

Just (?) transitions? The case of the Enel plant in Piombino

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Figure 1 - The former thermoelectric plant in Piombino, Tuscany

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1. Introduction

Our contribution starts from the observation of Rosemberg, an advisor to the International Trade Union Confederation (ITUC). She remarked that since the COP21 in Paris the original meaning of “just transition” has been co-opted “by less socially inclined interests” (Morena et al., 2020, p. 53).

The labour movements’ efforts for a just transition, since their beginning in 1980s in the USA, went along with an increasing popularity of the term and its adoption by the international climate policy negotiations as well as by businesses and other organisations. Consequently, a multitude of understandings of “just transition” has arisen. However, while the original intention of the union movement was to re-introduce social justice in climate action and strategies, and overcome the labour versus nature dualism, it is not always clear what social justice conceptualizations are behind the multiple uses of the “just transition” term.

Thus, our main question is: How are (industrial) transitions considered just? Which justice conceptualizations can be identified in different just transition strategies?

Research is emerging that maps and identifies varieties of “just transitions”, in order to bring clarity on the concept (Stavis and Felli, 2016; Morena et al., 2018; Kreinin, 2020). The necessity of such efforts emerges from the varieties of actors and their initiatives under the term “just transition”. These expanded from the initial labour movement to now also public and transnational institutions. For instance, the European Union (EU) has been developing the Just Transition Fund, as one of the instruments in the context of its Green Deal. At the same time, businesses are also cultivating efforts for a just transition. An example of the latter are the initiatives of Enel, the multinational power utility of which the Italian government is the main shareholder (WRI, 2021). Enel has taken up the “leaving no one behind “ slogan, a central principle of the Sustainable Development Goals (Enel, 2020), and it declared its commitment to a just transition. The company associates a just transition with reaping the benefits of the energy transitions, which are identified in employment and as resulting from green investments, reskilling initiatives and the repurposing of decarbonized power plants. In 2015, the multinational announced its aim to reach carbon-neutrality by 2050, and as one step in this direction, it launched the Futur-e project.

The project initially involved the shutting down and repurposing of 23 fossil-fuelled power plants (coal, oil, combined cycle and gas) and one mine in Italy (Figure 2). Since 2015, it has scaled up to 40 plants worldwide.

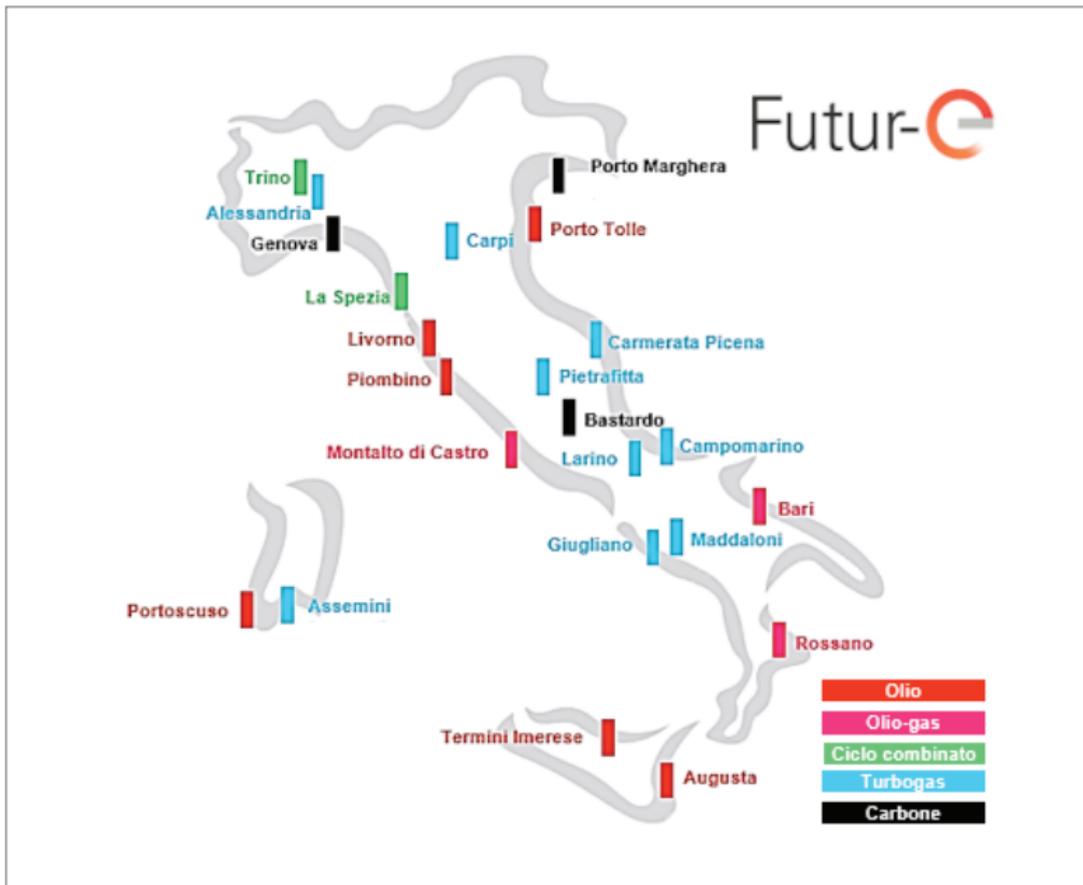


Figure 2 - Sites and energy sources involved in the Futur-e project

Enel describes it as “the first example in the world of requalification on a large scale of an industrial area that uses an approach based on the circular economy” (Enel, 2021, p. 119). In 2019 Enel employed almost 69 000 workers worldwide, with 44% based in Italy (WRI, 2021). Core aims of the entire initiative are to ensure innovative reuse of the dismissed plants and “the engagement of local stake-holders to create value for local communities through sustainable economic growth and the creation of jobs” (Enel, 2021, p. 119). Indeed, the project has been presented as part of the just transition strategy, developed by the company in collaboration with trade unions. Measures targeting affected workers include for instance early retirement incentives, training and reskilling or relocation agreements. Besides these employee centred measures, Enel also engaged with local governments, businesses and communities to identify options for reuse of Enel’s existing buildings and assets.

As a result, the World Resource Institute and scholars associated with ETUI (WRI, 2021; Rugiero, 2019) have pointed the project out as just transition example.

From the overarching question which motivated the research, this paper explores the just transition conceptualization underlying the implementation of the Futur-e project, by means of a case study. Section 2 presents the case, then section 3 lays out the analytical framework and application to the case. Finally, policy recommendations are outlined.

2. Case study

The thermoelectric plant in Piombino, a city in Tuscany, was owned and managed by the Enel company and is one of the 24 Italian plants involved in Futur-e.

The area of Piombino is characterised by the second largest steel work complex in Italy after Taranto (which is known for the environmental conflict around the Ilva steel plant). Extraction of iron and related industrial activities have characterised the area since the Etruscan period. However, the structural crisis of the steel industry has impacts also in this area, with high unemployment rates. Further, the city has been identified as one of the 42 Sites of National Interests, where anthropic activities have led to high pollution and health and ecological risks. Indeed, one of the steel companies of Piombino is mapped on the Italian Atlas of Environmental conflicts.

At the same time, next to the Enel steel plant, there are 126 hectares of natural area protected as a World Wide Fund for Nature (WWF) oasis “Orti Bottagone”. The oasis is central for biodiversity, as for instance, it hosts 229 species of birds.

In this context, in 1977, Enel established the thermoelectric plant, within a strategy of diversification of energy sources upon the energy crisis of the 1970s. Fuelled by oil, the plant had four turbines for a total of 1.280 MW (Enel; Il Giunco, 2021).

In 2015, Enel closed the plant and included it in the Futur-e project. In 2018, the dismissed site is sold by Enel to Stigliano Sviluppo s.r.l., a real estate investment company. The two actors along with local institutions have been discussing the redevelopment plan, which at the moment, is not yet finalised. Repurposing ideas include touristic, commercial or maritime activities, an innovative agriculture or scientific research site (Rugiero, 2019).



Figure 3 - The location of the former thermoelectric plant

3. Analysis

In line with efforts mapping just transitions, we want to link theoretical reflections on what a just transition to the analysis of the Piombino case, since Futur-e has been presented as just transition example (Rugiero, 2019; WRI, 2021).

The review of academic and grey literature is complemented with interviews to shed light on the transition process. The aim is to investigate to what extent the case can be considered an example of just transition. This evaluation is operationalized via a framework on approaches to climate change (Kreinin, 2020) adapted to include just transition conceptualizations and environmental justice pillars (Morena et al, 2018; Schlosberg, 2007). Table 1 summarises the theoretical approach and results. Therein, through the grey colouring, the requalification project of Piombino's thermoelectric plant is positioned with respect to the three theoretical approaches to climate change and just transition.

Table 1 - Evaluating approaches to adapt to climate change via a (just) transition. Based on Kreinin (2020):

	Neoliberal political economy	Ecological Modernisation	Socio-ecological transformation	The case of Piombino
Environmental crises	<p><i>Externalities to the functioning economic system → to be internalised by market signals and costs</i></p> <p>PIOMBINO</p>	<p><i>Externalities to the functioning economic system → must be internalised by state funding and state policy</i></p>	<p><i>Inherent to the expansionist logic of the materials and energy processing system that is the economy. Cannot be externalised or evaluated via prices. Economic value is based on discounting the value of nature.</i></p>	<p>In 2015, within its decarbonisation strategy, Enel, the market actor, internalises the env.crisis: by closing fossil-fuelled plant and laying out a circular economy requalification project (Futur-e). Another company, Stigliano Sviluppo s.r.l., acquires the site and will co-develop its requalification.</p> <p>No deep transformation of the economic system is deemed necessary. The only change envisioned is towards circular economies, thus identifying in markets the way to tackle the env. crises.</p>
Social crises (i.e. of societal reproduction)	<p><i>Externalities to the functioning of the economic system → will be internalised by right market signals and prices</i></p> <p>PIOMBINO</p>	<p><i>A side-effect of the animal spirits of the market → must be internalised by state regulation (but “private” societal provision and societal reproduction not politicised)</i></p>	<p><i>Social crises and the crisis of societal reproduction are inherent to the expansionist economic system which devalues the work of societal reproduction.</i></p>	<p>Enel aims at avoiding unemployment from the plant's dismissal and highlights new job opportunities from commercial activities in the requalified area → market actions to solve social crises</p> <p>No mention of reproduction work and its relevance for industrial activity. Although there is overall much focus on employment, there is no attention to the reproduction work necessary to support the labour force.</p>
Allocation of resources through global markets	<p><i>Fair and neutral allocation of resources around the world.</i></p>	<p><i>Not always fair and neutral allocation of resources around the world → state intervention needed</i></p>	<p><i>Markets should be embedded within society to serve the purpose of furthering human needs not be</i></p>	<p>No mention of unequal resource allocation; or the need to redistribute them.</p> <p>Markets (selling the site) are the means to allocate resources.</p>

	PIOMBINO	<i>to ensure best outcomes</i>	<i>in change of the allocation of resources</i>	
<p>3 pillars of env justice wrt to the transition /transformation</p> <ul style="list-style-type: none"> - Recognition: inclusion; - Distribution of harms and benefits - Procedure: Participation and power to take decisions 	<p><i>Narrow and less inclusive approach</i></p> <p><i>Recognition: recognized, includes and empowers a selected range of stakeholders throughout transition processes</i></p> <p><i>Distribution: considers a narrow range of impacts for specific sectors and stakeholders</i></p> <p><i>Procedure: varies across regions</i></p>	<p><i>Inclusive and focused approach</i></p> <p><i>Recognition: recognized, includes and empowers a diverse range of stakeholders throughout transition processes</i></p> <p><i>Distribution: considers a narrow range of impacts for specific sectors and stakeholders</i></p> <p><i>Procedure: varies across regions</i></p>	<p><i>Inclusive and broad impact</i></p> <p><i>Recognition: recognizes, includes and empowers a diverse range of stakeholders throughout transition processes. Acknowledging the role and value of nature.</i></p> <p><i>Distribution: Considers a broad range of impacts across sectors and stakeholders</i></p> <p><i>Procedure: varies across regions</i></p>	<p>Recognition Enel implemented measures (social dialogue) to involve the trade unions and workers of the Piombino plant.</p> <p>However, it failed to recognise the satellite workers, impacted by the closure. Other local actors are recognised, at least formally in declarations of “local stakeholder engagement”.</p> <p>Overall, the transition is anthropocentric, there is no account of nature’s ontological or moral value, and the risks of decarbonization and reparation measures are exclusively dedicated to humans.</p> <p>Distribution The impact of job loss, as the plant was closed, was countered by reparation measures. I.e. workers opted either for early retirement or repositioning in other Enel plants.</p> <p>Procedure: Social dialogue with trade unions pursued (Rugiero, 2019), with Enel complying to state regulation. However, workers are involved only about what will happen to them upon the plants’ closure. Any other decision before and after is left to the market actors (Enel & Stigliano Sviluppo). It’s assumed they will ensure a fair requalification of the dismissed plant.</p> <p>Workers of the WWF oasis report positive engagement</p>

	PIOMBINO			both with Enel and Stigliano Sviluppo s.r.l. Local institutions are involved to a limited degree in discussion, but are not decision makers. The local population is not involved at all.
Economic growth	<i>The basis of the global economic system and trade</i> PIOMBINO	<i>The basis of the societal welfare and increasing wellbeing</i>	<i>The basis of the global environmental crises through overproduction and overconsumption in the Global North</i>	<p>A Just Transition of the energy system brings benefits, in terms of employment and investments. Thermoelectric plant was already not profitable - this contributed to the choice of closing it.</p> <p>Requalification needs to be profitable for the new owners (Stigliano Sviluppo, a real estate company, linked to profitable gaming owners).</p> <p>A new end use of the area without economic growth seems highly unlikely. By repurposing the Piombino plant, decarbonization and economic profit can be combined. Along with “development and sustainable innovation”.</p>
Biophysical limits	<i>Don't exists / can be recognised and overcome by right market signals</i>	<i>Don't exist / can be overcome by innovation and state investment</i>	<i>The environment is the basis of society and the economy, overshooting biophysical limits will remove the basis on which society and the economy exist.</i>	<p>No recognition of biophysical limits, although the need for decarbonisation is recognized.</p> <p>No holistic or embedded vision.</p> <p>A “carbon tunnel vision” whereby only emissions related to the power plant are taken into account. The environmental impact of any new activity performed in the repurposed area is dismissed.</p> <p>So, for Piombino, new uses mentioned are: luxury shopping centre, harbour,</p> <p>(Similar uses of other requalified Futur-e sites, f.ex.</p>

	<i>PIOMBINO</i>			Commercial areas, marine sports, fishery)
Tech & innovation: <ul style="list-style-type: none"> - Optimism - Sufficiency 	<i>Important as the driver of global trade and economic growth</i>	<i>Important as the solution to overcoming environmental problems and continuing economic growth; part of the entrepreneurial state.</i> <i>PIOMBINO</i>	<i>Technology can be useful, but is not a panacea or a solution to overcoming biophysical limits, it is itself based on energy and materials use, and not politically neutral.</i>	<p>Innovation both technological and in economic management is the solution to address the ecological crisis.</p> <p>Green growth is pursued via circular economy, the overarching goal of the Futur-e project.</p>
Global power relations	<i>Inequalities will be overcome by more international trade and creating more markets.</i>	<i>Strong local government and state policies are needed to help economies in the Global South grow and develop.</i>	<i>Unequal global relations are the result of historic exploitation and colonialism. Development / international trade can be a continuation of colonial relations and a source of environmental injustice and damage.</i>	<p>No mention of international trade, colonialism.</p> <p>Final effects cannot yet be assessed and depend on the not yet finalised new use.</p>

While the paper aims to critically explore conceptualizations of just transitions, it has to be recognised that Enel's commitment to implementing a just transition places the company among those few industries who are trying and experimenting in this direction. The Just Transition Assessment of the World Benchmarking Alliance (2021a) examined 180 companies in high-emitting sectors, depicting a status quo with much room for improvement. According to this assessment, the majority of emission intensive companies are failing to demonstrate ambitious efforts towards a just transition (World Benchmarking Alliance 2021a).

On the backdrop of the three approaches, the project is predominantly in line with a neoliberal political economy approach. This is not surprising since the analysed case is conducted by a multinational energy company. However, since Enel has declared its commitment to just transition, this disaggregation contributes to shed light to the company's understanding of the crises, which need to be tackled, the instruments envisioned for the transition and the justice conceptualization underlying the transition approach.

Deriving from this analysis, we formulate key policy recommendations for successful transitions which go beyond the plant itself and can offer guidance on the way to a systemic just transition, within industrial policy agendas. These are laid out in the next section.

4. Policy Recommendations

Just Transitions have to go beyond place-based emissions and include scope 1- 3 emissions

Increasingly globalised streams of goods and services have enabled consumers to purchase products irrespective of their origin and local ecological and social pressures that arise directly or indirectly from production (Fürst 2021). In order to capture the environmental impacts of a product or service occurring along the full value chain, GHG emissions from scope 1 to 3 have to be taken into account. Scope 1 emissions are defined as direct GHG emissions controlled or owned by the organisation. Examples are emissions from fuel combustion in boilers or vehicles. Scope 2 emissions are indirect emissions from purchased electricity, cooling, heat or steam. The emissions as such are not physically occurring at the facility where the electricity, heat, etc. is being used but have to be accounted for as they are a result of the organisation's energy use. Scope 3 emissions are more complex and include all other indirect emissions arising along the value chain and end-of-life. Those often make up the majority of an organisation's total GHG emissions. Scope 3 emissions are for example emissions arising from business travel and employee commuting, emissions from purchased goods and services or emissions occurring at the end-of-life of a product (EPA 2022).

Overview of GHG Protocol scopes and emissions across the value chain

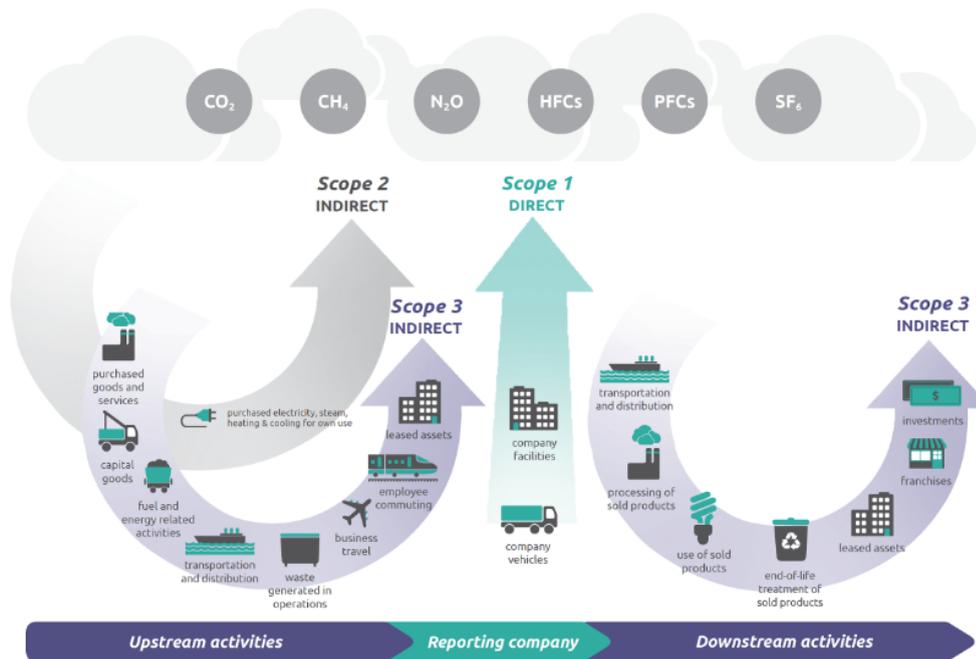


Figure 4: Overview of GHG emission scopes (Greenhouse Gas Protocol 2022).

Just transitions should also be conceptualised within a scope 1-3 emission framework. The focus should not only lie on reducing scope 1 and 2 emissions on site but on reducing overall emissions along value chains. Through the closure of the thermoelectric plant in Piombino scope 1 - 3 emissions occurring along the “old” value chain have been reduced. As future plans for the site are not finalised yet, it is unclear whether this transition will in the end lead to an overall reduction of emissions. In case a shopping centre and marina will be realised overall GHG emissions might even be higher than before. Emissions occurring on site will be lower but scope 3 emissions are likely to increase considerably given the high carbon footprint of global supply chains of products such as textiles or electronics and emissions arising from commuting to the centre. The goal of a just transition should be a system transformation towards a more sustainable production and consumption system (SDG 12) which makes it inevitable to take scope 3 emissions into account.

Skills development policies and industrial policies have to be embedded in a system transformation framework

In the case of Enel’s thermoelectric site it is not yet fully clear what type of industry and businesses will be established. A shopping centre or marina can be seen as critical from a system transformation point of view as this would not lead to the creation of future proof / “green” jobs, upskilling of workers or the development of industrial sectors necessary for the energy and climate transformation. According to the ILO “governments, in consultation with social partners, should establish incentives, mandates and, where necessary, regulations to stimulate demand, investment and development of markets for goods and services in sectors and subsectors that are relevant for the greening of economies” (ILO 2015). An example where the transition of a coal region is mainly achieved by the development of new “green” sectors is the Maritsa East site in Bulgaria. The largest coal complex in South East

Europe is aimed to be transformed into a new technologies economic zone as a competitive alternative to the current single technology specialisation. Potential new industrial activities will include renewable energy generation (wind and solar), hydrogen generation, EV battery production (Popov 2021). Policy tools currently being discussed for creating green lead markets such as Carbon Contracts for Difference - e.g. for the steel industry- should be considered in just transitions as measures in order to develop new sectors and foster innovation necessary for a more sustainable economic system. Further, industrial policies need to be complemented by the right labour market policies. Governments should, according to the ILO “support the transitioning to more environmentally sustainable economies by reviewing skills development policies to ensure they support responsive training, capacity building and curricula” (ILO 2015). In case of Enel’s site in Piombino, most likely no innovative businesses will be established there and thus no promotion of skills for green jobs will occur.

Apply alternative metrics for measuring success

Just transition processes are oftentimes overshadowed by concerns around costs, profitability or growth potential of the requalified plant (Martinez, 2021). In order to measure whether a just transition process has been successful we need other indexes than those focusing only on the economic aspects. To our knowledge no combined indicator exists yet which incorporates the social, environmental and economic aspect of a just transition and can be applied on the plant level. Such an index could draw upon already existing metrics, such as:

Environmental Indices	Social Indices	Economic Indices
Biodiversity	Working conditions and skill development	Long-term economic prosperity
Air and water pollution	Social inclusion	Commodity prices and household costs
GHG emissions	Employment, new jobs and income opportunities	Poverty
Resource and material intensity	Pollution / risk exposure, human health	Income distribution
Land use and soil sealing	Procedural involvement and participation	Effects on satellite activities along the value chains

Table 2: Indices for measuring just transitions (based on Öko-Institut, 2021).

First steps measuring companies’ just transition efforts have been made by the World Benchmarking Alliance (WBA) which has launched a benchmarking analysis. Their 2021 analysis has piloted a ‘just transition assessments’ of globally influential companies from high-emitting sectors (180 so far). This assessment is so far focusing on the social elements of a just transition. WBA will integrate the just transition methodology into their Climate and

Energy Benchmark assessments aiming at creating a holistic measure of companies' decarbonisation covering both climate and social performance. The Alliance is intending to cover 450 companies by 2023 on their just transitions and alignment with the Paris Agreement. As the index is not finalised yet it remains to be seen which aspects along the social, environmental and economic pillars it will cover. Currently, economic impacts are not included. However, green and decent job creation, re-skilling workers and an assessment of the paid wage are included as WBA indicators. Broader impacts along the value chain (e.g. with regards to satellite activities) or income distribution are out of the scope of the WBA Just Transition Assessment (World Benchmarking Alliance 2021a, World Benchmarking Alliance 2021b, World Benchmarking Alliance 2022).

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