

COAL

INTERNATIONAL
EXPERIENCES IN
THE SEARCH FOR
A JUST ENERGY
TRANSITION FOR
THE COAL SECTOR
IN SOUTHERN BRAZIL

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ACRONYMS INDEX

Acenor	Acenor Empreendimentos S/A
IDB	Inter-American Development Bank
BNDES	Brazilian Development Bank
BRDE	Brazilian Regional Development Bank
CDE	Conta de Desenvolvimento Energético
CEN	National Energy Coordinator - Chile
Cosoc	National Council of Civil Society of the Ministry of Energy – Chile
Dieese	Inter-Union Department of Statistics and Socio-Economic Studies
Finep	Brazilian Funding Authority for Studies and Projects
GHG	Greenhouse Gases
GIZ	German Corporation for International Cooperation GmbH
IG BCE	Mining, Chemical and Energy Industry Workers - Germany
Inodu	Business Consulting - Chile
MEN	Ministry of Energy - Chile
NDCs	NDCs - Nationally Determined Contributions
JT	Just Transition
Odecu	Organisation of Consumers and Users of Chile
ILO	International Labour Organization
UN	United Nations
PPP	Private-Public Partnership
EU	European Union
WWF-Brasil	Brazilian World Wide Fund for Nature



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PRESENTATION

It is a fact that countries around the world, reliant on a fossil energy source, such as coal, are seeking ways to reduce their reliance on this source and seeking renewable alternatives. Some countries started several years ago this technological changeover. However, in addition to seeking alternative technology for energy production, it is necessary to include all the actors involved in the issue, such as workers in the mining sector. They cannot simply be “warned” of demand shortage related to the country in question is changing the energy matrix.

The workers need to participate in the debate, suggest alternatives, and see themselves included in public policies for change and inclusion.

It is increasingly closer to the end of Brazilian subsidies to energy production by the source of coal (CDE), whose date is in 2027. The fossil economy Brazilian regions should begin to evaluate the future scenarios as soon as possible, learn about similar experiences, and develop joint work in search of this changeover - companies, governments, workers.

In addition to this, the global pandemic of COVID-19 has reduced energy demand and highlighted the need for economic recovery to be low or zero-carbon emission to ensure biodiversity and the future supply of natural resources for everyone. Economic stimuli must be planned considering the need to encourage activities in line with the Sustainable Development Goals, ensuring safe and clean energy for all with robust partnerships and respect for differences.



INTERNATIONAL EXPERIENCES

CANADA

CONCEPT OF JUST TRANSITION

Just Transition means that society shares the costs of the change to a low carbon economy, ‘a social justice framework to facilitate the shift to a zero-carbon economy in a way that guarantees productive and equitable outcomes for workers.’ In this context, equity means a fair distribution of costs and benefits of a proportional transition to the inclusion of historical marginalization of different people in the economy.

The DIEESE and WWF-Brasil want to contribute to the debate on the phase-out of coal for energy use in Brazil. By doing more than proposing regulatory actions, which many industries have already debated. It is vital to point out possible paths to social and economic inclusion of the regions that rely almost exclusively on coal mining for thermoelectricity production today.

Four international experiences evaluated the ore reduction processes in electricity production: Canada, Chile, Spain, and Germany. From the actions and policies on development in these countries, it is possible to draw parallels between them and Brazil and seek recommendations for the sector in our country.

It is noteworthy that the minerals extraction has increased by six times in Latin America between 1970 and 2017, generating enormous pressures to the natural environment. As a result, considerable environmental challenges persist for the region: contamination of water, air, and soil, competition for water, destruction of habitats and protected areas, advancement of mining areas in biodiversity reserves, numerous environmental liabilities, and informal high-risk activities.

Latin America is the region with the most social and environmental conflicts in the exploration of mining activities. In 2018, there were 26 conflicts in Brazil and 43 in Chile. As fundamental as drastically reducing the pressure on natural resources is to ensure taking people's lives into account in the plans for decarbonization. And consider especially those who are in coal mining regions today.

That is one of the main strengths of the concept of just energy transition. Since the 1970s, formulated by the US labor movement in response to environmental policies, that is on the agenda of the energy sector, although sometimes disfigured or mutilated in the light of diverse interests.

However, the concept has gained international attention when the debate on climate change policy has become inevitable in all sectors. It is pivotal to register the document released by the ILO (International Labour Organization) in 2015, which systematizes and positions the prospect of work in the international debate on sustainable development. By the time of the Paris Agreement negotiation, the Just Transition was a key objective of international trade unions and was supported widely by environmentalists. The concept turned out to be included in the Paris Agreement as follows: *'Taking into account the imperatives of a just transition of the workforce and the creation*

GERMANY

WAYS OF MOBILIZATION AND INVOLVEMENT AMONG THE SOCIAL ACTORS

It was considered relevant that workers should be an active part of the transformation process bringing about profound changes. Workers are, at the same time, affected and motivators for change. Shaping a just transition and making it successful can only happen to the workers and not against them. The goal should be to prevent the loss of jobs and create new high-quality jobs. For that, unions play a fundamental role. It is necessary to explain the causalities to the workers, act with transparency, build trust, provide security. Solidarity among workers is crucial.

AGREEMENTS AND AGREED PRINCIPLES AND SOCIAL DIALOGUE MECHANISMS

A characteristic of the German plan is the commitment to 'zero layoffs', which means that there are no layoffs for workers in open-pit coal mines and plants for operational reasons. If a job disappears, the affected worker will receive a new decent job. The person will also be paid back for any wage difference between the old and the new job.

SPAIN

ARTICULATION WITH THE SDG/2030

"We want that new renewable projects built in these regions to the communities that helped to create today's prosperity, through its contribution to the energy system, may also be part of the future of electricity", said Teresa Ribera, VP.

of decent work and quality jobs, per nationally defined development priorities.'

These formulations on Just Transition understand that every society must share with the transition and not only with those impacted segments in the future. Regarding this, just energy transition is deemed as an opportunity for the economies, regions, sectors, companies, and workers to face the structural changes. That not only by climate challenges but also by digitalization, urbanization, individualization, and demography. Therefore, it demands cooperation and collaboration between workers, unions, employers, communities, families, and all levels of government.

In short, Just Transition cannot be seen only as mitigation of localized problems, as in this case of coal, but understood as an impulse to change the development model: explore opportunities for new quality / sustainable/green jobs; boost economic growth in the course of a neutral output in terms of carbon; strengthen the capability of competitiveness, innovation, and the development of productive value chains.

The fulfillment of these goals, only if Just Transition incorporates certain principles into its processes. That guarantee, among others: the equitable distribution of costs, participation of social actors, broader social dialogue, respect for fundamental labor rights, the inclusion of vulnerable/marginalized/traditional population, gender dimension, respect for culture, promotion of structural changes, a connection between social and environmental development, activation of public policies, and the recognition that there is no universal solution for all situations (each case is different).

Thus the international references in this document should be framed in light of each national experience. Brazil, for example, does not have a culture of social dialogue between social actors, as observed in most European countries. Here, the conflict is considered an anomaly to be banned, and legal arrangements and regulatory mechanisms do not encourage debate and consensus-building. From this observation, there is an urgent need to build a national process of Just Transition with clear outlines of its understanding and scope, including making

AGREEMENTS AND AGREED PRINCIPLES AND SOCIAL DIALOGUE MECHANISMS

A just transition would be unlike any previous one. The traditional top-down labor market programs settings are simply inadequate. These must be tailored solutions focused on the worker, taking into account the needs and desires of individuals, families, and communities. Labor market policies focused on the worker must include an absolute right to education and training, physically and financially accessible, based on principles of learning throughout life, and the right to choose what best suits the needs and desires of individuals. That would include everything from the skills training offered by unions and educational institutions, learning programs, and high school and college. If a clerk wants to be an apprentice machinist, or if a miner wants to study music, this must be supported because, in the end, society will benefit from it.

CHILE

CONCEPT OF JUST TRANSITION

The Chilean government prepares a proposal for a Just and Sustainable Transition Strategy. It is the work of the Ministry of Energy along with the Environment and Labor Ministry. Its goal is to ensure that Chile's energy transition to carbon neutrality incorporates fair and equitable social and environmental development. They aim to achieve that by promoting green jobs' creation that improves the quality of life and environmental conditions in the territories where the energy sector's infrastructure is.

¹ ILO – Guidelines for a Just Transition towards environmentally sustainable economies and societies for all, 2015, access https://www.ilo.org/global/topics/green-jobs/publications/WCMS_432859/lang-en/index.htm

adjustments and incorporating innovations to ensure greater legal certainty, equity, and social legitimacy for their purposes. The energy transition to an increasingly cleaner matrix will only be just if it is inclusive, leaving no one behind.

AGREEMENTS AND AGREED PRINCIPLES AND SOCIAL DIALOGUE MECHANISMS

In June 2019, President Sebastián Piñera announced the Ministry of Energy's agreement to the AES Gener, Colbún, Enel, and Engie companies. The plan's first step includes that, by 2024, the eight oldest thermoelectric power plants in the country, located in the communes of Iquique, Tocopilla, Puchuncaví, and Coronel, will conclude their operations. The withdrawal of companies from this sector will take place without direct government subsidies. The document focuses on the process that considers the scheduled coal thermoelectric powerplants withdrawal in Chile up to 2040, with an initial withdrawal phase by 2024, its context, historical, and expected outcomes. The coal withdrawal or reconversion will reduce the carbon dioxide emission by 25 million tons, based on the year 2018.

PUBLIC POLICY-DRIVEN FOR THE ACTION PLAN DEVELOPMENT

The closure of the plants will bring significant environmental benefits in reducing GHG emissions and local air pollutants. That also will impact direct job losses, estimated at 4,400 people directly and about 9,500 affected by indirect jobs related to the thermoelectric activity. To address this situation, each municipality affected by coal thermoelectric power plants will develop Local Action Plans. It will allow diagnosing the social, productive, existing environmental, and territorial needs to generate actions resulting from participatory processes, with clear objectives, indicators, deadlines, and those responsible. That will allow the timely monitoring of the measures taken and, thus, minimize the labor and economic impacts. Besides, it will be necessary to propose mitigation measures and recommendations for actions that maximize the productivity, labor, and social and environmental benefits of these territories.



CONSIDERATIONS FOR SUPPORTING THE BRAZILIAN CONTEXT

The experiences analyzed in this publication articulate their shares to Un's Sustainable Development Goals in 2015. On the SDG's agenda for 2030, there are 17 targets set to which most of the planned initiatives for the Just Transition from coal converge. The basis for transforming the coal transition is the migration of the energy generated to renewable sources, such as wind and solar. However, production changes resulting from the decommissioning² of coal, are encouraging investments in other sectors with lower carbon emissions. That happens in agroecological production and reconversion to greater sustainability. Such as in the case of activities related to transport, construction, among others.

It is fundamental to highlight that, in all the international experiences analyzed, the closure of activities related to coal occurs in a staggered way over time and follows a plan coordinated by the State. For this reason, many countries set intermediate goals to reach the final total metal closure. On the one hand, this leads to greater feasibility in implementing the plans. On the other hand, productive agents took advantage of such flexibilities as postponement breaches of the measures, causing excessive renegotiations to fulfill the ultimate goal.

The NDCs (Nationally Determined Contributions), a kind of public commitment assumed by the governments regarding sustainable development goals show a consequence of those measures. Some national targets for closing the coal activities, for example, go beyond 2050, making it possible for some regions to coexist with new coal units and old plants.

Rigid State regulation has sustained this whole set of actions. The agreements built with the participation of society will result in rules, laws, decrees, programs, and ordinances developed or modified by the legislative and executive branches of the different federal entities (Union, states, and municipalities).

² A term which means taking all necessary measures for decommissioning a facility that exploits coal.

2.1 MOBILIZATION AND PARTICIPATION OF SOCIAL ACTORS

One of the central aspects of ensuring a Just Transition process concerns the involvement of social actors. Decommissioning an activity or coal plant stirs a complex network of interests, many of them historically and culturally linked to communities.

A starting point for JT is to previously know the different social actors involved and their interests stated or not. But, it is not enough to know who they are and what they think. The key is to actively engage them in the debate for a transition in which they feel represented.

For this reason, in different forms and degrees, international experiences analyzed sought to open institutional channels for social actors' representation and provide spaces for the expression of interests. In most cases, the federal government established and appointed a Task Force, with the participation of representatives of business, labor, government, consumer associations, academy, civil society organizations, representatives of the legislative branch, among others, which has proved to be an effective democratic and effective arrangement for coordination of a JT process.

The articulation strategies of the members that take part in the Task Force are differentiated to give remarkable roots to express different standpoints. The unions, for instance, have organized discussions with other unions not represented in the Task Force, through several parallel meetings with smaller groups than the ones of the Commission, facilitating the construction of internal consensus. Thus, the social dialogue process happened through public hearings, meetings, and technical conferences. Those produced various information materials (guidance documents, training courses, articles) and mobilized courses to support awareness and communication.

Sharing diagnosis construction process and local development alternatives result in more participation, as experiences showed. Also, the workers and community recognize themselves in the action plan in replacement for coal. The more concrete and feasible the Plans announced are, the better the adhesion of workers and the community.

2.2 FIRMED AGREEMENTS

Once it is possible to consolidate the dialogue spaces and agreement with the social actors, the outcomes are agreements with different levels of coverage. They may be national, regional, local, sometimes bilateral-as collective agreements/conventions concluded between companies and workers' unions. Some agreements are concluded from an international perspective, especially when involving multinational companies.

These agreements, anchored in the Paris Agreement's preamble, became part of the JT the regulatory framework in each country/region. Usually, the components appointed for the Task Force do not sign these agreements, and they are responsible for providing the subsidies and signaling the consensus so that the institutional representations of the social actors (businessmen, workers, and government) sign the respective instruments.

The content of these agreements varies according to the object and level of coverage, and it may establish commitments. Some of these situations are zero layoffs, preemptive rights to new jobs, generation of decent jobs and according to the desires of the community, fulfillment of climate goals, social protection

to those affected, federal investments, guaranteed energy prices, activation of public policies (employment, pension, qualification, health, among others), monitoring of the results, permanent social dialogue, guaranteed union rights, guaranteed income, the anticipation of pensions, creation of institutions (national observatory, regional center of just transition) and permanent spaces for negotiation (tables), suspension of new investments based on coal, among other topics.

The construction of these agreements, in most of the experiences analyzed, took years to be achieved. The learning accumulated in the development process was instrumental in ensuring a just transition to the parties in a horizontal relationship of exchanges of knowledge and expressions of interest.

2.3 UNDERSTANDING THE LOCAL REALITY

There is no one-size-fits-all approach for all regions, hence the importance of a well-planned process for making the diagnosis and research that can scale the different contexts of reality. Successful experiences indicate the need for producing a preliminary diagnosis oriented by secondary data sources. That provides references for further qualitative research with the different social actors.

The encounter between the pre-diagnosis and the research lay the basis for a final diagnosis elaboration that embodies the vision of the social actors through the research carried out. This participatory methodological path guarantees a better understanding of reality and involves the actors in alternatives indication to coal. A Local Development Plan must later that incorporate.

This diagnosis should be robust enough to scale the degree of reliance that the affected municipalities have on coal. About national indicators, the size of the importance of coal may have lower degrees of representation. Surely, the problem has a much larger dimension after the activity comparison within each county or region affected.

For this reason, the diagnosis made through the survey of secondary and primary data must necessarily bring about the information on the known and predicted impacts through indicators on employment, income, demography, worker and population health, added value, tax collection, supply public facilities (education, health, technology...), social conflicts, GHG emissions, energy generation costs and offers, tax subsidies for coal, among others. It is relevant to work on information to capture the impacts on the entire coal production chain. It should also bring information about the public and private financing possibilities for the transition, programmed investments and others to be mobilized, and the adaptation or revision of national and international standards.



THE COAL STORY

THE COAL STORY IS ATTACHED TO THE HISTORY OF THE COMMUNITIES IN ITS DIFFERENT DIMENSIONS:

- Economic
- Social
- Cultural
- Environmental

TO ACHIEVE TRANSITIONAL ARRANGEMENTS IS ESSENTIAL TO DEVELOP LISTENING METHODS AND CAPTURE THE LOCAL REALITY THROUGH DIAGNOSTICS FOR ALTERNATIVES DEVELOPMENT.

The list of variables that should make up the diagnosis is unique for each JT experience. The affected population should previously be reported about the research and subsequently informed of the results.

1. the jobs generated by coal, although in poor health conditions, are better paid than the average jobs in other sectors in the same region;
2. the amount of direct jobs is not very significant and has been declining over the years;
3. there are statistical limitations for measuring indirect jobs generated by coal activity;
4. the vast majority of workers live in small municipalities and with a scattered population. That limits the scope of public policies in terms of employment reintegration.

Furthermore, there is a powerful cultural component around the coal in the affected communities, with generations of families involved in this exploitation. The population is scattered in some pockets over the municipality territory, with poor infrastructure and environmental deterioration. The alternatives for the development of the municipalities rely on public investment. Therefore, the affected locations' dependency is significant on economic, social, and cultural terms. So, local solutions are in order.

Experiences raised shows that studies for the elaboration of diagnoses were carried out by different public and private organizations, often through the hiring of specialized consulting companies under the coordination and demand of the Task Force.

2.4 PLANS OF DEVELOPMENT, PUBLIC POLICY, AND FINANCING

One of the expected results of the diagnostic and research is to serve as input for the preparation of local development plans to ensure a process of Just Transition to the affected communities. These plans are structured by planning and carrying out a set of actions. That not only mitigate the impacts brought by the closure of coal-related activities but also advance in structuring policies that encourage economic, social, and environmental development of the communities.

Therefore, Local Plans and National Plan must be specific to each of the municipalities affected by the closure of coal activities. They must diagnose the social, productive, environmental, and territorial needs to generate actions resulting from participatory processes, with clear objectives, indicators, deadlines, and those responsible. That allows the timely monitoring of the measures taken and, thus, minimizes labor and economic impacts.

Besides, it is up to the Plans to propose mitigation measures and recommendations for actions that maximize the production, labor, and social and environmental benefits of these territories. In almost all the experiences analyzed, the Plans brought new bases for the productive configuration of the affected regions by diversifying the profile of an economic and social structure linked mainly to the energy sector. In this context, it is crucial to register the policies aimed at marginalized and vulnerable groups. Those already excluded from the production process at the time of coal. Such as traditional populations, people with disabilities, indigenous people, women, Black, young people, elderly, and LGTB, among others. In this direction, the international experiences of JT indicate the importance

of public policies to facilitate the Development Plans. Those were on labor, employment, income, social security, technology, energy, environment. They concerned topics such as guaranteed fundamental labor rights, qualification, unemployment insurance, basic income, education vouchers, career counseling, skills, affirmative gender/race/generational policies, early retirement; technology incentive to renewable energies, minimum prices, tariffs, supply of renewables, recovery of degraded areas, among others.

Another fundamental learning about the Action Plans is that they should preferably be local. And include communication, monitoring, review of the regulation components, research to assess development alternatives, funds, and programs for investment in job creation and infrastructure activities, and set the responsibilities of the companies that are ceasing activities. Regarding the financing mechanisms, experiences indicate that this has been a crucial factor to guarantee success in the Just Transition processes. It is not enough to suggest actions to the communities. However, the plan should present how to do things. Showing the financing possibilities and the Development Plan is a big step towards guaranteeing the commitments of the social actors around the alternatives.

In all cases analyzed, except for Chile, the plans were financed partially by public resources. Some mobilized funds came from interregional sources (such as the European Union's Green New Deal). However, the vast majority came from national funds, short and long-term resources aimed at financing jobs, reconversion of industries, and diversification of economic activities. Taxes on carbon emissions and changes in tax legislation also generate resources, such as the creation of funds to finance the transition from the tax subsidies destined for coal.

As public budgets granted these are resources, the involvement of the legislative branch in this step proved to be quite effective. It helped seeking sources and circumventing frustrations arising from budgetary constraints that have been one of the very present obstacles in the reported experiences and reason for delays in schedules the transition.

Other financing sources also proved susceptible to be exploited as PPP (Private-Public Partnership), banks, and public agencies of multilateral (such as IDB) and national (in Brazil, BNDES, BRDE, FINEP, State Development Banks) development, and private institutions.

These financial costs are investments necessary to leverage the economic growth of the regions impacted by the transition. That is shown in several international experiences.

2.5 RESULTS ACHIEVED

The results achieved in the international experiences analyzed, despite the transition process, can be observed on several fronts. Concerning the labor market, the most evident advances indicate partial relocation of impacted workers (including outsourced workers), generation of green/sustainable jobs, early retirement for coal workers, an extension of unemployment insurance, among others. However, there are still concerns regarding quality, remuneration, and working conditions in the new job generated by the transition. There is a lack of scope of affirmative policies for vulnerable groups in the impacted regions as well.

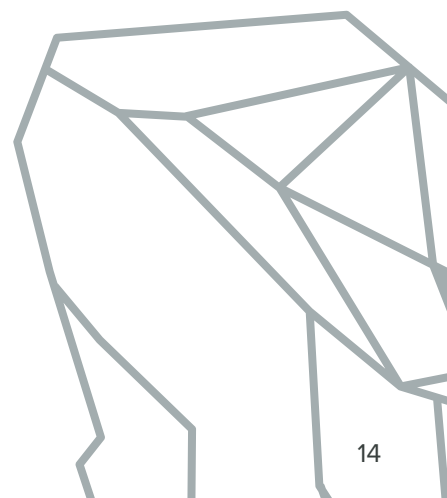
From the social aspects, we highlight the following: health benefits

(reduction of deaths and hospitalization due to contamination), union involvement in issues related to climate change, granting of scholarships to the community, articulation among different social actors, and the creation of organizations that monitor JT processes, such as Regional Center of Just Transition and Observatories. Such spaces strengthen social dialogue through the possible diverse agreements. It is clear from the experiences analyzed the low coverage of income guarantee programs given the needs of the communities affected by the decommissioning of coal, in addition to obstacles to significantly reducing the cost of the tariff and expanding access to renewable energy sources especially, wind and solar.

In terms of environmental issues, it is vital to highlight the reduction of air pollution levels, the reduction in GHG emissions, and the growth of the participation of renewable sources in the energy matrix. The recovery of land use by coal is still an ongoing process.

In the economy, there are glimpses of competitiveness improvement. That is due to the new energy matrix based on renewables. There is also GDP growth resulting from new investments and technological development programs for sustainability strengthening. Discussions on environmental liabilities of the companies that exploit and use coal remain open. There are also controversial discussions about the amount of public authority compensation to the productive sector for contracts terminated by coal activities' end.

Brazilian case paradigmatic experiences are the scope for the results pointed out synthetically. Other countries initiating Just Transition processes face greater degrees of difficulty and limited progress in their development plans.





LESSONS LEARNED AND RECOMMENDATIONS

The Just Transition of Coal is relatively recent in the countries' circumstances. It bears many learnings that, if well understood by the different social actors who experience it or will come to experience it, can shine a light on new paths for social, economic, and environmental transformations. The international experiences analyzed have had successes and frustrations in the design and implementation of transition-related measures. A good not to re-edit mistakes is to learn from history, even if it is a recent one.

Next, we will go through some of the recommendations in the analyzed studies of the coal transition processes in Canada, Germany, Spain, and Chile. Those were not initially in the planning of previously established actions, were organized by thematic blocks. Undoubtedly, they are warning and reference for countries that, like Brazil, are already beginning to structure Just Transition plans.

PRINCIPLES

1. To incorporate the principles of just transition agreed by the Task Forces in the planning, legislative, regulatory, and advisory processes to ensure continuous and concrete actions during the transition of coal elimination.

FINANCING

2. To finance the establishment and operation of locally conducted transition centers in the affected coal communities.

3. To establish a dedicated, comprehensive, inclusive, and flexible just transition financing program for the affected communities.

JOB MARKET

4. To develop an early retirement program. Within the scope of social security, for workers who will retire before planned due to the elimination of coal, among other reasons. The worker analyzes how many years he/she needs to retire during his/her decision-making process to get into more debts to expand spending to provide for the family after his/her retirement.

5. To create a detailed and publicly available inventory with labor market information relating to coal workers, such as skills profiles, demographics, locations, and current and potential employers.

6. To establish a comprehensive financing program for workers who remain in the job market to meet their needs at all stages of obtaining a new job, including income support, education and skills development, reemployment, and mobility.

7. To invest in the generation of green/sustainable decent jobs linked to technological innovations resulting in new robust economic sectors.

8. To consider a charcoal culture. Many of the coal workers are the second or third generation of the family to work in this activity. They are proud of this legacy, helpful to build a nation, and their current contributions to provide reliable and affordable electricity in their home province. Many workers are frustrated because the coal industry is deemed “dirty” and is on the verge of eradication.

9. To offer new training courses and education in the communities where the workers are and, preferably, before dismissal.

10. Expanding the just transition policies to apply to all workers-not only the coal workers-in the affected communities has been a more suitable solution from a social equity perspective. So just transition must include all workers, from coal production to retail-everyone will be affected and therefore must be involved. That brings about the recognition that transition plans need to reflect the different needs of people in different regions and sectors, also considering the differences in income, gender, ethnicity, migrants, urban, rural, and others.

11. To correct structural inequalities in the job market and the economy, in general, must be one of the principles of social justice. A just transition is not complete and will not fight inequality without specific policies for marginalized workers created in the process.

12. To change employment patterns to improve, effectively and equitably, policies for creating quality jobs and developing the changing workforce, particularly in regions where unemployment remains high.

13. Expand employment through investments in the energy transition across the entire industrial value chain and the service sector.

14. To ensure the quality of the new jobs created in the renewable energy sector, which, on average, has been presenting lower labor standards in comparison to the traditional industries. There is a struggle for better working conditions, the constitution of company councils, and collective labor agreements with union monitoring.

15. To foster Decent Work in creating new jobs. Decent work must be a precondition for receiving government financial support to advance in the energy transition. The administration should not facilitate poor working conditions in the new industries. On average, ‘green’ industries are often dominated by working conditions and wages lower than traditional industries. Wages in the renewable energy industry are usually lower than in the steel and electric industry.

INTERACTION WITH SOCIAL ACTORS

16. To meet directly with the affected communities to learn about their local priorities and connect them with federal programs that could support your goals.

17. To consider the diversity and strength of the groups working on Just Transition. Collaboration and continuous communication between the groups will strengthen the movement's political power and the scope of the transition plans.

18. Communicating with the community in advance about the possible units' closure intention has contributed to mitigating impacts.

ACTION PLANS

19. To present a plan. People would be more willing to understand the changes if there were a plan and overall view. But if you arrive in the community with an idea of something like *'I think we have to do something'*, the conversation will not be fruitful.

20. To direct resources to finance social programs, infrastructure construction, education, and industry.

21. To adjust the times so that social plans can be developed and implemented in a more feasible time horizon for the community demands.

22. To consider that the regions still face structural changes without having a structural change project. The success of the transition relies on the regional economic power and economic situation, public support, existing infrastructure, amount of time available to promote structural change. The progress of structural change in the energy industry and its surroundings is a primary challenge.

23. To ensure that state, regional, and local administrations sign the agreement around the action plan. That implies that the determination of these plans, territorial or regional ones, be done between the involved administrations overcoming resistance to collaboration between one of the affected administrations.

24. To conduct an early on-site environmental investigation to determine contamination that needs to be corrected.

25. To articulate multiple stakeholders' groups about the possible location usages to advise studies in those cases whose objective is to seek alternative uses for the facility that will cease to operate and set the most convenient way to evaluate the different options.

26. To create an opportunity to use open processes so third parties can propose development alternatives along with their financing intention. As part of the activities associated with the 'Trading Desk', several alternatives for thermoelectric power plants reconversion were revised and classified according to their degree of technological and commercial maturity.

27. Participants had an opportunity to test the definition of just transition by sharing experiences and past, present, and future work.

TRADE UNIONS' ROLE

28. To create through a counseling plan for transition, a 'Growth, Structural Change and Employment' Commission ensuring that every direct job loss has a correspondent new decent job.

29. To work with other unions to influence social and economic progress. The basis of cooperation is the shared conceptualization of achieving a sustainable and high-performing industry in a supportive society.

30. To defend extensive social interventions as complementary aspects of a more sustainable economy by ensuring workers' rights and livelihoods of the affected people and regions.

31. To act through social dialogue as an articulator between companies and civil society organizations. If the position of trade unions is clear, it is easier to build agreements.

32. To report anti-union practices by companies of new sectors that fight against unions. Codetermination, collective employment agreements, and decent working conditions are answers to greater job satisfaction and greater competitiveness of new industries.

ENERGY TRANSITION

33. To understand that energy transition is a structural change booster in other industrial sectors as well.

34. To provide appropriate industrial policies for the change by encouraging renewable energy. The alteration in feed-in tariffs for the bidding system, for instance, has created more economic pressure, leading to more pressure on working conditions.

35. To recognize the existence of conflicts with the conventional energy sector companies, which fear losing their influence. And also between the various forms of renewable energy generation. The sources of solar, wind, and water energy, or obtained from biomass,

imply different costs and offer different levels of security of supply. Therefore, it is necessary to decide on the development of each. Internalizing energy efficiency concepts and developing new ways of economic growth is as important as expanding renewable source generation.

36. To create a type of bidding that allows the dealers to compete for access electricity connection used by the decommissioned coal plant. Whoever presents the outstanding amount of renewable energy wins. Access decisions also take into account social, environmental, and employment impacts.

37. To be cautious about innovative technologies. There will be tangible innovations, given the increase of investments in research for technology development regarding sustainability, especially energy. But there will also be false innovation claims for short-term financial benefits. Any decision to explore innovative technologies must start with risk and impact assessment, what the technology will mean for the workers, their families, and the communities in which they live.

38. To set an energy supply strategy for regulated customers that include greenhouse gas emissions targets.

39. To observe the lifetime of coal-fired power plants. In some cases, it may happen that a relevant set of coal-fired units built less than ten years ago, and which will have more time for decommissioning, will be located next to older plants (which will be closed) and share a specific support infrastructure.

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