonstrate the importance of infrastructures in general for industrialisation. Edwards (2003, p. 186) argues that infrastructures simultaneously shape and are shaped by the condition of modernity. Infrastructures co-construct modern societies by linking macro, meso and micro scales of time, space and social organisation. A systematic, society-wide control is made possible by infrastructures; we can control time and space and to use Edwards' example: we can buy fresh fruits and vegetables in winter and regulate indoor temperatures. Infrastructures are more than *hardware*, they are interlinked with the *software*: policies and social organisation. Social and material are thus linked: "they are themselves historically and geographically produced in a way that is simultaneously socio-natural and socio-technical" (Bakker & Bridge, 2006, p. 18, cited in: Jabary Salamanca, 2014, p. 14)

3.3. ENERGY INFRASTRUCTURES

Bridge, Özkaynak, & Turhan (2018) define energy infrastructures as:

"large-scale technical systems which organise social life. They are the "central nervous systems" of economies, connect multiple spaces and institutions of energy capture, conversion, transmission, storage, consumption and waste, and play key roles in constituting the body politic" (p. 3)

This definition refers back to the capabilities approach by Nussbaum & Sen. Within that approach energy infrastructure and electricity itself are seen as necessary in achieving basic human needs and social systems. If infrastructure forms the socio-material basis for modern urban living, consequently "infrastructures are also considered to be central to the economic and geographical production, reproduction and legitimation of modern capitalism" (Jabary, Salamanca, 2014, p.16). Infrastructures and energy infrastructures are socially constructed by those in power. Harvey (2001) constructs a theory of 'spatial and temporal fix' which explains the tendencies of capitalism towards globalisation. Modern capitalism want to fix space – and time - in infrastructure networks for communications, electricity, transport, etc. in order to overcome space. This movement of capitalism and neoliberalism production is geographically unevenly developed.

Energy infrastructures have political effects and consequences. Within the existing literature, 'the politics of energy infrastructures' can be understood in many different ways (Bridge, Özkaynak, & Turhan, 2018). For example, a realist approach where energy is subject to a power play between countries and geopolitics plays a central role. Energy is seen as a national concern. In this case study, the literature concerning uneven development coming from critical political economy of energy infrastructures can be applied.

This body of work examines how social inequalities are (re)produced through energy infrastructures at a range of scales (Bridge et al., 2018). Some recurrent themes are the "inherent contradiction and slippage between (infrastructure's) planning and enactment" and the way it frequently "fails to function to its full capacity" (Smith cited in Bridge et al., 2018, p. 4). Also, there is the importance of spatial patterns analysis which provides "insights about where things occur, how the distribution of incidents or the arrangement of data aligns with other features in the landscape, and what the patterns may reveal about potential connections and correlation" (Scott, 2015). The importance here lies in the under provision of distribution and transmission systems and infrastructural failure and resilience (Bridge et al., 2018). For example, research is conducted to why mega-projects fail to deliver the promised benefits. Applied to Puerto Rico, San Juan remains the most port for petroleum import, even though the port was destroyed by hurricane Maria. Official numbers from the American government show that Puerto Rico imports 0 barrels per day of crude oil, which means that still to this day Puerto Rico only has access to American oil or oil that was imported by the United States (U.S. EIA, 30 July 2019).

To summarise, infrastructures don't just have political and social consequences, they are "an object that is both produced by and productive of political, social, economic, cultural and spatial relations" (Jabary Salamanca, 2014, p. 4). They are a result of politics and political decisions. Hughes (1986) summarises this as follows: "they are both socially constructed and society shaping" (p. 1).

3.3.1. ENERGY INFRASTRUCTURES AND SETTLER COLONIALISM

Visible infrastructure networks can be expressions of settler colonialism and uneven development (Jabary Salamanca, 2014, p. 5). "Infrastructure networks are described as a source of connection, but also as a means of disconnection, discrimination and control" (p.7). For example, in the case of Palestine infrastructures have been reconceptualised and

redesigned from their original utilitarian purpose towards a political and symbolic tools of Israel's ethno-national project. Roads play a critical role into dividing the space into networks that run along the ethnic lines (p. 91).

As seen above, settler colonialism is a system and not one event can demonstrate the presence of a settler colonial case in Puerto Rico. Yet, some currents can help us understand more profoundly how the energy infrastructure reflects the settler colonial present. Atilés-Osoria (2014) notes how environmental movements are often criminalised by the American and Puerto Rican government due to the strong link with socio-economic struggles.

The history of colonialism shows the exploitation of resources for the "motherland". The geopolitical nature of the colony is of importance due to the presence of extractable natural, human and mineral resources. It thrives of "the possibilities of enrichment from the destruction of life" (Atilés-Osoria, 2014, p.7). Focus lays on the area that produce these commodities and thus creates not only differences between countries, by undermining their productive capacities, but also within a single country. The struggle for social justice, gender equity and sustainable development has become more difficult due to the widening gap between the haves, proxies, and the have-nots. The colonial-capitalist plunder of Puerto Rico fits into the above phenomenon. Proxies are used to keep the colonial system alive, like the instalment of PROMESA, with complete disregard of domestic needs or social justice which creates even more uneven development. The consequences of the recent resignation of Governor Rossello¹⁴ demonstrate the fear of the creation of a power vacuum which can mean a reinforcement of the colonial status of the island, the beginning of a decolonisation process, or another unprecedented event.

Puerto Rican territory was primarily used by the U.S. to benefit the manufacturing industry. Currently, more than half of all manufacturing done in Puerto Rico is in the pharmaceutical industry. Pharmaceutical companies started locating themselves in Puerto Rico in the 1960s and 1970s due to a federal tax incentive called Section 936, due to the lowest labour costs under U.S. jurisdiction and due to the fact that Puerto Rico is the biggest Foreign Trade Zone of the United States' territory (FTZ). FTZs allow companies to obtain significant financial savings, since raw material and finished goods could be stored or processed within a zone while differing or eliminating the custom duty rate of such merchandise. This caused major

¹⁴ Rossello resigned on August the 2nd after mass demonstrations on the whole island as a result of leaked homophobic, sexist,... messages and the ongoing corruption.

industrialisation and urbanisation and a further neglect of the agricultural industry (www.pridco.com).

3.4. HURRICANE MARIA: STRUCTURAL IMPACTS

The hurricanes exposed the structural problems to the electrical grid. Many scholars and activists have referred to the event as an *unnatural disaster* (Jones, 2018; de Onís, 2018; Cruz-Martinez, 2018; amongst others). The electrical grid in Puerto Rico was set up to serve industrialisation and the United States' economy and therefore focused on cities and industrialised areas without taking into account the specific nature of Puerto Rico.

This problem is aggravated by years of mismanagement and corruption within PREPA and the government. As well as lacking of resources because almost only civilians pay taxes resulting in high electricity prices, frequent black-outs, ... already before hurricane Maria. The deadly combination of a vulnerable, dependent economy, lack of infrastructural investments and the hurricanes resulted into the destruction of the entire island.

3.4.1. DISASTER CAPITALISM

The concept of the *shock doctrine* and *disaster capitalism* was first introduced by Naomi Klein (2007). It is a theory that tries to explain the way that crises – natural or unnatural - are misused for implementing neoliberal economic policies such as privatisation, deregulation and cuts to social services. Crises position themselves in periods of disorientation following wars, coups, natural disasters, economic recession and panic,... Reformers will aggressively and rapidly push through “free market” measures, following the economic doctrine of Milton Friedman (Engler, n.d.).

“waiting for a major crisis, then selling off pieces of the state to private players while citizens were still reeling from the shock, then quickly making the ‘reforms’ permanent.”
(Engler, n.d.)

Klein (2007, p. 200) argues that the concept of crises is embedded in the model promoted by the Chicago School. Friedman attends that governments will be more likely to follow his advice in times of drastic crises. Economic crises are not problems that need a solution, but they are opportunities; Friedman quotes:

“Only a crisis - actual or perceived - produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around. That, I believe, is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes the politically inevitable.”

Certain key characteristics to disaster capitalism can also be identified in this case study. First, emergency policies should be implemented quickly in order to avoid the surge of an alternative. Secondly, preference is given to free market mechanisms: privatisation. Additionally, we can apply the theory of the *shock doctrine* to Puerto Rico in a double manner. Firstly, when the economic crisis caused by the debt crisis reached its highest point, an austerity plan was implemented by PROMESA that systematically attacked the infrastructure networks which are the glue to keep a society functioning. All levels of infrastructure were harmed: education, health care, communication, electricity and water systems,... Secondly, hurricane Maria lays bare the structural problems to the system and plays role as an event to mark a new, privatised, era for PREPA and the whole of Puerto Rico.

3.4.2. DISASTER CAPITALISM IN REGARDS TO THE DEBT CRISIS (2014)

As mentioned before, the Puerto Rican government and its government owned companies, like PREPA, suffered (and still suffer) from tremendous debts. The debt problem accumulated in 2014, but it already started way before. In the 1970s the Puerto Rican government followed Keynes' model of deficit spending, the problem was that the U.S. government granted tax exemptions to big firms who relocated and who were located on the island. As a consequence, only the Puerto Rican people payed taxes and the big companies did not serve the island. The Volcker shock (1979) had disastrous consequences for the United States, and thus also for Puerto Rico. By 1983, the number of companies filing for bankruptcies kept multiplying and people were unable to pay back mortgages. This is where the crisis started.

Puerto Rico was never able to recover from this crisis due to the dependency model of their economy. Even for basic human needs such as food and electricity, Puerto Rico is dependent on the United States. Partly due to legislation, partly to the path dependency of their economic model. It is still debated upon today if the government debt crisis was triggered by the bad state of the global economy and the withdrawal of aid by the U.S. or by corruption and bad efficiency.

The creation of PROMESA in 2016 as a financial oversight board commenced a further driven austerity plan and a push for privatisation. The Fiscal Control Board demanded Puerto Rico to add a debt restructuring plan to their fiscal plan. The Governor responded that no cuts were to be made in social services and requested federal intervention and support, such as the extension of Obamacare funds,... PROMESA is focused on repaying the \$70 billion debt and wishes to allocate public funding that way with the risk of privatising basic services. Nonetheless, PROMESA can overturn any economic decision made by Puerto Rico which takes away the last of the economic sovereignty that the island had left. As former Greek minister of economy, Varoufakis, phrases: “governments used to be overthrown with tanks and now with banks”.

3.4.3. DISASTER CAPITALISM IN REGARDS TO THE HURRICANES (2017): REPAIR OR REBUILD?

The combination of the ongoing disaster capitalism and the hurricanes resulted in the devastating effects that this natural disaster caused. For that reason, the identification “unnatural disaster” is particularly relevant. The infrastructural system that organises the society was already on the brink of breaking right before hurricane Maria. After, the country collapsed. The major causes of death after the natural disaster were not the immediate effects, but people passed away because they were unable to use medical equipment because the electricity grid was out for months and so health networks diminished which caused a limited provision of medicine. People died because contaminated water was the only drinking water that was left. Hurricane Maria is the deadliest natural disaster on U.S. territory in over a century.

Despite the emergency assistance from FEMA, Puerto Rico continued to struggle to fight the humanitarian crisis. The impact of a natural disaster can be that people have no energy access for a short period of time. Antecedents can be found in the U.S., for example when Hurricane Katrina hit New Orleans, the electricity grid was only fully restored after about 8 days. Hurricane Maria wiped out all electricity access for 3,5 million Puerto Ricans. The fact that nearly a year after the natural disaster, people still had no secure energy access, is a man-made one.

Puerto Rico had/has about \$70 billion of debt. \$9 billion can be accounted to PREPA. The company was \$4 billion behind on necessary upkeep since the damage done by Hurricane Georges in 1998. Already then, PREPA was accused of corruption and mismanagement of the relief aid. The grid was never fully restored since 1998.

The island political leaders faced multiple choices. Repairing the long-troubled centralised electric grid, which had been powered largely by imported petroleum and coal, rebuilding the grid in a smarter and more efficient manner or completely abandoning the costly fuel imports and start over by building a more resilient grid powered by clean energy. Privatisation and unbundling is demanded by the IEEFA¹⁵ and the American government to create competition within a free market solution for Puerto Rico. In 2018, PREPA approved the Puerto Rico Electrical Power System Transformation Act, which demands just that. Still, proposals to dismantle and privatise the utility have been a controversial debate on the island. Regardless of this, a new program should provide a stable and secure future for the island.

The impasse of the government to react and act to restore the grid, has made an opening for alternatives. Klein (2018) defines this as *The Battle for Paradise* where she sees two alternative currents rising next to the government. First are the community initiatives and investments. As we have seen above, the benefits of a decentralised energy grid based on renewables with a critical role for communities are immense. The examples given of Casa Pueblo and Coqui Solar are relevant here. Secondly is the emergence of a community of crypto-investors who see in the island an opportunity to experiment with blockchain in a society. This will be discussed below.

Today, scandals overshadow the current government which led to the resignation of Governor Rossello. The U.S. government has targeted the government and national companies to gain more control and supervision over the use of public budget. FEMA and their austerity plan could gain more power now that a power vacuum is created and budget controls are more stringent.

¹⁵ Institute for Energy Economics and Financial Analysis

4. CRYPTOCOLONIALISM IN PUERTO RICO

4.1. PHILOSOPHICAL PERSPECTIVES

The crypto hype relies on multiple philosophical perspectives. Blockchain, the innovative technology cryptocurrencies like bitcoin were founded on, encourages decentralisation and as a result also democratisation. “Blockchain technology (distributed ledger technology) enables the secure transfer of money, assets, and information via the Internet without the need for a third-party intermediary, such as banks or other financial institutions” (Swan & De Filippi, 2017, p. 603). Money transactions can be made in real time to anyone anywhere in the world, without waiting multiple days or paying high commission fees to your bank. Money transactions is only one example of how blockchain technology as an operating system can be used. For example, blockchain can be used to increase transparency in elections. Annex II can be consulted for a visualisation of how a blockchain works in a money transfer.

The idea behind this smart network technology is that the value transfer is validated by the network itself (Swan & De Filippi, 2017). Most blockchain-based currencies use peer-to-peer evaluation, which calls for economic competition between agents who secure and maintain the network to compensate for the withdrawal of a centre intermediary¹⁶. Blockchain based currencies are presented as horizontal markets of technological innovation (Bousfield, 2019).

“As a result of this process, a new form of “algorithmic trust” is created, one that significantly distinguishes itself from the more traditional typology of trust that was initially only between human agents” (Swan & De Filippi, 2017, p. 605)

Traditional intermediaries who were responsible for verifying and validating the transaction become obsolete. As a result, “the institutional structure of society could shift to one that is computationally based” and the need for human-operated physical institutions diminishes (p. 605). This new form of organising economic, legal, financial and governance systems challenges the traditional concept of money and incites multiple philosophical question, which can be brought together under the *philosophy of blockchain*. This research field tries to understand the impact of blockchain on restructuring our traditional society and progressions of a modern world (Swan & De Filippi, 2017).

¹⁶ This process is called (data)mining

Satoshi Nakamoto, the brain behind bitcoin, suggest that he wrote the code after being upset by government's reactions to the 2008 financial crisis (Nakamoto, 2008). For him, this decentralised currency was a reaction to the crisis and in particular to the role of banks as middlemen. According to Bousfield (2019) the emergence of the blockchain as a reaction to the 2008 economic crisis can be seen as a social response. In his research he analysis the emergence of cryptocurrencies within the networked social movement theory which suggests the maintenance of a political hierarchy who stand for an:

“... authoritative network claim, producing anti-social conflict stemming from the different protocols adopted by the currencies. As decentralized computation of data, cryptography and blockchain establish certain protocols about security, privacy, reliability and fairness, as a claim to social rationality within that community is often opposed to others” (p. 294)

Bitcoin can be seen from a purely economic perspective. Others see bitcoin from a fundamentally political view, for digital currencies are embedded in power relations. Both have to be conjoined together. As seen above, there exists a political hierarchy within cryptocurrencies despite the horizontal assumptions of peer-to-peer networks. Moreover, cryptocurrencies portray themselves and are framed as challenging the notion of centralised authority for monetary regulations. This bypassing of banks for the benefit of decentralisation is noted by Maurer, Nelms, & Schwartz (2013) as the ‘privatisation’ of currency and the identities of those transacting it. They raise questions about privacy, labour, etc.

Even though the feature of decentralisation by cryptocurrencies can be reduced, they were founded on and still rely on this idea of resistance against the traditional banking system. Cryptocurrencies can be framed within libertarianism or even further within anarchism. This research field is fairly new but obtains the name of *crypto-anarchism*. It is important to understand the philosophical thought behind cryptocurrencies as they begin to gain more influence in the world and their consequences and intentions are not always as clear.

4.1.1. LIBERTARIANISM

Liberalism conjoins two ideals. First is that of individual liberty¹⁷ which embraces the freedom from government interference with privacy and personal life. Second is the ideal of a democratic society controlled by its citizens in which inequalities of political and economic

¹⁷ Liberty of speech, thought, religion and political action

power and social position are minimal. Libertarianism takes those same ideals further and magnifies the claim of individual freedom of action. They raise questions why state power should be permitted in progressive taxation and public provision of health care, education, and a minimum standard of living (Nagel, 1974).

Cryptocurrencies want the end of government control over money and might embody what Friedrich Hayek circumscribed as the *Denationalisation of Money* (1976). His proposal queries the pursuit of a stable currency to contrast the trade cycle, i.e. how economic growth fluctuates in the succession of periods of booms, busts, recession and recovery (Fantacci, 2019). This all with the limitation of government in scale and scope to ensure currency competition for this is a necessary and sufficient condition for free markets.

What Hayek envisages is “a regime of free competition in the supply of money” (Fantacci, 2019, p. 112). Even though his work inspires the creators of cryptocurrencies, his work should not be misunderstood. According to Hayek, the government should not be prevented from issuing its own currency or demanding that taxes are paid in that currency. But, the government “should not have a monopoly over money creation and should leave private banks free to issue different, competing currencies” (p. 112).

Even though Hayek and Nakamoto both believe that the state is not trustworthy for supplying a reliable currency, Bitcoin’s interpretation is more radical (Fantacci, 2019; Nakamoto, 2008). For Hayek, this trust could be restored by handing over the money supply to private actors who operate on the condition of competition. For Nakamoto, the solution lays to eliminate trust from economic transaction and create a trustless currency.

4.1.2. CRYPTO-ANARCHISM

So, cryptocurrencies go even further and advocate the use of cryptography to ensure individual freedoms and prevent government control. Bitcoins can be traded anonymously to guarantee the liberation from all governments. This way goods can be bought legally or illegally without the risk of being identified. Cryptographic means are used to evade state prosecution whilst delivering and sharing information over computer networks to protect privacy and political freedom - censorship (Cohan, 2017). Evidently, the word crypto is derived from the Greek *kryptós* (κρυπτός) which translates into “concealed, hidden, private”. The choice of these *mod operandi* raises problems with the legality of bitcoin within the structures of the state.

Crypto-anarchism can be defined as “a political philosophy that, in its idealised form, recognises no laws except those that can be described by math and enforced by code” (Narayanan, 2013, p. 76). Cryptocurrencies serve to “fundamentally and inexorably reshape social, economic and political power structures”. Crypto-anarchism was first used by May (1992) in his *Crypto Anarchist Manifesto* where he characterises it as a form of anarcho-capitalism which is a form of anarchism that denounces centralised state domination in favour of self-ownership, private property and free markets. Free markets are necessary in order to achieve free, peaceful and prosperous society, so trade is the preferred means for acquiring private property. Market mechanisms can be altered by state action, for example by collecting taxes, therefore any state intervention is rejected.

4.1.3. DATA COLONIALISM

Data colonialism suggests the colonisation, aggregation, and capitalising of data by technology firms (Fraser, 2019). As we click or swipe on digital devices and services we “provide information about actions, tastes, ideas” and details about our motives, mood and whereabouts. “Populations might be relatively passive and possibly even addicted to the interactions playing out within these devices”. That way there arises a subjection to invasive forms of surveillance by technology firms and/or governments alike. This capture and analysing of data is not ‘colonial’ as in the subjugation and control of indigenous people by alien powers, rather:

“the sense of ‘colonial’ in play here refers to the way digital subjects are ‘dispossessed and alienated from the very data they generate’ and because accumulation strategies in this process seek to ‘quantify, alienate, and extract conceptions of self’ *from* those data. This is, therefore, a more general sense of the ‘colonial,’ one in which the race or ethnicity of subjugator/subjugated does not necessarily *directly* matter” (Fraser, 2019, p. 1)

4.2. PUERTOPIA, QUID EST?

As the government-owned infrastructural network in Puerto Rico accumulated debts and remained paralysed to present a solution for the Puerto Ricans, cryptocurrencies started gaining influence as solutionism¹⁸. The wheels of Puertopia were set in motion during the

¹⁸ Solutionism is the believe that everything can be solved by science and innovative technology

winter after the hurricanes. Tax incentives are still luring crypto-entrepreneurs to the island. Together they wish to build a crypto utopia, a new form of society where all money is virtual and the contracts are public with the goal of proving that blockchain can actually transform a society. From March 14th-16th 2018 a conference called *Blockchain Unbound for Puerto Rico* was held under the theme: *How Blockchain & Digital Currencies will Rebuild Puerto Rico*. What they discussed was not only the financial and economic influence on Puerto Rico but also the social impact of blockchain on society. One speaker, Yaron Brook, even covered the topic on how free markets and blockchain can make Puerto Rico the Hong Kong of the Caribbean. As Hong Kong is the freest economy in the world, if this “success” story is to be copied this directly implies major privatisations.

Brock Pierce, the spiritual father of Puertopia, is an American billionaire that started investing in cryptocurrencies on the island since 2013. His distrust in the traditional banking system has led him to invest and create multiple - mostly cryptocurrency - banks all over the Caribbean. He saw an enormous potential in Puerto Rico because of its legal status and its “special laws”. When setting up a bank in PR you get immediate access to American banks. He grasped this business opportunity to further explore the potential of blockchain. After the hurricane, multiple big U.S-billionaires have relocated with him to the island to benefit the tax exemptions and upgrade the scale of the project. Now that people have discovered that blockchain is a digital platform that can be applied for many other things, for example healthcare, energy, water, ... experiments are vastly expanding.

Paradoxically to how cryptocurrencies promote decentralisation, last April (2019) a new Puerto Rico-based institution for cryptocurrency opened for business: The San Juan Mercantile Bank & Trust International (SJMBT). The purpose of these banks is to create an alternative for the traditional banks that are smothered in debts and are too closely related to governments. Cryptocurrencies are gaining a more prominent role in the Puerto Rican society and become more and more accessible for everyone.

When these billionaires came into the island they justified their action with a philanthropic promise of rebuilding the island, they still do so up until today. Since investors brought considerable wealth to the territory, the local government was receptive to their coming. They have even established a blockchain advisory council to amplify the positive impacts of blockchain.

The first projects that were set up by Pierce and others were predominantly for rebuilding the infrastructure, especially electricity. Later on, new projects popped up to educate local communities and bringing blockchain into the daily lives of the Puerto Ricans. One of the first comprehensive charity programs is *Restart* by Brock Pierce. By organising a full week of activities on blockchain, cryptocurrencies and innovative technology, he wishes to create a decentralised community of “global citizens” with the “common goal of helping boost the local economy”. The first Restart Week San Juan sets up projects together with academic institutions like the University of Puerto Rico. The collective also created local charities. *LinkPR* wishes to maximise the social impact of emerging technologies. The project further organises an offline and online educational platform on blockchain for local communities in order to create a long-term capacity building. *Power Ledger*, an Australian based company, wishes to invest in a blockchain operated power system for generating electricity using POWR tokens. Finally, *Finca Explora* applies innovative technology to the agricultural industry (restartweek.org).

The brain drain of the island is compensated by a brain gain from foreign investors. Next to disaster migration, a lot of students move to mainland U.S. for a better future. To some - especially the investors themselves, and to the American and Puerto Rican government - this compensation is not a bad evolution, others are more critical towards it. Activist Naomi Klein (2018) has denounced the investors as being “disaster capitalists” who misuse Puerto Rico’s misery to their own benefit.

4.3. MOTIVATIONS FOR PUERTOPIA: CRITICAL DISCOURSE ANALYSIS

For this section, a small-scale Critical Discourse Analysis (CDA) is done on speeches of and interviews with crypto-investors, in particular Brock Pierce. Next to individual statements, special attention will be given to discursive aspects (van Dijk, 1995). CDA tries to uncover and reveal what is implicit and not immediately obvious. The understanding of underlying ideologies is of critical importance. Transcripts of the materials can be found in the Annexes (Annex III, Annex IV, Annex V, Annex VI, Annex VII). For the purpose of this research, the assumption is made that the actions and language of the crypto-investors is to pursuit an ideal-type crypto-community in line with the philosophical perspectives mentioned above.

4.3.1. DATA ANALYSIS

Even though the Puertopia movement is flourishing under the principles of libertarianism and anarchism, their project is dependent on the current legal status of Puerto Rico. The crypto-investors are very aware that the hurricane has offered almost a *terra nullius* where they can freely experiment with blockchain. Brock Pierce emphasizes this as follows: “it’s in these moments where we experience our greatest loss that we have our biggest opportunity to sort of restart and upgrade”.

When asked, one crypto-investor appoints a “blank slate” as the biggest business opportunity for investing in a devastated island. Crystal Rose, a blockchain pioneer who helped organise Restart Week, calls for the creation of “a place to call home where global citizens can operate”.

Brock Pierce talks on market timing and identifies Hurricane Maria as the event that accelerated his business plan in Puerto Rico. By linking all of his arguments for investing in and on the island to an altruistic narrative of helping restarting, rebuilding and co-creating the island, he indirectly emphasises the importance of the event of the hurricane as a starting point even more. Reeve Collins also talks about the hurricane and how it “hit restart” for the island. Both convinced that blockchain will have taken over in ten years, the purpose is to show how blockchain can be used in everyday life and society. The scepticism by the locals is “healthy” and normal, since they have been ruled by outsiders since 1493.

The next point that will be discussed is the place this community of crypto-investors see for themselves. In their discourse they identify themselves as a separate community that can help the locals. They envisage a “co-creation” of the island together with the locals. Visualised as standing behind the locals to help them financially by creating opportunities and bringing in big capital. Terpin talks about “two communities that need each other”. What the hierarchy and power relations between these “two communities” should signify for the crypto-investors is not clear. By defining themselves as an ecosystem, they demonstrate their ambition to invest in all aspects of society and make sure all those aspects interact with one another.

When getting questions from a local about what they will do for agriculture, Pierce answers that he will buy land for farmers that need it so they can grow the things that are needed here. He does not specify how he will hand over the land to that farmer. “Show me real opportunities and I’ll show you real solutions”, he says. In another interview Pierce further criticises our current society on the basis of hierarchy and liquid democracy calling out for the benefits of a decentralised system in society. This is where the technology of blockchain and all its applications come in.

Pierce wants to involve and include the local communities and local brains to his project, whilst preserving a critical role for the 'migrants' – or crypto investors. By creating opportunities for Puerto Ricans, the human capital that fled the island after the hurricane can come home and rebuild the island together with these 'migrants'. He further illustrates that "major cities are major cities because they sat at the forefront of evolutionary or revolutionary events". As blockchain will be the next major innovation to help the world move forward, Puerto Rico now "has its seat at the table". Puertopia is still at its infancy; a lot more tremendous work has to be done. Puerto Rico is filled with "talented people that have lacked opportunity". Pierce wants to create those opportunities for the Puerto Ricans. They envisage a big-scale project that will be a leading hub in the technological revolution.

The criticisms and concerns that are given by local activists are dismissed on the basis of the fact that the locals are uninformed and do not understand what is going on. Pierce and other talk about serving others therefore they have set up projects to inform and educate the unknowing locals on technology and blockchain in specific. On the same argument of serving, he criticises our current society because the leaders from the government as well as from big corporations have stopped serving their communities and only serve themselves. That is in history the biggest problem with centralisation. A decentralised system, which will come with blockchain, tries to avoid the problem of power corruption.

Aside from surfing, Puerto Rico offers a lot more incredible opportunities. Now you can invest in this place by paying little to no tax. For Pierce, it is incredible that your opportunity is created by the government (to not pay taxes) and at the same time you can help people while you benefit from it. Again, he connects his argument of the tax evasion to this altruistic narrative. Same counts for Reeve Collins who also manifests that this a unique, government created opportunity and that a lot of people are aware of that.

For Pierce, the tax exemption on Puerto Rico is one of the biggest tax reforms in America of the last fifty or even hundred years. Through investing capital in areas of America that need help, he wants to make the world a better place. He calls upon the 'Qualified Opportunity Zones' that need economic stimulus. Puerto Rico is for him the only "luxury opportunity zone" where an American can live, pay no taxes and surf at the same time.

Opportunity Zones are economically-distressed zones on the U.S. territory who are in need of investments (www.irs.gov). If you invest capital in one of these 18 zones, you are eligible

for tax benefits on that capital. Yet, it was only on 9th of April 2018 that the American government first designated areas as Opportunity Zones. Pierce is honest about choosing Puerto Rico for its tax benefits, yet he frames his coming to the island as a philanthropic narrative of the Opportunity Zones while not mentioning the main tax benefits of Act 20 and Act 22 which have been around since 2012. Pierce himself landed in the Caribbean late 2013, early 2014 as he saw the potential of Puerto Rico due to its legal status already before the distress of the hurricane and the qualification of an Opportunity Zone.

What is more striking to what is said, is what is not said. All of the interviewees motivate their actions because they believe that they help - and need to help - Puerto Rico and the Puerto Ricans. Yet, no one specifies how. Terpin specifies that they donated 10% of the ticket proceeds of a conference on blockchain went to local charities. Compared to the individual wealth and capital of these people, that is not much. Brock Pierce says he got all the best people in solar power, agriculture, permaculture... here to help the rebuilding of the island but he does not mention any concrete projects. Not even on his own website. Further, no one talks on the political situation of the colony. There is no talk on PROMESA or on the future of the Puerto Rican government. When the local activists discuss with the crypto-investors that they want them “on their terms like any other country”, the investors reply with “this is America”.

In a recent speech, Brock Pierce talks on governance and the importance of voter participation in the blockchain community. He advocates more voting and voter participation which is the most important thing to do as user of the EOS¹⁹ community. There exists a governance problems since 15 of the top block producers “essentially also govern everything”. For Pierce this is not a problem at the moment, because it means that things can move forward fast, but it is a long-term governance issue that needs to be resolved, otherwise “the criticism that we face about being centralised will eventually be true”. He addresses the problem that the blockchain community is dealing with a Chinese oligarchy and how he wants to see an evolution to an actual distributed, decentralised, geographically evenly spread ecosystem. Up until today, votes are still calculated using token weighted voting. Pierce formulates this proposition because of internal disagreements of the future of blockchain governance following the uncertainty in the Korean EOS. Further, he explains the problem of block producer compensation. The difference in financial compensation between being number 21 and number 22 is enormous and as a consequence it excites a lot of economic competition

¹⁹ EOS.IO is an open-source blockchain protocol which operates as a platform for smart contracts by using a decentralised operating system. It is aimed at businesses and offers the benefit of eliminating transaction fees.

between block producers. A lot of people quit because they think the compensation is too small. To enlarge the EOS community, a lot of people are needed who want to invest time and capital into these projects. So financial incentives are highly needed.

It is not clear how their internal governance is organised, nor how they see themselves vis-à-vis the local Puerto Ricans, nor how the relations between capital (both foreign and local) and the Puerto Rican government can be arranged especially when they do not pay taxes.

4.3.2. DISCUSSION

The purpose of these ventures is most likely in their own financial interest for these investors can both keep their US citizenship and enjoy the above mentioned tax incentives. Furthermore, as the Puerto Rican people live in extreme poverty and are smothered in debt the opportunity arose to buy great numbers of land and properties in the hope to not only build a utopia for cryptocurrencies, but also expand and territorialise this project. Without the extreme bankruptcy of the Puerto Rican government, the structural consequences of Hurricane Maria wouldn't have been as big. As a consequence of the poverty of the Puerto Rican people an opening was created to capitalise on their misery using legal structures.

The people of Puerto Rico have suffered dispossessions of their land by the government but now also by the a group of wealthy crypto-investors. As Pierce said, he will buy land to "give" to the local farmers. If all property is bought up by them, this will lead to increasing prices on the land and eventually a migration move of the island's local population to mainland U.S for cheaper living can happen. The island's demographics can thereupon change drastically.

A legal framework around blockchain and cryptocurrencies does not exist yet. As we mentioned before, this *modus operandi* can evade state control leading to new forms of tax evasion, financial crimes and money laundering. Steps can be taken on a national, regional or international level in order to create a legal framework that positions cryptocurrencies within our current society. Corporate tax evasion is one of the biggest financing problems of any climate change policy. As we have mentioned above, climate change is an existentially threatening the island of Puerto Rico (as well as for the rest of the world).

Brock Pierce talks about a 'community' and designates themselves as 'migrants'. In the beginning of this dissertation, a discussion was presented on the difference between settlers and migrants. Veracini (2010) emphasises the hierarchical structure that is present when talking about settlers. What we can identify here is a community of very wealthy American

investors investing and coming to a bankrupt and wiped out island with *de facto* second class citizens. Economically speaking a hierarchy can be found since the crypto pioneers talk about creating opportunities for the talented people that have lacked thus far on the island. They will bring wealth and prosperity in the form of private capital. Politically, it is harder to identify where the crypto-investors see themselves in the future within the structures of the existing state.

However, a paradox can be noted. Bitcoin gives Puerto Rico more economic freedom from the United States than compared to American dollars. Trade in and out from Puerto Rico always has to go through the U.S. and Puerto Rico can't devalue their currency (U.S. dollar) to attract more tourists, like the other Caribbean islands do. What Bitcoin can offer is a form of individual economic sovereignty. Crypto-investors and blockchain innovators criticise the role of governments, banks and big corporates in general, yet without the American government and big corporates their story could not have been a reality. The historical tax exemptions on the island have always been targeted towards big manufacturing companies. It is only since a few years that individual capital gains also enjoy this beneficial treatment. By not paying taxes to Puerto Rico, the Puerto Rican government will never be able to repay and recover from its haunting debt crisis and remain financially unstable. Which as a result will end in an even more politically dependent status of the island to the mainland and civilians that lessen their trust in the government even more.

The crypto-investors are dependent on the colonial status of Puerto Rico and its legal consequences that have created opportunities for experimenting with blockchain. It is in their own interest that Puerto Rico keeps its current legal status or keeps a politics that is favourable towards technological innovation. It is because of the Commonwealth status that crypto can grow as fast in Puerto Rico as it does and the island is rapidly evolving back to an experimental place.

The investors have a utopian image of their decentralised community. Yet, they do not give much attention to the political structure of their very community. Without deciding on their internal governance, nor on their function and place in society they will ever be dependent on the structures of a national state for providing legal framework to their experimental zones. By decentralising they create a new form of hierarchy and power relations within our existing humanity.

5. CONCLUSION

“No taxation without representation” was the motto of the American War of Independence. The Thirteen colonies believed that a government should not tax a populace unless that populace is somehow represented by the government, therefore outing their grievances towards the British Parliament. The people of Puerto Rico are citizens of the United States, just as the American colonists were citizens of Britain who pay taxes without getting much in return.

The basics of a democracy is representation. By paying taxes to a national authority, that authority has to take responsibility of its actions and offer a justification to its population. Puerto Rico is *de facto* governed by PROMESA, which is an undemocratic institution of which the board members are appointed by the American government. The structural problems behind the crises on the island can be solved if corruption dissipates due to democratic representation.

Globalisation of capitalism requires a spatial fix, but a trend we can distinguish since the 1980s is the increasing de-territorialisation and virtualisation of capital. A transnational oligarchy, including this tech-elite, dominates and represents a new stage of uneven development. Yet, they are still dependent on current state structures and legislation. A plan to split California into six new states of which Silicon Valley would be a separate state that can decide its own legislation, failed. The word utopia is a combination of the Greek *ou*, which means ‘no’ and *topos*, ‘place’. It was carefully chosen by Thomas More (1516) as it is almost identical to *eu-topos* which means ‘good place’. More’s *Utopia* was situated on an island, far from external influence where it’s community could live in splendid isolation. Yet, *Utopia* is far from what we would consider today as a utopia.

On the concept of *cryptocolonialism*, more research is needed to analyse how the decentralised structures fit into our current society, how they can significantly change the political nature and how this will affect human beings. The trend of decentralisation can offer benefits, what those are is defined by everyone in a different manner. For local communities it can mean energy security, for crypto-investors it means a new model of society that relies on blockchain technology. What these “two communities” have in common is lack of confidence in the current centralised system and a perseverance to take their fate into their own hands.

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7. ANNEXES

7.1. ANNEX I: RESULTS OF PLEBISCITES ON INDEPENDENCE IN PUERTO RICO

1967 Plesbiscite	Votes	%
<i>Commonwealth</i>	425,132	60,4
<i>Statehood</i>	274,312	39,0
<i>Independence</i>	4,248	0,6
<i>Void</i>	3,601	
Total	707,293	100

1993 Plesbiscite	Votes	%
<i>Commonwealth</i>	826,326	48,6
<i>Statehood</i>	788,296	46,3
<i>Independence</i>	75,620	4,4
<i>Void</i>	6,549	0,4
<i>Blank</i>	4,199	0,2
Total	1,700,990	100

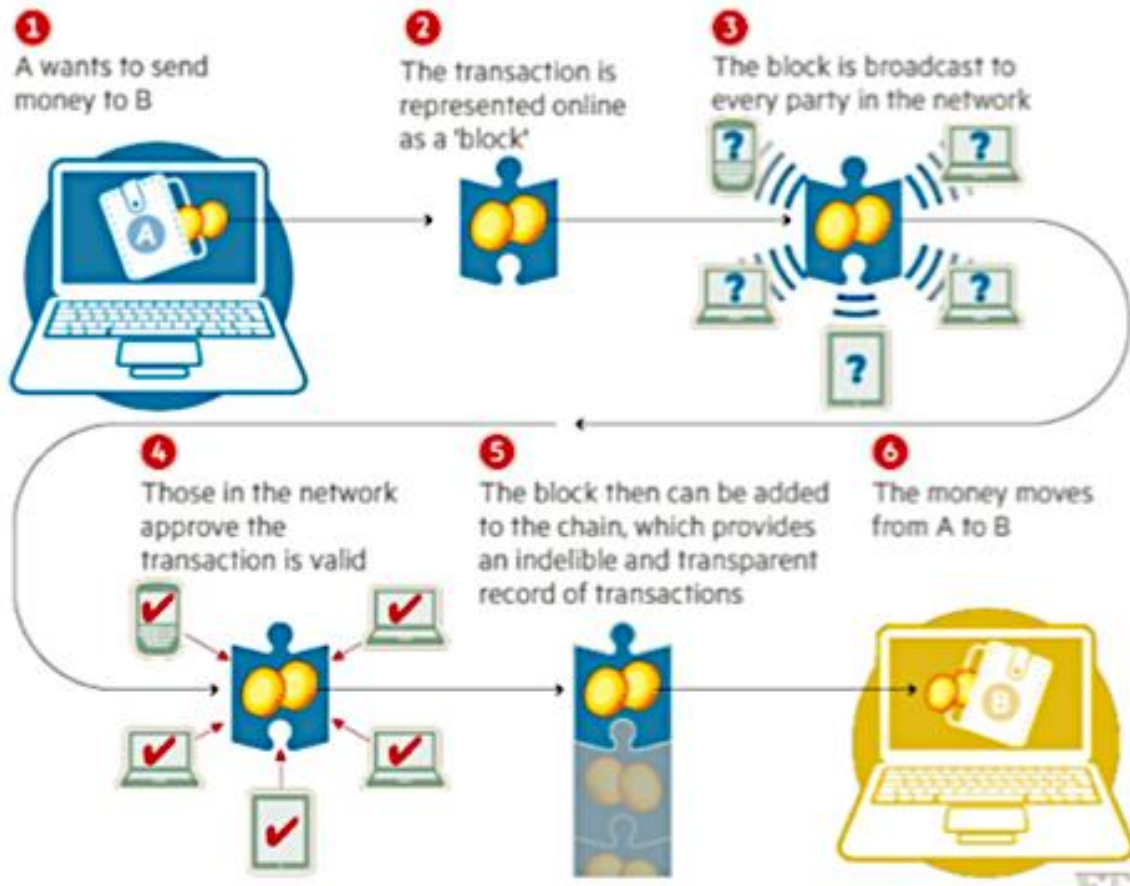
1998 Plesbiscite	Votes	%
<i>None of the above</i>	787,900	50,3
<i>4 Independence</i>	39,838	2,5
<i>3 Statehood</i>	728,157	46,5
<i>2 Free Association</i>	4,536	0,3
<i>1 "Territorial" Commonwealth</i>	993	0,1
<i>Void</i>	2,956	0,2
<i>Blank</i>	1,890	0,1
Total	1,566,270	100

2012 Plesbiscite	Votes	%
<i>Statehood</i>	834,191	61,2
<i>Sovereign Commonwealth</i>	454,768	33,3
<i>Independence</i>	74,895	5,5
<i>Void</i>	16,744	0,9
<i>Blank</i>	498,604	26,5
Total	1,879,202	100

2017 Plesbiscite	Votes	%
<i>Statehood</i>	502,801	97,18
<i>Independence / Free Association</i>	7,786	1,50
<i>Current Status</i>	6,823	1,32
<i>Blank</i>	984	0,19
Total	2,260,804	100

Source: <http://electionspuertorico.org>

7.2. ANNEX II: HOW BLOCKCHAIN WORKS



Source: European Parliament (2018). Cryptocurrencies and blockchain, legal context and implications for financial crime, money laundering and tax evasion.

7.3. ANNEX III: TRANSCRIPT OF AN INTERVIEW WITH BROCK PIERCE (CRYPTO COIN SHOW)

Source: <https://www.youtube.com/watch?feature=youtu.be&v=LXISTRuyrS0&app=desktop>

A.A.: I'm Ashlyn Addison from event chain for investmentpitch media and FinTech news network and today on blockchain interviews we have Brock Pierce, philanthropist and venture capitalist. Brock it's a pleasure to have you on the show today and it's a pleasure to see you.

B.P.: Thank you for having me glad to be here

A.A.: You're very welcome. I know you're currently engaged in a number of projects one of those being Puerto Rico focused qualified Opportunity Zones. How did this particular endeavour materialize and ... let's start with you know Puerto Rico, why Puerto Rico?

B.P.: Well I, I realized a little while ago that wherever I go people will show up and so I can live in New York, I can live in San Francisco, I can live in London love all of those cities but I'm not making the world a better place by being there. And so I wanted to run an experiment and see if I go somewhere that could use a little bit of help you know where interesting people able to make the world a better place show up. And we're still in the very beginning stages of this experiment but so far I'd say as a venture capitalist you know it's working a thousand you know extraordinary people that move to Puerto Rico since the beginning of this experiment and you know that's in part because of some people are interested in the things that I'm able to share but also it's one of the only places that an American can live and pay zero taxes which is why Qualified Opportunity Zones are so interesting. The most important probably tax reform in the last you know fifty or a hundred years and that is that if you take any capital gain that you have and you invest it into a part of America that needs capital investment to make that area to stimulate that.. you know... sort of economic development you need to defer your capital gains for seven years and then eventually ten years and you essentially pay fifteen percent tax and your cost basis and just... essentially pay no tax and so um this is places like Englewood in Los Angeles or Oakland in San Francisco parts of Brooklyn in New York and there are these what are qualified opportunities zones all over the country. What's interesting about Puerto Rico is that 96% of the island is a qualified opportunity and so if you've made any money this year you should be investing that capital into parts of America that need economic stimulus Puerto Rico being one of those places and so I'm championing Puerto Rico is a place for investment which as I'm as it as far as I can tell is the only luxury destination that is a qualified opportunity zone

A.A.: That's wonderful Brock. And what have you learned since you first arrived in Puerto Rico and when did you first start this initiative?

B.P.: Well I've been working on Puerto Rico since 2014. I started the first crypto bank in Puerto Rico because of its unique laws and then so I've been down there helping right since right after the hurricane, hurricane Maria when the qualified opportunity zones are just taking effect now so this is entirely new but now the important because the one place an American can live in pay no taxes. Now because of qualified Opportunity Zones Americans anywhere in the world can pay no taxes on their capital gains as long as they invest those

gains in to places where economic stimulus is needed. So Puerto Rico had a unique advantage and that advantage is now dissipating now every city has to fend for itself and capital is not going to be equally divided across the nation. Capital is going to end up in the locations where there are called ambassadors promoting investment in that region and I'm you know one of those unofficial ambassadors promoting investing in Puerto Rico. If you've made money come visit and invest in Puerto Rico

A.A.: That's great. And there's a lot of people that don't really know what's going on right now so maybe you could give a little bit of the current state of Puerto Rico and then what you're ultimately trying to achieve through this initiative.

B.P.: Yeah well Puerto Rico is ground zero of the New World. Most people don't know but this is where Christopher Columbus set up shop in 1493 and so it's literally the birthplace where all of Europe's influence on all of North and South America or the new world that existed long before you arrived began. And so it's a place that's undergone about 500 years of hardship most recently due to Hurricane Maria you had three and a half million people living in Puerto Rico; following the hurricane it became three million. And that half a million people are nearly 20% of the population that left were not just any of the 20% of the population it was the people with the means to leave, the intellectual capital, the financial capital, the human capital, etc. And so what Puerto Rico needs more than anything else is you know most importantly talented Puerto Ricans that care about coming home because opportunities exist there now, as well as a handful of you know migrants such as ourselves that are there in service and trying to lend a hand in helping Puerto Rico rebuild itself

A.A.: That's amazing. now let's bring the other element into this conversation more specifically about the qualified Opportunity Zones. you know what is your passion behind these projects and what are you really trying to achieve and then in the short term here?

B.P.: Well is it there's uh you can do just about anything but the area that... the thing that keeps me up at night is food resiliency and food security. Most of the food on the island is imported even though there's very fertile soil Puerto Rico only has about two to three weeks of food, meaning if category 5 hurricane were to hit Miami Puerto Rico runs out of food because it could disrupt supply chains. And so I'm very interested personally in investing in and supporting agriculture. I would love to see for Rico develop food security and food resiliency. You know so if you're interested in building you know sustainable farms please seek me out that's a you know a personal passion of mine right now

A.A.: That's great and of course food is one of the essentials of life so you really need to have that to be able to move into a society that has you know bringing back this other intellectual capital and bring back more of a work force so you can have you know a flourishing community

B.P.: Yes please

A.A.: Yeah

B.P.: Food is essential and surprisingly there's very little bit in the Caribbean even though again Puerto Rico has a rainforests for Americans it's the only rainforest in the United States I mean it is it's such a beautiful place. It's paradise weather is exceptional. If you've never visited Puerto Rico you know the thing that you can do to be helpful is take a trip down and visit

A.A.: yeah that's amazing. And you mentioned at the beginning that you started the first crypto bank there in 2014. Has that helped the economy since then or how is that changing the people of Puerto Rico right now and is that moved into because qualified Opportunity Zones didn't exist back then you were already you were already there helping the communities that needed help. So how is that influenced the current state of what you're doing now in Puerto Rico

B.P.: Well blockchain or crypto currencies but the underlying blockchain technology is you know something that's helping to move the world forward if you if you go and do a poll right now and say what are the most important technology hubs in the world, what are the main blockchain sort of cities on the planet Puerto Rico normally would not have been one of those places where you would think that it's a technology leading you know place but if you walk around San Francisco and you talk to you know Silicon Valley venture capitalist and say what are the blockchain hubs of the world they say oh Puerto Rico. Puerto Rico is one of the main hubs were a lot of the leading technologists, the leading cryptographers, the world's great creators are for whatever reasons flocking to. So I think I mean if you think about like the Industrial Revolution if you think about the development of the world every major city is a major city because it's at a forefront of some type of major evolutionary or revolutionary event and Puerto Rico you know has its seat at the table now.

A.A.: It's amazing and in terms of you know the horizon for these initiatives to be implemented into the community and actually bring value is this something that's been started a while back and it's now you know bringing direct value to people or is this some that's being worked on throughout 2019 as a multi-year project?

B.P.: Oh yeah this is... the government spend hundreds of billions of dollars to you know attempt what we're attempting to do here and this is absolutely at its infancy. We've accomplished very little. There's still tremendous work to be done but about a thousand people have moved, a start-up ecosystem now exists there's a co-working facilities start-up, accelerators, incubators, angels, mentors.... Historically there have been no Puerto Rican start-ups that had raised any meaningful money in Puerto Rico now has six start-ups the last six months that have raised over a million dollars so there is where at the very beginning stages of a startup ecosystem emerging which is important most people don't know this but Puerto Rico has more bachelor degrees than any other place in the United States per capita Puerto Rico has more artists than anywhere in the United States per capita you know the Puerto Rican people are incredibly talented they've just lacked opportunity and you know hopefully we're you know creating some of that opportunity and inspiring people to realize they can they can do whatever they want they have all the talent in the world

A.A.: it's amazing, Brock. Sounds like a very talented group of people and I'm sure there's other initiatives going on besides your food initiative or other things you're looking to get

into with the help of more people and more capital bringing them into Puerto Rico. So do you have any examples of other types of projects or opportunities that you may be interested in getting involved in Puerto Rico or things that are really needed there that maybe other investors are interested in that would be a good fit for Puerto Rico to start right now in the qualified opportunity zone?

B.P.: Yeah so you have a ninety six percent of the island as a qualified opportunities, that you've got the best surfing you know on the East Coast so if you live anywhere on the East Coast and you like to surf for a kite board or any of these things Puerto Rico is your place. You've got incredible infrastructure you know better than anywhere in the Caribbean, incredible agricultural opportunities, you've got extremely talented people. So there's start-up sort of technology opportunities that exist. There you can do just about anything. You've got extraordinarily talented people, a general lack of opportunity and now by investing in this place you can defer and essentially pay little to no tax by investing in this place. This is an incredible government initiative to reroute capital directly by investors into places that are in need of economic stimulus and I think Puerto Rico is the place to make your investment

A.A.: That's awesome. You guys have a place where investors can connect and you know find like-minded individuals that are looking to help Puerto Rico? Or what is the call to action for these investors to find something that they like. Do they just start exploring Puerto Rico, go there themselves or what kind of call to action do you have to those investors?

B.P.: Well we hope to continue to inform and help people find opportunities we want to marry or connect you know individuals that are actually doing the work to build the things and that are going to provide that economic stimulus. But we also want to connect to capital to those people in the immediate term. You can come to our, my website which is BrockPierce.io and from there you'll have a link to the resources that we that will help you find the right opportunities. The qualified opportunities to provide economic stimulus in Puerto Rico amongst other places. So please check that out we are going to be rolling out these tools and that information too to support either those that are building or those with the capital to provide the resources for that development

A.A.: mm-hmm thank you Brock. This sounds like a great opportunity you know especially for people that have excess capital this is such with the tax breaks involved compared to investing anywhere else in America it only makes sense so do you have any final thoughts that you'd like to send to the viewers, investors about you know getting involved in this project?

B.P.: Well yeah the main thing is if you have any capital gain that you owe this year literally if you have to write a check to the IRS for ten thousand fifty thousand whatever, your check is in the form of capital gains. If you take that check and you invest it into a place where economic stimulus is needed you can write the IRS a check for zero. So this is may be the greatest gift you're going to hear and this has been designed by our government this is the most valuable and most important probably tax legislation that's been created in the last hundred years. Make sure to take advantage of it. It's your opportunity created by our government to be able to take that capital that you would normally need writing to the IRS

in the form of capital gains and you can invest that directly into places within the United States that are in need of economic stimulus so you can go help people by providing much-needed resources to places in need and you benefit greatly from it. So don't miss the opportunity to do so and naturally I'm here to help you if Puerto Rico is the place you choose

A.A.: That's amazing. Thank you Brock Pierce, philanthropist and venture capitalist, focusing in Puerto Rico on these Qualified Opportunity Zones. It really does sound like an amazing opportunity to help America and I'm glad that you are leading this initiative because it sounds like you're actually here to help a lot of people and in the end it's all about helping other people. So I really thank you for your time today and I'm looking forward to seeing how you guys help were terrific (?) and for you to get other people involved and start this movement

B.P.: Thank you so much for having me

7.4. ANNEX IV: PARTIAL TRANSCRIPT OF AN INTERVIEW WITH BROCK PIERCE (DALLAS RUSHING)

<https://www.youtube.com/watch?v=pk-3HxHnJrY&t=1s&frags=pl%2Cwn> 00:00-10:21

D.R.: Alright guys so welcome back as you guys can see I'm not my normal setup we're here in beautiful Ponce Puerto Rico with an amazing guest of ours mr. Brock Pierce this is an interview been trying to get for so long and we finally got it. For those of you guys who don't know Brock Pierce if you don't his record and his resume is longer than probably we have today to go through this, but there's projects like blockchain capital which was the first security token as well as master coin which was the first ICO you were a part of that as well and then you know not to mention other things like EOS Alliance you are born the Board of Directors as well as the Bitcoin foundation. So this is the guy that we need to talk to you today. So Brock thank you for joining me I really appreciate it

B.P.: Thank you for showing up. I mean the best thing you can do for this island is showing up, like almost everything in life. Showing up is half the battle

D.R.: Yep and what stuff yeah exactly no and ... Now this is my first time in Puerto Rico man and it's a pleasure to come down here. We've got a lot of friends so happy to be here. Um so there's a number of things Brock that I wanted to talk to you about and one of those although you know again for me it's a personal thing it's something I'm involved in it been going very deep on which is decentralized applications. I am obsessed about it. So I wanted to rip your mind on it to get some thoughts on it. So in the current state sort of with where else is that obviously we know now there's a lot of gambling apps out there there's a few other things that are coming social networks on the way but you know what are you sort of what are your thoughts on why decentralized applications are so powerful for people who really are just starting to understand them.

B.P.: Well I mean you have to understand the importance of decentralization, you have to study history on unfortunately a great deal to understand issues with centralization. It's absolute power corrupts absolutely to put it into a few words. Decentralized systems is to give the power to the users, to give the power to the people you know that'll probably be lost on most people unless that message resonates with you in a way that it sticks. But the future is in decentralization it's in decentralized apps this is an idea that you know as a community been actively pursuing for about five or six years. How to decentralize apps. And I don't want to overly speak positively of EOS yeah because I'm chain agnostic yeah I I'm chairman of the Bitcoin foundation and I'm a big Ethereum supporter I'm a big supporter of Cardano.

D.R.: All the things you know it's the change that's coming from these things

B.P.: and and and maybe the most important thing for anybody in the space to know is that maximalism is basically the equivalent of religious fundamentalism. Right so I'm chain agnostic yeah if anyone succeeds in making the world a better place we all win. And so I always like to give this caveat especially because of my association with EOS yeah I don't want people to think that I'm just here to promote. Yes yeah but on a positive note if you

care about decentralized apps, it's the only place the only chain that works right now. And we've just seen with the betting apps and things you're seeing the first actual scalable blockchain. We are to build anything consumer on. You know we've been prototyping for 10 years the last 10 years of build-out of this industry has been essentially what the internet was doing in the 70s 80s until mid 90s 1995. Because until you had the basic infrastructure the bridges, the roads, the tunnels, until you had all of those things you couldn't build consumer applications and we are at our 1995 moment now. It's official, it's provable yeah it works. It doesn't mean that EOS will be the only platform but it's the only platform today there will be others over the next year

D.R.: No but I think I'm from the same vein as you. I mean on my youtube channel I mean I try to cover a number of projects, EOS is obviously a reoccurring thing on there for me. And reason being is because I'm seeing you know I'm seeing certain milestones hit I'm seeing certain data points that are happening, I'm seeing usage. And so for me it's indisputable facts yes. But again I mean there's no room when there's so much change that needs to be done in the world it'd be romantic about one thing or the other what we know when when there's you get together just pretty much to look at what's happening you know. And so for me, if it's not EOS so if there's something better emerges and EOS can't catch up then that's got my support as well you know.

B.P.: And so and that's the point I always try to make is you know sometimes friends of mine and other other projects are like you know get upset because they think I'm like mr. EOS or something. Mr. help the world, we can all win

D.R.: absolutely yeah and and like that's winning 100 percent yeah and and and personally for me you know just on the journey of learning you know all the different things right you initially it's Bitcoin in Ethereum those are first things a lot of people learn about and then you sort of work through smart contracts and decentralized apps and for me a big part of my learning curve learning about decentralized autonomous communities was was something I heard from yourself you know and Brendan Bloomer as well and the way you guys explain those for me really stuck right it was the the fact that you know how does a bit I mean I think Brendan said it's you know communities are going to disrupt corporations and it's gonna be very hard I think for these corporations to sort of in the traditional structures that have now to compete with that when you've got billions of people being able to contribute and the incentive you know the incentives are there for them and so maybe you can talk a little bit about decentralized autonomous communities and sort of you know what you think of that's on that you wanna share

B.P.: Yeah that's where I think the world is going it's back to decentralization you know corporations are the entities that were essential to create the world in which we live but they had these very hierarchical you know sort of power structures that generally become corrupted. They stopped serving their communities and what happens is leadership starts to just serve themselves. And in communities leaders aren't won't be dictators in the world that you know we're fortunate enough to be creating. In this new world what you have are you still have leadership because the world is always going to need governance and leadership but the only way that you will lead in this world is by being a good steward. If you don't serve your community first and often and well you won't you won't you won't stay

there the problem we have with our old structures are because of ownership, because of cap tables because of whatever it might be, those systems even when they stop serving their constituents their users their customers their people their community because they stopped serving them well they get to stay and continue to do so because of like election terms you know this is it's liquid democracy. And in the liquid democracy if you stop if you fail even if it wasn't your fault you may find yourself out of leadership. It's going to be a very unforgiving yeah you know world I mean and forgiveness is going to come because of actions. You know it's we're gonna be held accountable which is why one of the most important things I teach people is we lived through a time where you could get away with a lot of bad behavior yeah we're about to leave that time which means never ever ever ever ever compromise your integrity it's the only thing you have that's it we are on our own we are nothing I don't care how talented you are on your own you'll bail you can't do much only with the team the broader team the community you know only with the team and the work can the dream work and if you compromise your integrity you're gonna have a hard time making anything happen in this space and I know with all the money and the price and then this and that it's very easy for people to be tempted by greed to like you know take some chips off the table that you know they didn't earn yeah but it that's gonna there's gonna be the most expensive chips you ever touch. don't take them just say no yeah in the end the you know

D.R.: The the treasures at the end of the rainbow I think but people can wait you know what I mean and not be willing to just sort of look for you know the little things along the way you know and think again like I said um I told you I think earlier you know I watched you I think the last speech you did in California and you know I think the biggest thing man it's it's just that I got from it is it's just patience you know what I mean it's just that these things happen and when you know if everything is so transactional you're looking for money it's funny how it doesn't come to you in the ways that it does want you like you say start serving and you provide you know things for for people to sort of find it for themselves and um sort of on a segway for that some an idea I was toying with I wanted to run by you and see if what your thoughts are I really think with with systems like EOS and a lot of the what's possible with decentralized applications what I think is happening is it's really the ability that that we're all having now is to create these you know whether it's DAPs ecosystems or tools that are gonna allow people to create and discover value for themselves and other people and that i think you know combined with the per you know these self-funding applications things like steam it we can look at as a model of that i really what got me the most excited and more than I've ever been I think about anything you know give any thoughts

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7.5. ANNEX V: PARTIAL TRANSCRIPT OF A DOCUMENTARY ON PUERTO RICO (ABC NEWS AUSTRALIA)

Source: <https://www.youtube.com/watch?v=bdW1UbsWp28&frags=wn>

5:59 – 11:10

E.C.: “the island has been run by outsiders pretty much since Christ Columbus came across it in 1493. For centuries Puerto Rico was seen as the gateway to the new world, since the hurricane it has shown everything wrong with the new world. Today’s politics, economics and bureaucracy fundamentally failed this community. That’s why some say, it’s the perfect time to become a gateway to a different new world.”

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“This is where Puerto Rico’s next chapter might be written: the west-coast resort town of Rincon. Surf capital of the Caribbean. “

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“It’s a weeklong gathering called ‘Restart Week’ aimed quite literally at restarting Puerto Rico. Many of the guests are unlikely looking millionaires. They trade in cryptocurrencies like bitcoin, selling digital money for real money.”

Crypto-trader: Everyone says were the smartest guys in the world. Why don’t we come out somewhere we can live in this beautiful place and be guest of these great people and hopefully make a difference

E.C: what’s the business attraction of coming to a place who just has been littled by a hurricane?

Crypto-trader: a blank slate, right? It’s just a blank slate

E.C.: “they believe their technology can help replace Puerto Rico’s broken infrastructure. From cellular networks to solar power grids. It’s called blockchain and the guest of honor is a self-professed blockchain billionaire.”

Crypto-trader: he’s super famous, he’s super wealthy, everyone wants his time. But what’s really extraordinary about Brock is that one he is literally dedicating the projects that he invests in to be projects that are furthering the average person, not just the super-rich

E.C.: “His name is Brock Pierce, once a Disney child star he helped build up a global video company that collapsed in scandal. He recovered from that to make a fortune in cryptocurrencies. “

Brock: I’ve been surfing a bit over in San Juan ...

E.C.: “now 37 he’s made Puerto Rico his new home.”

E.C.: Hey there Brock how are you, Eric, how are you?

E.C.: "His vision is to create a tropical silicon valley"

Brock: Puerto Rico has the possibility now to be put on the map hub of innovation and that's a wonderful thing if it works.

E.C. "Brock says he can bring serious money from the mainland"

Brock: One of the personal skills that I have and one of the things I can do to make a difference is I can bring the venture capital. I can bring the angel investors, mentors, advisors, co-working industries, companies. I mean how many companies has anyone heard of that raised venture capital in Puerto Rico? I'm yet to hear of one

E.C.: "Blockchain was first used for cryptocurrencies, but it's applications are much further. For this blockchain gang Puerto Rico is the perfect place to show what it can do"

Brock: The internet changed our lives, mobile phones changed our lives. The blockchain is something that is that transformative, but you don't need to understand it in the same way you know how your phone works. Do you understand all the components and how they're made? Do you know how the internet and all works?

E.C.: "It's not just altruism or surf and sand attracting the tech crowd, the island is just a three hour flight from new York. The local governments is offering huge incentives to stay. In the birthplace of piña colada they'd pay just 4% of corporate tax and zero tax on capital gains and dividends. Most locals don't get what they're bringing."

..

17:33-22-45

E.C. "It's the main session of Restart Week. A listening day to hear what Puerto Ricans think. The blockchain gang knows local support will be crucial if they want to turn this place into a blockchain island."

Quinn Eaker: I have believed for quite some time now that cryptocurrencies and blockchain technology is going to change the world. In fact, I believe it already has. Like when you drop a rock in the pond, the ripples start going out but it takes seconds to minutes for those ripples to finally reach the outside of that pond and so the blockchain has already rippled in reality it's already a full reality and reality is changing before us.

E.C. "The mood around the resort bar is upbeat. But there's trouble looming in paradise"

E.C.: With all that you're doing there are still people who are saying you're ultracapitalists coming to feed on the .. of Puerto Rico's misery.

Brock: Then they haven't met us (laughs). Hang out for a moment and you should be able to tell instantly that that is not our intentions.

E.C.: Does it annoy you when that happens?

B.P.: No, I don't get a annoyed by the uninformed. You don't get mad at a child?

--- Q&A during restart week:

Cryptotrader: We are here to support and we want to understand the challenges of what you have to face and how we can make the home affordable for you for the land and help bring our tools and guidance to support with. So we're just here to support and learn and we will co-create this what we want to design together

E.C. "At first it's mainlanders doing most of the talking, but independent activists have crashed the session to ask some pointed questions."

Activist: You guys are making it seem like all the children in Puerto Rico need to be well-versed in technology. And that is not the case. What they need to be well-versed in is agriculture. And those two things are polar opposites

E.C.: "Suddenly the day of listening becomes a day of fighting"

Cryptotrader: All of these people have such good intentions, but you don't know that yet and they are going to make something beautiful happen and you are going to be a part of it whether you like it or not.

Activist: What exacto is 'whether I like it or not?' (angry)

Activist n°2: We don't like it

(talking through each other)

Cryptotrader: It's going... eventually you will and you are going to create something that you are going to like

Cryptotrader n°2: It's not gonna happen overnight, and you know what it's going to happen when all of us work together because this land is our responsibility collectively

Activist: You guys didn't have any interest in Puerto Rico until the tax breaks came in. Why are you here?

E.C. "Instead of being welcomed as allies, they find themselves being treated as crypto-colonialists".

Cryptotrader: I am here in service I have committed my entire life until my last breath in service

Activist: We don't need a savior, in a white skin with blue eyes, we don't need savior

Cryptotrader: We are not here to take over or do anything. We are here to stand behind you and give you strength. ...

Activist: So don't tell me you don't have an agenda. Because your agenda is to come live on our land and you know what it's not that we don't want you here, it's not that we don't want Americans here, we want you on our terms, just like any other country

Cryptotrader: this is America

E.C.: "this is not how the day was meant to go"

B.P.: I'm here to help any farmer that wants to figure out a farm. I don't want to own them, I want to figure out how to give them the resources so they can grow our land. Teach a person how to grow. Great, people want to grow some things here, I'm here to help you grow some things. You show me the farmers that want some land, I will figure out how to buy that land to give it to them so that they can grow the things that are needed here. Show me real opportunities and I'll show you real solutions.

E.C. "outside, brock pierce puts on a brave face."

--- Outside of the conference room:

B.P.: We had a very healthy conversation with .. you know ... a few local Puerto Ricans that don't yet understand what this movement or technology is about. But they are you know upset generally speaking about the state of things and ... being like victims for 500 years and very passionate. How is this going to be different? How should we trust this? ... that's healthy

E.C.: Are you surprised by the lack of trust?

B.P.: No not at all. I mean for 500 year this place has been taken advantage of. That where Puerto Ricans should start, they should start skeptical.

7.6. ANNEX VI: PARTIAL TRANSCRIPT OF A DOCUMENTARY ON PUERTOPIA (CRYPTO TRADER AND LOTTERY.COM)

Source: https://www.youtube.com/watch?v=o9Ry_abLRE4&frags=pl%2Cwn :

00:57-2:15 (introduction to the main interviewees)

Brock Pierce: Bitcoin is bringing a lot of the financial resources necessary to support Puerto Rico with its restart

Crypto-investor: We got to know the history, fell in love with the people. We had a corporation in Delaware and just decided to incorporate here and like half our time is moving here

Crystal Rose: Puerto Rico does to me mean community. It means innovation. It's a place that we can call home and operate as global citizens

Crypto-investor: My biggest impact into Puerto Rico is money I put into real estate: a lot! John Paulson bought up all the Condado area and put zillions of dollar in real estate

Reeve Collins: Puerto Rico is a hub for blockchain technology and in a few years the rest of the world will see it.

Michael Terpin: I've been told by many that the people are very excited about what we're doing

...: There was a shock after the storm, then there was an anger 'why isn't anybody helping us?'. But now there is a sense of resignation out there

Alberto Baco: Puerto Rico is hubbing (?). Give Puerto Rico an opportunity. Technology is taking over, this is a new world.

9:31 – 12:20

B.P.: You know I've embarked on a journey down here late 2013 early 2014 with a focus on banking. So that's when the idea all starts to get set and take hold and it was like 'okay, we are all gonna come here'. I'd been telling my friends about this for a couple years. I said '2018 looks like it's the year. The hurricane hit. I said 'well, so much for that schedule, I think we need to go now'. and so, we accelerated the time table because they need the help now and a year is a world of difference.

The only thing at this point where there's a plan is we're here to help Puerto rigo with its restart. Puerto rigo can do everything it's doing on its own just fine but it's always better with some help

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Crystal Rose (blockchain investor): so you have all this deep culture and history, you have amazing people, you have the open-minded ness like a place like San Francisco. So we came here and saw an opportunity, a really big opportunity to grow a community that we've grown in several places. The community in L.A. has been something that I've been in for a long time. I've helped the governments transition when L.A. did the open data initiative and I see the need here. There are a 120 governments agencies that don't talk to each other. They have closed loop systems, they have centralized databases. When we have a technology that can fix this problem, you just want to come and help. So it was some initial conversations with friends who had moved here as well as being introduced to the governor. When I met him I was pretty much in for it because I really wanted to provide a lot of help and I realized that the place has amazing heart.

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Ran Neuner: so when did you have a blockchain. When did it change from videogame mining to the penny drop moment when you discovered there was there's this thing called the blockchain and the blockchain could do amazing things?

B.P.: because of what I've been doing around game currencies mostly everyone in the world who was working on something digital currency related for the most part had crossed my path or come to me. Wired I think in December 2008 which is interesting the month before bitcoin launches, uh did a two page spread calling me the godfather of digital currency. Bitcoin came to me uh with someone calling and asking me what I thought of it and I said 'let me call you back'. Google. And what I learned through my first business was market timing and being to see market timing and it was something I mostly tracked for the first few years. It wasn't until 2012 where I had my moment where I was like 'wow, the time is now'.

17:56-22:06

Reeve Collins (CEO Tether): Right now what's going on especially in Puerto Rico with the hurricane and the disasters that it's faced and the financial troubles that it's in uhm and the fact that it's part of the U.S. but it's still a territory so the laws are slightly different and sometimes there's more flexibility and more ability for people who come in to hopefully positively influence the regrowth of Puerto Rico, right. Because we recently had a big conference here called Restart Week which had multiple conferences with a lot of different people from all walks of life that are very interested in blockchain technology but also into giving back to the community and make an impact. They all came to Puerto Rico because they realise that there is a unique opportunity that is not present very often to really make a difference. Reason being is because the hurricane kinda hit restart. It was a terrible disaster, a lot of the island was out of power, still today some of the island is out of power and they've been out of power for six months. And what that does is it levels the playing field and it removes a lot of at times boundaries in the intrenched interest and everyone says 'look we're ready for change, we're ready to make a difference'. And so now we have this new community that revolves around new technology. What blockchain technology really does is a new way to transact. It's a more efficient, more transparent, more democratised

way, I mean it provides access to everyone, to transact. And that can transact with currencies, with contracts, with values. It's just enables much more transparency in business. And having the ability to have everyone come down here and see how you can use that type of technology to such a beautiful place is really gonna make a difference.

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Tony Dimatteo (CEO lottery.com): I think the crypto community at its heart is very idealistic and really only because the people who are in it at it very earliest came from that background. They really are.. they have causes in their heart that they want to see happening and they want to see certain things happen in the world. So that's a very good thing right? So we have to find a balance between idealism and practicality and also understanding that we are all outsiders and we are trading on somebody else's ground. So it's great that there's all this private capital coming to the island but again it's hubris to think that we all know what is best for the future of the island.

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Interviewer: are you here for tax reasons?

Terpin: I came here initially for tax reasons now I'd say I'm here for tax and lifestyle reasons. And this is where my home is.

Ran Neuner: You speak of this place as your home now

Terpin: It is my home

R.N.: there's two sides of this place. There's one side which you look at and it's this beautiful condominiums all being rebuilt and its power restored and there's running water. But there's another side of the island. After the devastation of the hurricane. Are you giving back to the other side of the island?

Terpin: absolutely. So I'm trying to give back in as many ways as I can. This was the second year that we did the coin agenda Caribbean conference. 10% of our ticket proceeds went to island charities. We're two communities that need each other. You have the blockchain community that has had problems establishing itself in new York, maybe where it should have been. I've been looking for what we call friendly jurisdictions where we go where it's not just the taxes but people want us to be here, they embrace new technology instead of being afraid of it. I'm old enough to have been through internet, social media, and all those technologies in the beginning had people who said 'what, internet? You must be all about pornography? Social media? You must be all about trying to kidnap people?' all this non-sense. Same thing with the blockchain, it's still very early. Ten years from now, blockchain is going to be invisible inside of your phone.

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28:16-28:55

R.N: Are you doing any projects in Puerto Rico to help Puerto Rico?

B.P.: oh we are doing everything we possibly can. This is not a crypto movement, this is an everything movement. The top people I know are here. The top people I know in education are here, the top people I know in agriculture and permaculture are here, the top people I know in energy from solar to recyclables there all here right now if you walk around the conference it's like superheroes from all over the planet being the wizards that are making that stuff happen and all over the earth and they all came here for some reason.

<https://www.youtube.com/watch?v=SdzF4X1Eb2c>

00:00-6:44

B.P.: China is like by far most important part of India's ecosystem and for which also incredibly grateful the entire Chinese community for all they've done for the cynicism and always you know want to understand how I can be helpful

B.P.: We have a small enough room that we can try and actually have this be more of a discussion. One of the things that was raised or I was asked to touch on is you know sort of vote buying and you know vote trading and you know some of the solutions and problems we have. First of all I'm a big fan of China, a big fan of Chinese culture you know. But we definitely have it's you know the ecosystem is a little bit of a Chinese oligarchy right now and that's not to criticize anyone and everyone recognizes that. And the question is how do we how do we solve this issue right so that we have a distributed decentralized geographic you know spread block producers around the world with lots of sort of standby bps. And so one of the things that has been brought up as a potential solution is the idea of going from one vote you know one token to thirty votes to one token one vote. I don't think that's gonna help very much it's still a token weighted voting. I think it might help a little bit but the amount of political capital that we would have to spend as an ecosystem to make that change I don't think the juice is worth the squeeze. I don't think it's gonna solve a major problem. The biggest thing that we need to have is more voting you know we need more voter participation you know the most important thing you can do if you care about this ecosystem is to vote you know this is a governed blockchain and it requires participation you know. And so you know the main thing is get getting people out there and Rock the Vote participate that's one of the things that we can do as users make sure that we vote are tokens but also getting the exchanges that we use engaged in participating. And that will hopefully start to bring some more balance. You know Korea is a very large EOS community has a very big EOS market take Bithumb for example has 54 million euros tokens but there's no voter participation happening there the block producers in Korea you know are essentially all been shutting down because there hadn't been any Korean vote you know the big wallets the big EOS holdings in Korea have not participated. So watching you know some of the world come online you know if you use these exchange get your exchanges participating you know. Get those requests out there so that the bit thumbs and the up bits for example in Korea start participating rather than those tokens being online there's a hundred million tokens that could be voting which then would allow Korea to be represented you know hopefully with at least one successful block producer in the top twenty one. And so making requests of your exchanges you know getting binance you know involved you know as it is right now it's basically just the Chinese exchanges and BitFenix you know that are doing that we need to get everybody engaged. So one of the other things that I think we should be thinking about as a community is how we compensate block producers. I'm my current thinking and this is just being kind of where my head is that right now and I may change my opinion later today, but in this moment I do think that we should be thinking about how block producers are compensated and potentially increase the amount that block producers are receiving technically sound block producers block producers that are doing

lots of community development and supporting the communities and running meetups and doing things around the world have essentially been going out of business they've been they haven't had enough income because the compensation today to the top 21 is very high but if you're a standby BP the compensation wasn't sufficient enough to continue to operate. And so one idea for example might be to increase the inflation from one percent to one and a half percent or perhaps two percent but to have that entire increase go to the V-pay versus the B-pay so that the amount of compensation between being 21 and 22 is negligible. And then people are not competing so aggressively to be in the top 21 you're happy if you're number 25 you're happy if you're number 30. It'll make things less competitive and less collusion is likely to occur because it's you know and everyone is competing to be in those top 21 positions and we need lots of standby BPs and also some of the BP's that have a lot of vote and a lot of stake that are currently in the top 21 but they might not be technical block producers will be happy being number 25. They'd rather somebody else who's in the top 21 that is the most technically competent well at the same time continued to be compensated I think they're these are the sorts of conversations you know that we should be having you know from a block producer perspective. Now we have another issue here which is with the you know the EUA you know block you know now 15 of the top twenty one block producers essentially also govern everything and so we have a bit of a governance problem. That's fine for the moment it's allowing things to get done and it's better than we're getting you know things done but we do have a long term governance issue that needs to be resolved. You know or the criticisms that we face for being you know centralized will end up being true you know I don't think that block producers should be controlling everything we do eventually have to get around to creating a proper Constitution. I think that that's going to be essential for the success of the ecosystem over the long haul and so you know this is stuff that we need to continue to be thinking about you know this is stuff that we need to eventually get right I don't think any of these things are urgent this isn't something that needs to happen tomorrow but these are conversations that we need to be having. I think both come from a constitution perspective and BP compensation but if we're going to make any change to the inflation again it's very important because it's very easy for someone to say oh look the block producers are increasing their pay to one and a half or two when will it be three when will it be for when will be five you know maybe all that work with it so it's important that we try and solve all these issues you know in one fell swoop and there are you know other things that we need to be thinking about ...