



ORIGINAL ARTICLE

United States Congressmen support the legalization of environmental health injustice in Puerto Rico

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Abstract

Objectives Analyze the role of two members of the United States Congress, two private enterprises, and the government of Puerto Rico in the approval of the counterproductive law “Ban on the Deposit and Disposal of Coal Ash or Coal Combustion Residuals in Puerto Rico” (Law No. 40) in the framework of the four principles for environmental policy making.

Methods The gathered text documents were structured, reviewed, and coded using a content analysis protocol to produce coding categories and the final analysis.

Results Two US congressmen, apparently influenced by private enterprises, had a decisive role in the approval of Law No. 40 which failed to comply with any of the four principles for environmental public policy making.

Conclusions Puerto Rico’s Government succumbed to the extortion strategy of two US congressmen and private economic interests, and finally approved Law No. 40 which mistreats the general public and the environmental health of two low socioeconomic status communities in the municipalities of Guayama and Peñuelas. This law has the potential to negatively affect public health and the environment island-wide.

Keywords Content analysis · Environmental injustice · Principles for environmental policy making · Legislative process · Coal ashes and human health · US Congress

Introduction

On July 4, 2017, Puerto Rico’s Governor converted Senate’s Project No. 81 (previously approved by both Puerto Rico’s Senate and House of representatives) into Law No. 40 better known as the “Ban on the Deposit and Disposal of Coal Ash or Coal Combustion Residuals in Puerto Rico Act.” Notwithstanding the law’s name, it does exactly the opposite of what the title says according to the results of our research. Unfortunately, the approval of this type of law is common in a colonial regime like Puerto Rico. The island of Puerto Rico has been a colony of the United

States of America (US) since 1898 when it was invaded by US troops during the Spanish-American war. When Spain lost the war, the Island was given, through the Paris Treaty, as a war bounty as part of the final arrangements between the two countries to put an end to the hostilities (McKinley 1898).

In other words, since that year Puerto Rico’s relationship with the metropolis has been one of disadvantage and “benevolent submission” under the plenary powers of the United States Congress. Indeed, the US Congress exerts control above all the important aspects of Puerto Rican life, including the economic variables (Congreso de EU 1950). As a result, the Island’s government lacks the necessary powers to improve the quality of life of their citizens. The situation became worse during 2016, when Puerto Rico went bankrupt and the United States Government (Congress and President Obama) imposed a Fiscal Control Board to our Island through the so-called PROMESA law (US Congress 2016). Unfortunately, the Congress chooses a Spanish word, which means a promise, but apparently with deceiving purposes.

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While neither the US nor Puerto Rican governments acknowledge this, the Board is replacing Puerto Rican government which was elected in 2016. This is the naked colony at the Island's worst scenario during the past century. To make things even worse, two category five hurricanes (Irma and Maria) hit Puerto Rico during September 2017. Therefore, our Island is now bankrupt and under the process of reconstructing the country's infrastructure that was severely damaged by both storms. The estimated total costs for the rehabilitation efforts are around \$94 billion (Notimex 2017).

The description of the previous political and social backgrounds is important and necessary to understand the current scenario in which Law No. 40 of July 4, 2017, was approved by the local government.

The research question that guided our efforts through the project was: Can US Congressmen influence the local process of environmental health public policy making?

Principal objective

- Why two members of the US Congress played an active role on the approval of the counterproductive Law No. 40 of July 4, 2017, in the framework of the four principles for environmental policy making.

Secondary objectives

- Examine the role of the private enterprises AES and EC Waste in the approval of Law No. 40.
- Discuss the contradictory legislative process that gave birth to Law No. 40.

According to Friis (2012), the process of environmental policy making must be guided by the following principles: Environmental Justice—equal treatment of all people in society, irrespective of their racial background, country of origin, and socioeconomic status; Precautionary Principle—preventive, anticipatory measures should be taken when an activity raises threats of harm to the environment, wildlife, or human health, even if some cause-and-effect relationships are not fully established; Environmental Sustainability—resources should not be depleted faster than they can be regenerated; and the Polluter-Pays Principle—the polluter should bear the expenses of carrying out pollution prevention and control measures.

The organizations Physicians for Social Responsibility and Earth Justice (2010) indicate that coal ash contains arsenic, lead, mercury, cadmium, chromium and selenium, as well as aluminum, antimony, barium, beryllium, boron, chlorine, cobalt, manganese, molybdenum, nickel, thallium, vanadium, and zinc. These metals are toxic and can cause several types of cancer, and a lot of additional health

problems including nervous system impacts, birth defects, heart damage, developmental delays, respiratory distress, behavioral problems, lung disease, gastrointestinal illness, impaired bone growth in children, kidney disease, cognitive deficits, and reproductive problems.

In a study performed by the USA Environmental Protection Agency (EPA) and the Vanderbilt University of Tennessee (EPA 2012), it was found that the coal ashes that the AES plant generates in Guayama Puerto Rico can affect human health and the environment. Mainly, the scientific group analyzed the leaching behavior of the heavy metals present in the “product” Agremax, as AES executives calls the mixture of fly ash with bottom ash and water.

The local communities most affected by the approval of Law Number 40 are Jobos and Tallaboa located at the municipalities of Guayama and Peñuelas, respectively. Figure 1 presents a map with the exact location of the municipalities of Guayama and Peñuelas in Puerto Rico. The community Jobos is where the AES coal power plant is located. Therefore, this community is directly affected by the daily operations of the plant that generates a mean of 800 tons of coal ash per day. Figure 2 presents an aerial photo of the AES Guayama plant where ash and coal piles are very prominent. The second community, Tallaboa, is near the EC Waste Company landfill where tons of dry coal ashes were deposited last year. Figure 3 shows an aerial photo of EC Waste Peñuelas Valley Landfill where all the deposited dry coal ashes can be observed.

Methods

This research is a qualitative content analysis study performed using written documentation from official and credible sources. The principal criterion, for document selection, was that they have to come mainly from primary sources. According to this guiding criterion, the documents came from the archives of the local Legislative Assembly (Senate and House of Representatives), including Senate Project No. 81, a letter to Puerto Rico's Governor from two USA congressmen, the Senate's Committee on Environmental Health and Natural Resources report of Senate Project No. 81, the 65 pages verbatim transcription of the discussion of the legislative session where the project was approved and 32 written presentations done by individual citizens, government agencies, private corporations and NGOs that were presented at public hearings before the Senate's Committee in Environmental Health and Natural Resources. Other documents, from secondary sources, included twenty newspapers articles from local and international media. After reaching sampling saturation level (O'Brien et al. 2014), the process of structuring the data began. This refers to create the main categories of topics in

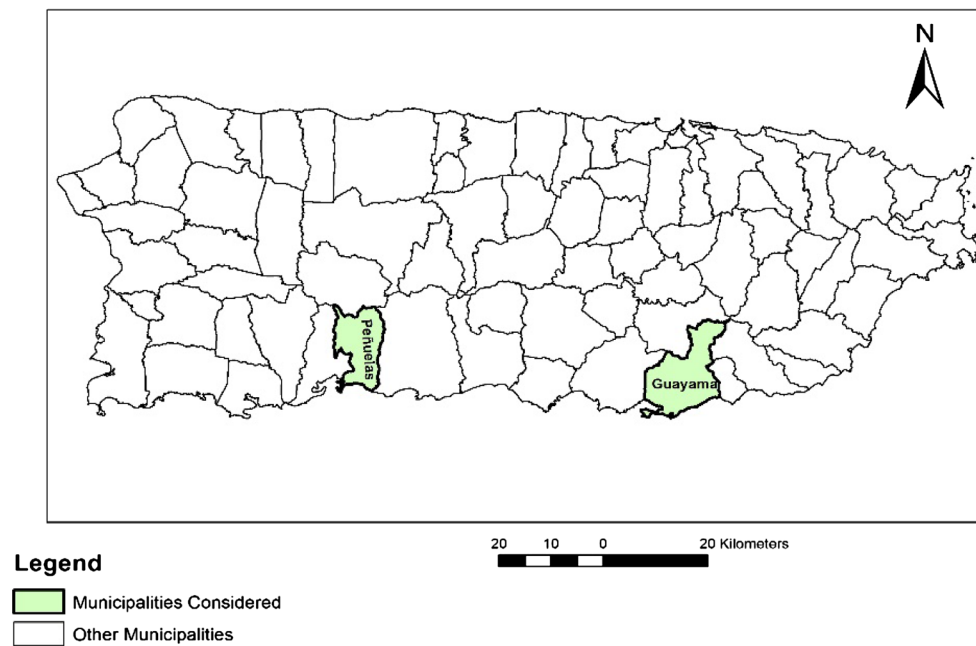


Fig. 1 Map showing the location of Guayama and Peñuelas municipalities in Puerto Rico. Map by: José Seguinot-Barbosa 2017



Fig. 2 Aerial photo of Applied Energy Systems (AES) coal power plant at Guayama (Puerto Rico, September 1, 2017). Photo by: Senator Juan Dalmau-Ramírez, published with permission

the reviewed documents and the corresponding subcategories for each main category to create a coding frame. The coding frame was constructed using the protocol recommended by Schreier (2014) which includes: selecting the material; structuring and generating categories; defining categories; revising and expanding the frame. After that, two rounds of coding were performed following the same procedure that was used during the main coding.

The criteria for establishing the categories and subcategories departed from the research question and the principal analytical objective of the research. According to

Schreier (2014), “Main categories are those aspects of the material about which the researcher would like more information, and subcategories specify what is said in the material with respect to these main categories.” The first main category is “opinion regarding the coal ashes disposal in Puerto Ricós landfills” with the subcategories “environmental health justified” and “economically justified.” The second main category was “type of message” communicated by the interests that supports coal ashes disposal in Puerto Rico. This category was divided in the subcategories “diplomatic” and “intimidating.” The coding frame



Fig. 3 Aerial photo showing the dry ashes deposited in the EC Waste Peñuelas Valley Landfill at Peñuelas (Puerto Rico, September 1, 2017). Photo by: Senator Juan Dalmau-Ramírez, published with permission

was examined based on the results of the trial coding in terms of consistency and validity (Barbour 2014). Finally, the main analysis was conducted which led to minimum changes. No software was used for the revision system.

The research findings are presented in the next section using the continuous text format.

Results

The US congressmen's letter

Two congressmen from West-Virginia (the second biggest coal producer state), David B. McKinley and Alex X. Mooney, sent a letter (written on January 17, 2017) to Puerto Rico's Governor, exerting pressure on him to allow for coal ashes to continue to be deposited in the Island's landfills (CB en Español 2017; Noticel 2017a).

The following quote is part of the first paragraph of the letter and belongs to the first main category (opinion regarding coal ashes disposal in PR):

We are writing to express our concern about recent efforts in Puerto Rico to restrict the disposal of coal combustion residuals (CCR's), also known as coal ash, at landfills.

This quote was also included in the subcategory "economically justified" which is the general argument of the letter that the Congressmen imply without saying it directly and beyond any consideration to the environmental health of the people living on the Island. To a minor degree the quote can also be classified under the second main category "type of message" which at this part of the letter and was classified in the subcategory "diplomatic."

At the end of the written communication, the letter closes with the following statement that was classified in the second main coding category, "type of message" and in the subcategory "intimidating":

As the Commonwealth moves forward to consider these issues we would urge that you avoid conflict with minimum federal standards that govern all Subtitle D regulated landfills, and avoid any ill-conceived attempts to override federal on CCR disposal.

Without doubts, these are strong, intimidating, and threatening words coming from two USA Congressmen that came in the worst economic scenario for the Island in decades. Obviously, Puerto Rico's Government took this threat very seriously as the results of the approval process of Law Number 40 indicates.

Puerto Rico's Government role

The legislative bill Senate's Project No. 81 (Seilhamer-Rodríguez 2017) that gave birth to Law No. 40 was presented by Senator Larry Seilhamer which is the spokesman for the legislative majority. The bill's title established, among other things, the following purposes:

To create the Law to ban the deposit on land and the use of coal ashes or residues from coal combustion in Puerto Rico; to establish as public policy the absolute ban over the deposit and use of coal ashes or coal combustion residues; ...

As can be appreciated, the title is very clear on the bill's original purpose which is an indicator of an apparent praiseworthy action for the protection of public health. The bill's title was classified in the main category "opinion

regarding the disposal of coal ashes in PR,” and the subcategory “environmental health justified.”

The bill’s statement of motives is well written and justified in terms of the measures that Puerto Rico’s Legislature was proposing to take in order to protect the environmental health of the population.

On page 3 of the bill, the statement of motives, contains the following important declaration:

..., the health of all Puerto Ricans, with special regard, to the residents near the places where the deposit of these residues occurs is in *great danger*. It corresponds to the Legislative Assembly, in the execution of its power of state, to address this situation.

This is a very informed declaration regarding the risks of coal ashes to the people emphasizing the responsibility that the Puerto Rico’s legislative branch has to prevent harm to public health. In general terms, all the arguments presented in the bill’s statement of motives were classified in the main category “opinion regarding the disposal of coal ashes in PR,” and also in the subcategory “environmental health justified.”

The legislative process for the discussion and approval of Senate Bill No. 81 was a fast track one. The Senate’s Committee on Environmental Health and Natural Resources celebrated six public hearings (four in the Capitol Building, one in Guayama and one in Peñuelas). During the process, the majors of the municipalities of Salinas, Juana Diaz, and Peñuelas, eight of fifteen private citizens and ten of eleven NGO’s presented their support to the Bill as it was originally submitted. Seven citizens (six AES employees and one community sports leader funded by AES) were opposed to the bill.

During the discussion of the bill, on the Senate’s floor, the legislative majority spokesman Larry Seilhamer made a dramatic change on his position regarding the coal ashes with the following declaration:

The bill that I originally submitted was for the total and absolute prohibition of the use. Now, I tell you and I say it with a lot of pain, can we establish that as public policy? We are going to have a multimillionaire claim that at the end of the day is going to be paid by the people of Puerto Rico.

Apparently, the aforementioned expressions are the result of the two Congressmen questionable intervention in the Puerto Rican legislative process.

In the same legislative session, the President of the Committee on Environmental Health and Natural Resources, Carlos Rodriguez, made the following comments with respect to Puerto Rico’s Secretary of Health (Rafael Rodriguez) participation in the process:

We also had the participation of the Secretary of Health, who told Committee members in public hearings that there is no epidemiologic evidence in the Department of Health that points out that citizens that have been exposed to this material (coal ashes), including the plant workers, that there is really some health condition that we can say that there is a cause-effect between the exposure to the material and the development of disease.

What Senator Carlos Rodriguez did not mention in his speech on the Senate floor is that the Secretary of Health, Dr. Rafael Rodriguez, submitted his written position regarding Bill No. 81, on March 7, 2017, giving the following main comments:

“...we believe that the referred bills comply with the purpose to safeguard and protect public health. For all the previous comments, the Department of Health endorses the Senate Bills 81, 123 and 128.” In other words, Puerto Rico’s Secretary of Health gave his support to Bill No. 81 as it was written.

Senator Carlos Rodriguez also commented on Puerto Rico’s Energy and Power Authority (PREPA) participation on public hearing, indicating that PREPA does not have the economic capacity to replace the energy production that the AES is generating. He also said that the closing of the AES plant will really impact the consumer’s electricity bills, because the contract that PREPA has with AES is a beneficial one because they are buying the kilowatt/hour at a relatively low price. As seen, the economic considerations for PREPA were more important for the government than the public health and environmental issues (category “Opinion regarding coal ashes disposal...”; subcategory “economically justified”).

Concerning the Environmental Quality Board (EQB) participation, Senator Carlos Rodriguez commented:

I have to say that within the Environmental Quality Board participation they said that periodically they made toxicity proofs to that material (coal ashes) and that these have always been below the toxicity levels. Also, they said, that the disposition of the material that they made in the landfills is done following existing federal regulations in Puerto Rico.

But, Senator Carlos Rodríguez, again, omits from his testimony a very important component of the overall situation: the EQB’s performance role surveilling the AES and the EC Waste commercial activities in Puerto Rico. The EQB’s public record, concerning these issues, is not a good one. During the past few years, Puerto Rico’s news media had informed of the frequent violations both of the AES and EC Waste corporations to their operation permits and

the poor supervision exerted by the EQB to these private enterprises (CiberNews 2017; El Nuevo Día 2017; Noticel 2017b; Rodriguez-Grafal 2016; Rojas 2017; Walo Radio 2017). For example, AES is not monitoring the fugitive dust (particulate matter) that emerges from the coal ash and coal heaps that they store near the plant building. Both piles generate fugitive dust that is transported by the wind toward the community of Jobos impairing the environmental health of the residents.

Also, AES does not spray water on the piles of coal ashes to prevent the formation of fugitive dust that can pollute the air in the Jobos communities that are established near the coal plant. Regarding the EC Waste's Peñuelas landfill, recently they were found in violation to the coal ashes management in their facilities (CiberNews 2017; Noticel 2017b; Rojas 2017). They are forbidden from disposing dry ashes in the landfill. The ashes must first be mixed with liquid wastewater from the pharmaceutical industry and, after that, they can dispose the semisolid mix into a cell of the landfill. However, the landfill operators were not doing that.

Finally, Senator Carlos Rodriguez, closed his participation justifying his actions, with the following comments (main category "opinion regarding the coal ashes disposal in PR...; subcategory "economically justified"):

I believe that this bill is going to address big concerns, in the first place, in the health area; in the second place, in the area of economic development; in the third place, in the area of environmental preservation and conservation. That is, I believe that we are making history in this Senate today if we approve this bill. This bill removes a great emotional burden to our constituents in the south of Puerto Rico.

Senator Juan Dalmau-Ramirez, spokesman of the Puerto Rican Independence Party, expressed his discomfort concerning the amendments that were made on the floor to the Senate Bill No. 81 which allowed the commercial use of the coal ashes by stating (main category "opinion regarding the coal ashes disposal in PR...; subcategory "environmental health justified"):

We are saying that they cannot be deposited in the landfills, but that the product can be used for other purposes, we take them out of the landfills to the living rooms and yards of our homes. That can't be the solution. ... In other words, the material can be used for construction. We are not going to have them in our landfills, but we are going to have them in the walls of the rooms of our family, of our children, particularly of the more poor people, that have less money to buy residential properties, but that they will

buy cheaper construction materials produced using toxic coal ashes.

AES and EC Waste role in the approval of Law No. 40

Four private enterprises, with big interests in the coal industry, opposed to the bill's approval. The two most important were, of course, the AES Corporation (that operates the only coal-fired power plant in Puerto Rico) and EC Waste, the private enterprise that owns and manages the two authorized landfills to receive coal ashes for their disposal, on which their business depends.

EC Waste CEO, Randy Jensen, threatened Puerto Rico's Government using the letter of the two congressmen (previously discussed) as a spear head in his written testimony in the following way (category "type of message"; subcategory "intimidating"):

The message of those two republican leaders of the Congress cannot be clearer. It offers a clear and hard warning to those in Puerto Rico that wants to approve laws that violate federal laws. As part of a federal system, Puerto Rico has to adhere to the national policy that allows coal use as a fuel. In fact, the Congress is carefully watching to determine whether Puerto Rico behaves as part of the United States or wants to take its own course.

The most important amendment made to the original bill, because of the huge environmental and public health problems that can bring, was in the last sentence of Article 3 that reads as follows:

"For the purposes of this Law "deposit and disposition" will mean discard the coal ashes or the coal combustion residues that are not for commercial beneficial uses in a final manner." This last sentence had the effects of a poisonous pill that killed the praiseworthy purposes of Bill No. 81.

Affected communities

Evidence of wind-transported coal ash dust has been found on the walls, windows, and floors of the residents houses at both Jobos and Tallaboa communities. In the Jobos community, evidence has also been gathered concerning wind-blown fugitive coal dust to the residential area.

Table 1 summarizes some of the most important sociodemographic characteristics of both communities. Jobos is the most populated of the two with an estimated population of 2365 residents in 2016, whereas Tallaboa had 925. Tallaboa has the highest median age with 55.2 years, and Jobos is a younger community with a median age of

Table 1 General sociodemographic characteristics of the most affected communities in Puerto Rico by the generation and deposition of coal ashes *Sources:* Decennial Census 2010; American Community Survey 2012–2016

Sociodemographic characteristics	Jobos community (Guayama municipality)	Tallaboa community (Peñuelas municipality)
Population		
2010	2479	925
2016	2365	807
Median age (years)	40.2	55.2
Percentage high school education or higher (%)	63.6	64.7
Total housing units	1043	379
Median household income	\$12,212	\$17,888
Poverty level (individuals below poverty level) (%)	63.8	45.8
Health insurance coverage (%)	89.8	94.1
Private coverage (%)	18.1	22.1
Public coverage (%)	78.9	81.7
No coverage (%)	10.2	5.9

40.2 years. The median household income is higher in Tallaboa (\$17,888/year) than in Jobos (\$12,212/year).

Jobos have 63.8% of his residents living below the poverty level, whereas Tallaboa percentage is lower but still quite high (45.8%). In terms of high school education or higher, both are practically at the same level (63.6% for Jobos and 64.7 for Tallaboa). In terms of health insurance coverage, the residents of both communities are highly dependent on public coverage (89.8% in Jobos and 94.1% for Tallaboa). Regardless, 10.2% of the Jobos residents and 5.9% of Tallaboa have no health insurance coverage.

In conclusion, both neighborhoods are disadvantaged communities that are suffering the double burden of poverty and environmental health pollution,

Discussion

Senate's Bill No. 81, as originally presented, is a very good example of a well-justified legislative action to protect the environmental health of the people of Puerto Rico from the dangers of coal ash generation and management. But, what happened with the bill's discussion and final approval, as Law No. 40, was an act where Puerto Rico's Government succumbed to the plenary powers of US Congress demonstrating that the economic interests of US corporations are well above the environmental and public health of the Puerto Ricans.

The approval of Law No. 40 was passed in total disregard with the four principles that must guide the process of environmental policy making (Friis 2012; Senado de Puerto Rico 2017). The process did not comply with the Environmental Justice Principle because it promotes environmental injustices increasing the burden of pollution and

disease on low-income people. In the case of the Precautionary Principle, there is no preventive measure in Law No. 40 to protect the environment neither public health. On the contrary, the Law allows the "beneficial use" of toxic coal ashes, through all the Island, as construction material.

The Polluter-Pays Principle was landfilled under hundreds of tons of toxics ashes because Law No. 40 gives AES and EC Waste a blank check to do whatever they want in their commercial activities without having to pay a single cent for the pollution that they cause to the environment. Finally, regarding the Environmental Sustainability Principle, the AES and EC Waste commercial activities have the potential to cause high levels of environmental pollution and impacts on public health, which after the approval of Law No. 40 can increase dramatically putting at risk the Island's sustainable future.

As seen in the Results section, the language used by two US congressmen, and the President of EC Waste was strong and intimidating. The threats and warnings apparently had the effect of convincing the legislators of the majority to ignore people's well-being in favor of coal's industry economic interests.

Concerning the government agencies participation in the legislative process, both PREPA and the EQB acted as accomplices of the aforementioned atrocity against the people of Puerto Rico as it was demonstrated during the public hearings and news media reports.

The approval of Law No. 40 is affecting the public health and the environment of the low socioeconomic level communities of Jobos and Tallaboa who receives the direct impacts of coal ashes generation and coal ashes disposal, respectively. The United States Government is trying to cover under thousands of tons of coal ashes Puerto Rico's social, public health and political realities. But they are not

going to silence the voices of Puerto Ricans because we are a very resilient ethnic group that has been forged on fire by our history. Therefore, and without any doubts, our country is going to reborn like the Phoenix Bird from the nightmare of the coal and historical ashes.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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