IndustriALL Global Union Sectoral Sustainability Report

- Sustainable Development
- Climate Change
- Just Transition
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industriall global union

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With many thanks for contributions and comments from staff members of IndustriALL Global Union and its predecessors and IndustriALL's sector Chairs, Co-Chairs, and Affiliates.

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SUSTAINABILITY: IndustriALL Global Union's VIEW

This paper is not new in the sense that it builds on a proud history of IndustriALL Global Union and its predecessor organizations in defining a progressive position on environmental protection while defending the interests of its affiliates and their members. We say the problem is one of having "jobs AND a sustainable environment" and we refuse to be trapped by the false rhetoric of "jobs versus the environment". In policy documents, resolutions taken at congresses, and dozens of sectoral conferences and regional meetings dating from the 1980s to the present, we have debated and refined our positions on sustainability and climate change. IndustriALL has a responsibility to carry on this tradition. There are no jobs on a dead planet, and there is no future in trying to be the last defender of the indefensible.

The words "sustainable development" and "sustainability" are used frequently, and there is a broad consensus that the world must move toward a sustainable future. However, there are differing interpretations of what such a future would look like. This paper explains how IndustriALL understands or interprets sustainability.

The now-classic definition offered by Gro Harlem Brundtland in 1987 read: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: (1) the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and (2) the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."[1]

It should also be clear that this definition contains within it the concept of intergenerational fairness: what we will leave behind, for future generations, following our own brief moment on this planet. Today's needs include energy, materials, and other industrial products - and the jobs they create. Tomorrow's needs include a clean environment and a stable climate.

Sustainability includes human rights and labour rights, economic development, and environmental protection. It is the integration of social, economic and environmental concerns that will move the world to a sustainable future; and in particular it is the balance between the social and environmental imperatives of sustainability that gives the labour movement its credibility on sustainability matters.

GENERAL INTRODUCTION AND BACKGROUND

Representing some fifty million workers worldwide, IndustriALL is the leading Global Union Federation for unions representing workers in a wide variety of resource, processing, manufacturing and energy industries. As such, IndustriALL is the Global Union Federation

[1] World Commission on Environment and Development, "Our common future" Oxford University Press, 1987

whose affiliates will be most directly affected by sustainability debates. We are a federation of industrial unions. Our point of view is distinct from that of employers and distinct from that of environmental non-governmental organizations (ENGOs). The industrial sectors that employ our members are frequently blamed for creating problems but it is within these sectors that many of the solutions for a sustainable future will be found. Those solutions must benefit workers and society through the creation of sustainable jobs.

Environmental non-governmental organizations (ENGOs) and business have significant expertise and are powerful advocates for the environmental and economic components of sustainability, respectively. Unions, too, have a particular expertise regarding the environment and the economy that differs from that of ENGOs and business. However, the social component of sustainability is the component that unions feel has been rather neglected in the sustainability debate; and coincidentally is an area in which we are uniquely qualified. It falls therefore upon labour to speak up for social needs - as it has so often in the past.

Sustainability, or sustainable development, is at the top of the political agenda as concerns related to human development, the global economy, and potentially catastrophic environmental crises, merge. As an organization representing working people, we must either engage in these debates or quietly accept the decisions of others.

Every industrial sector and every region has its own particular challenges and concerns, with considerable variation between and within them. Sustainability can only be achieved when each of those challenges and concerns is dealt with in a consensus-seeking, integrative fashion that attempts to balance the environmental, economic, and social imperatives of sustainability.

If we fail to protect the environment, there is a risk that we will eventually face economic catastrophe and social disintegration. On the other hand, if we consider only narrowly defined environmental or economic issues in isolation from their social links and impacts, we may destroy cultures, societies, communities, enterprises, and individual working peoples' lives and have nothing to offer them in return. Balancing and integrating all of these concerns is the essence of sustainability.

Social, economic and environmental needs interrelate in complex ways. The interfaces (social-economic, social-environmental, environmental-economic) are blurred and indistinct, and there is great difficulty in separating any one dimension from the other two. Within each component exists a myriad of subsidiary interfaces. Sustainability requires an integrative, rather than the traditional compartmentalized, way of thinking. For example, unionized workplaces are safer, healthier and more considerate of the environment than similar non-unionized workplaces. Therefore it is perfectly consistent with environmental protection to demand that International Labour Organization (ILO) Core Labour Standards be respected. Solutions need not necessarily be "one size fits all". Different countries and sectors may need to focus on different aspects of the problem.

Nevertheless, it is useful to initially consider the three broad dimensions of sustainability separately, to get an initial understanding of what they might contain.

THE SOCIAL DIMENSION OF SUSTAINABILITY

Social sustainability begins with respect for human rights, cultures, and communities. A sustainable future must be founded on fairness, equity, and justice.

As human beings, we also seek a fulfilling life. We value highly our creativity, our intelligence (both as individuals and as cultures), our abilities to interact, form families and communities, and care for one another. Social sustainability therefore insists that we pay due attention to all of those things that protect and enhance communities, and that help ensure the well-being and fulfilment of individual human beings.

Concretely, the labour movement demands respect for internationally recognized human rights. These include: the United Nations (UN) Universal Declaration of Human Rights; and all of the labour rights and standards of the International Labour Organization (ILO), but particularly those referred to in the Declaration on Fundamental Principles and Rights at Work (often called the ILO Core Labour Standards). The obligations of corporations to respect these rights are contained in the UN Guiding Principles on Business and Human Rights, the Organization for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises, and the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy.

In addition, the labour movement understands that sustainability will never be achieved without paying attention to problems such as disparities in wealth and income, inadequate access to education, population health (including occupational health) and health care, law and justice, equality of opportunities within society, environmental justice (including opposition to environmental and social dumping), indigenous peoples' rights, corruption, militarism, war, and all sorts of violence.

Getting to a sustainable future will require comprehensive Just Transition programmes. High standards of social protection are necessary (although not by themselves sufficient) to facilitate that transition to a sustainable world.

THE ECONOMIC DIMENSION OF SUSTAINABILITY

It is a grave misconception to believe that economic sustainability refers only, or even primarily, to the continued profitability of enterprises. Global economic sustainability refers to the overall smooth functioning of the global economic system; including opportunities for growth of the economy of less-developed nations.

A sustainable future is not a future of poverty, and in this regard the fulfilment of the United Nations' Millennium Development Goals and 2030 Agenda for Sustainable Development must be considered crucial.

IndustriALL believes that economic sustainability implies decent work and income sufficient to provide for good shelter, health care, education, community infrastructures, and protection of the environment. The attainment of such income must not depend upon an unreasonable number of hours of labour per day, per week, per month, per year or per lifetime. ("Decent work" is defined by the ILO's Decent Work Agenda, and the ILO Declaration on Social Justice for a Fair Globalization.)

The labour movement's demand for decent work is a demand for economic sustainability. For example, **precarious work (low-quality contract and agency labour) is generally incompatible with long-term sustainability**, and is a particular problem for women and other disadvantaged groups. Therefore, the ongoing IndustriALL campaign on precarious work is a good example of how **we strive to create sustainable, quality jobs**.

- IndustriALL`s strategic goals IV and V

Another example is informal work; often involving dangerous forms of self-employment in unsanctioned activities such as so-called artisanal and small-scale mining. Such activities need public policy attention that will integrate them into the economic mainstream and redirect them to stimulate local/national entrepreneurship, improve livelihoods and advance integrated rural social and economic development.

People struggling to survive are not able to consider the need to preserve tomorrow's environment. A sustainable economy will increasingly provide quality jobs that enhance social and environmental sustainability, and support communities where people have the opportunity to develop their full human potential.

The global economic system has become increasingly unstable, and the usual prescription of austerity, deregulation, privatization, and globalization fails ordinary people. It has justifiably been described as "casino capitalism". A sustainable world cannot be built on such uncertain foundations.

For IndustriALL, the question of sustainability is fundamentally a question of public dialogue and consensus. Who benefits from, and who pays the costs of, actions taken to protect the environment?

THE ENVIRONMENTAL DIMENSION OF SUSTAINABILITY

Activities tend to be environmentally sustainable when they use energy and resources efficiently (not wastefully), use materials in continuous cycles, use continuously reliable sources of energy, and do not require resources in quantities that would be unavailable to the majority of people on the planet or future generations.

Activities are probably not environmentally sustainable when they require continual inputs of non-renewable resources (but note that the necessary use of a non-renewable resource can in a sense be considered "sustainable" if alternatives are foreseen that would provide

future generations with equivalent opportunities), use renewable resources faster than their rate of renewal, cause cumulative degradation of the environment, or lead to the extinction of species.

A sustainable environment requires that materials, energy and natural resources be used in a manner that provides for both present and future generations. The preservation and availability of many global commons, including clean air, fresh water, and a stable climate, must be assured. It also requires the maintenance of biodiversity and human health.

Cleaner industries benefit both workers and the environment. Without the preservation of the natural environment, neither social nor economic sustainability is possible.

One of the most pressing environmental issues of our day is climate change, and it is therefore necessary to say this: climate change threatens everything the labour movement stands for: fairness, social justice, decent work. The science is unequivocal. The need for action to limit climate disruption - no longer prevent, but limit - is clear, and urgent.

Unsurprisingly, powerful voices are waging a campaign of disinformation and job blackmail to delay action. This has nothing to do with science, and everything to do with trillions of dollars' worth of fossil fuel reserves whose value may be affected by any action plan. Likewise, it has nothing to do with genuine concern for working people. The corporate and governmental climate deniers who now pretend concern for jobs are the same ones that have attacked workers and their unions for decades.

This is a class war. While billionaires prepare safe havens for themselves and their money, workers will pay the price of climate change; as will, disproportionately, the world's poorest populations.

Sustainability, in all of its dimensions, is no longer a preference. It has become a matter of survival.

SUSTAINABILITY and GENDER

IndustriALL has for some time focussed special attention on women's issues. Sustainability issues cannot be considered while ignoring gender issues. Closely linked to the gender issue are issues such as poverty and health. While not the only focus of the social dimension of sustainability, gender, and more generally human rights, should be considered as particularly relevant to an understanding of that dimension.

In most parts of the world, women control their household's direct and indirect energy consumption: the use of heating, cooling, hot water, and electrical appliances; the choice of time of use (and therefore of peak use); household purchases, which may be more or less energy-intensive; and the use of household transport – women are more frequent users of public transport and pedestrian walkways than men.

Environmental degradation and climate change disproportionately affect women. The empowerment of women is indispensable for sustainability. Gender-sensitive approaches will have to be taken to enable women to compensate for their more difficult situation.

Women’s consumption decisions often set household patterns. These in turn determine the value a community places on environmental conservation, fair trade, purchase of locally produced products, respect for indigenous and women’s and human rights, and poverty reduction.

Access to affordable energy is a barrier to development. Women are disproportionately victims of high energy prices and expenditures, especially female-headed households that make up a large portion of the poor. Rural women (and their children) are the primary collectors of wood and residue fuels, which account for eighty percent of all household energy use in many developing countries. The proportions of rural women affected by fuel and wood scarcity range from sixty percent in Africa, to nearly eighty percent in Asia, and nearly forty percent in Latin America. Time spent in fuel collection in fuel-scarce areas can range from one to five hours per household per day.

The current food crisis is also a reminder of the feminization of poverty. Women’s livelihoods are more dependent on natural resources that are being threatened by climate change. About seventy percent of people without sustainable access to enough food are females. Women constitute the largest percentage of people living in absolute poverty (less than one dollar per day) - often despite working long hours.

There is a strong inverse correlation between a mother’s education level and child mortality. Women are also the primary educators and formers of their children’s future energy conservation and consumption habits.

Women are disproportionately victims of environmental pollution, due to energy use patterns. Frequently, women have household responsibility for cooking. More than half the world's households cook daily with wood, crop residues, dung, or untreated coal. Women in developing countries often use these fuels in old, improperly maintained equipment - or without equipment of any kind. They are thus exposed to high concentrations of combustion products. Known reproductive hazards are contained in such combustion products (although reproductive hazards are not exclusively a women's issue, women's greater exposure to them is).

While some workplace hazards may affect women differently than men, it is a trade union principle that workplaces should be made safe for all workers to prevent health and safety being used as an excuse to discriminate.

It is an urgent need to increase the level of women's participation in trade unions, both as members and as leaders.

In many cultures, women do not inherit property as readily as men and typically do not

own land. The global HIV-AIDS epidemic has exacerbated the plight of women both as victims and as widows of victims.

SUSTAINABILITY and EQUITY SEEKING GROUPS

Some of the arguments relevant to sustainability and women can be applied to other disadvantaged groups, such as: minorities; indigenous peoples; lesbian, gay, bisexual and transgendered persons. It merits consideration that IndustriALL should, at least in the case of sustainability issues, broaden its focus to include all issues of human rights, social sustainability, fairness, justice and peace.

SUSTAINABILITY and YOUTH

Any discussion of sustainability is really a discussion of what kind of world we will leave for our children. From a trade union perspective, a special problem relates to youth unemployment and underemployment. While the United Nations "Universal Declaration of Human Rights", Articles 23 and 24 state that decent work is a human right, the reality is that many young people are finding it more difficult to earn a living than their parents, due to population demographics (the post-world war II "baby boom" generation continues to hold most of the best jobs and is only starting to reach retirement age), industry restructuring, globalization, technological change, increased use of contract and agency labour, and the current economic crisis.

SPECIFIC OPPORTUNITIES RELATED TO GENDER and HUMAN RIGHTS

IndustriALL Global Union seeks a world of fairness, justice, and peace. IndustriALL understands that sustainability cannot be achieved while ignoring human rights and social justice. Specifically, the status of women and other under-represented and disempowered stakeholders in society must be advanced. IndustriALL identified women's issues as deserving of special attention. Neither should we ignore other disadvantaged groups such as visible minorities, indigenous peoples, and equity-seeking groups.

IndustriALL demands that employers and governments acknowledge the link between human rights and social sustainability. Employers must acknowledge and include women, minorities, indigenous peoples, and other equity-seeking groups in its business plans; not just as employees but as members of the host community of their enterprises.

IndustriALL will:

1. Demand human rights, peace, social justice and equity in sustainability discussions and through relevant voluntary agreements, including but not limited to the Global Compact
2. Engage human rights and equity issues and speak out when these principles are being violated
3. Remind decision-makers of the special vulnerability of women, particularly in the developing world
4. Urge affiliates to recruit, encourage and promote more women and minorities

CONCLUDING REMARKS on SUSTAINABILITY

In order to determine those activities that are sustainable, we must increase our base of knowledge and understanding. Obviously, part of the answer to the principle of sustainability is a commitment to research and development. However, that research and development must be positively directed. Corporate and public money spent trying to disprove, e.g. global warming, is hardly a productive use. Research and development must be directed towards problem solving, not liability avoidance. There needs to be much greater attention given and more resources directed to research and development. This is true for all areas of industrial production, but especially the energy sector.

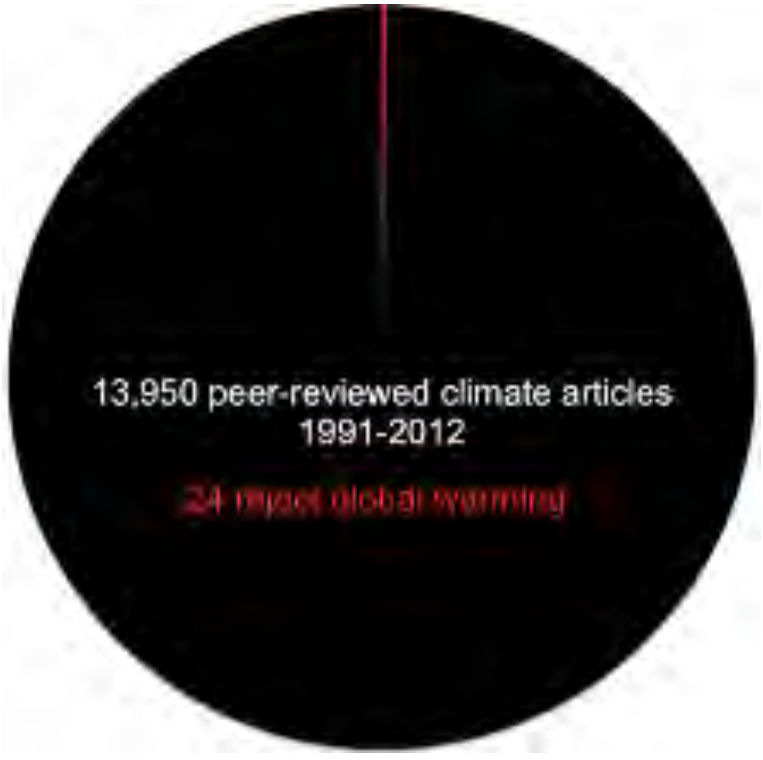
If current patterns of production and consumption must change for environmental reasons, there will be an impact upon employment patterns. The only way to manage such an impact, without simply letting the affected workers pay one-hundred percent of the cost of change, is through Just Transition programs. Why has business not researched ways of managing a Just Transition through, e.g. employment credits, as it has researched the management of emissions through emissions credits? With a Just Transition, we can build a public consensus to move towards more sustainable production. Without a Just Transition, such a consensus will be impossible.

CLIMATE CHANGE and the United Nations Framework Convention: COP21

The basic science of climate change has been known since 1895. Today, the focal point of climate science is the Intergovernmental Panel on Climate Change (IPCC). Thousands of climate experts are involved. Because of their rigorous peer-review process and their relationship with governments, IPCC's Assessment Reports should be read as conservative and cautious.

Climate models, called Representative Concentration Pathway (RCP) scenarios, describe different levels of action from none (business as usual) to very aggressive greenhouse gas reductions. Most projected scenarios now lead to very damaging levels of warming.

Below is a pie-graph. The media has tended to suggest that there is a raging debate and doubt among scientists about all of this, but in reality the consensus is very strong. In one study looking at 13,950 peer-reviewed climate studies, only 24 rejected the scientific consensus (and these are in general older papers that are today almost never cited). That is a stronger consensus than, for example, the consensus that smoking causes cancer.



Why is it our issue? Recall IndustriALL Global Union's Five Strategic Goals: build union power; confront global capital; defend worker's rights; fight precarious work; and ensure sustainable industrial employment. Although ensuring sustainable industrial employment is an obvious link to the question of climate change, our ability to deliver on ALL of these is affected.

A transformation is coming, whether the world takes action on climate change or takes no action and awaits the consequences. We must not allow it to become a violent scramble for resources such as water, energy, and fertile land that completely dismisses workers' rights and social protection.

The casino economy has no answers to these questions. We must plan a hopeful future for all workers, including those in industries that may be impacted by efforts to limit greenhouse gases. It is simple social justice to demand a Just Transition that respects and protects present-day workers while creating new decent work in sustainable industries.

Our support will be sought to delay or prevent action. Attempts will be made to frame the debate as "jobs versus the environment". These appeals will come from the same employers who are normally eager to eliminate or downgrade our jobs. It will also come from em-

ployers who have a political axe to grind, or who need to divert attention away from their own incompetence, or away from their unwillingness to invest in a sustainable future.

The Paris Agreement, or the outcome of COP21, released on Saturday 12 December 2016, has already been hailed by some as an historic achievement, and by others as an historic failure. Neither of these reactions are helpful in understanding what it is, and what it is not.

First, and importantly, the Paris Agreement is not simply a new version of the Kyoto Accord. It takes a fundamentally different approach. The Kyoto Protocol was a “top down” system that imposed emissions targets and included systems for verifying them. However, developed countries considered it unfair and many simply failed to meet their targets or withdrew from it entirely, without any effective consequences. The Paris Accord, on the other hand, is a sort of “bottom up” system that encourages countries to set their own targets and embed those targets in their own legislation. Even if some countries do not make them a legislative commitment, this approach made Paris Agreement politically achievable.

Recall labour's three top demands for the Paris talks:

- To raise ambition and realize the job-creation potential of climate action;
- To deliver on climate finance and support the most vulnerable;
- Commit to securing a Just Transition for workers and their communities.

The necessary ingredients for a successful climate accord are in the Paris text, even if the wording and placement of some of those agreements could have been better. There is the ambition to hold “global average temperature to well below 2 degrees C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 degrees C above pre-industrial levels” (Article 2). There is provision for periodic review (Articles 13 and 14). There is acknowledgement that a transformation of the economy is implied (several references to development, including the preamble and Article 6 among others). There are references, although weak, to needed finance (Decision, paragraphs 54 and 115 and Agreement, Article 9) and to technology transfer.

Just Transition is incorporated in the preamble with clear language: “Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities”. Signatory Parties must now accept that they have made a political commitment to Just Transition, strengthened by the ILO's recent Guidance document on Just Transition.

One question has always been, will a Paris Agreement be legally binding? The Paris Agreement meets the criteria of the Vienna Convention on the Law of Treaties, so in this sense it is as legally binding as any other international treaty. That does not make every clause in it enforceable, since the wording can be vague and unhelpful. Enforcement of an agreement of this nature is always problematic: the Kyoto Accord was supposed to be legally binding, except that it turned out not to be. The core of the Paris Agreement is legally binding in international law. The details of what countries must do to be in compliance are often missing, and some of the text is clearly aspirational. Therefore, although the Agreement is a legal document, in practical terms enforcement of it will be difficult or impossible without the political will of the Parties to make it effective. The wording of the Agreement certainly provides the space for Parties to do the right things; but provides little resembling penalties for Parties that do not. “Enforcement” will largely result from political pressure

exerted by citizens, stakeholders, and other countries. Legal actions, if any, will be rare.

If the ingredients are there, the pathway to implement them is often missing or is to be defined by decisions taken at the next COP. While some may be disappointed at this vagueness the reality is that this may have been the only possible outcome other than no outcome at all. We will have to maintain pressure on our governments to elaborate on the necessary mechanisms and verification procedures over the next couple of years.

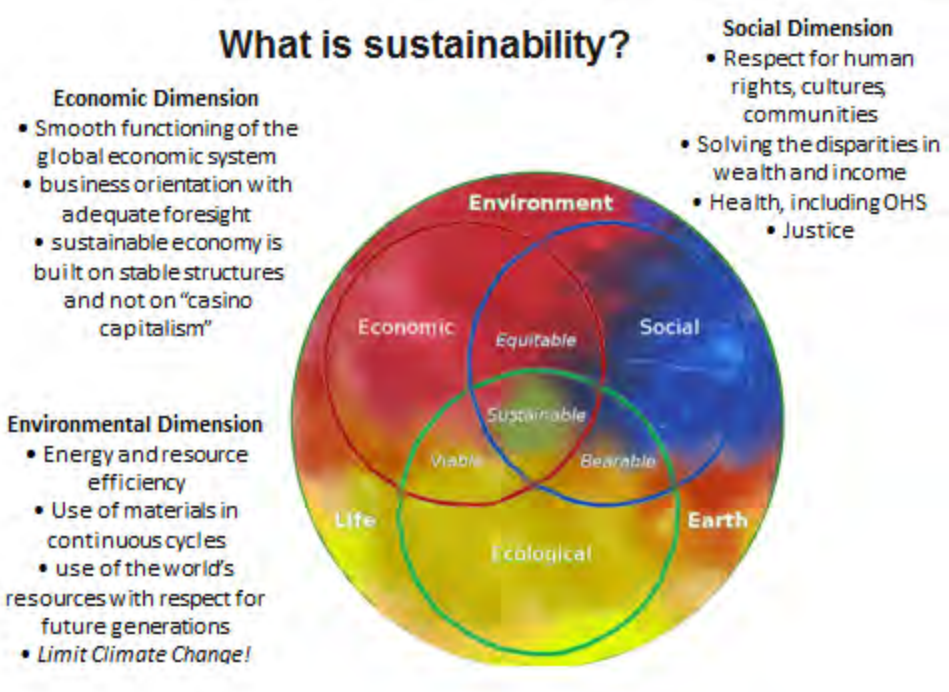
The Paris Agreement is the best that could be politically achieved at the time. The French Presidency has worked hard, and effectively, to prevent a catastrophe such as Copenhagen's COP15. The credibility of the United Nations Framework Convention on Climate Change has been preserved, at least for now. As a political document, it sets out a process: not only does it create an institutional framework based on international negotiations, which has been in question during the discrediting of the Kyoto Protocol; but sets a tone for a positive path forward. The framework has flexibility and universal application; although it is an unfilled vessel with respect to many of the specifics we would like to see.

Crucial to future success will be the adoption of clearly defined mechanisms for measuring, reporting, and verifying the Intended Nationally Determined Contributions (INDCs), commitments made by countries to reduce greenhouse gas emissions.

An extremely important effect of the Paris Agreement will be in the signals it sends to the global economy. Kumi Naidoo, International Executive Director of Greenpeace has said "The wheel of climate action turns slowly, but in Paris it has turned. There's much in this deal that frustrates and disappoints me, but it still puts the fossil fuel industry squarely on the wrong side of history." This may not be an understatement, as it will become increasingly difficult for investors or insurers to justify the risks of putting their money into fossil fuels. This will not change the financial world overnight, but it will change it.

The Paris Agreement must be seen as a starting point, not a finish line. It creates an institutional framework that has all the necessary ingredients to succeed. Whether it actually does, or not, is now up to us.

IndustriALL must be ready to lead the way forward.



A JUST TRANSITION for Workers and the Environment

A global transformation is coming. It will come whether we take action on climate change or other environmental crises; or whether we ignore them and take no action. Therefore, we have no choice as to whether a transition will take place. The only choice we have is whether it will be a violent scramble for resources such as water, energy, and fertile land; desperate last-minute survival measures that completely dismiss human rights and social protection; or an orderly and Just Transition that respects and protects present-day workers while creating new decent work in sustainable industries.

The casino economy has no answers to these questions. We must plan a hopeful future for all workers, including those in industries that may be impacted by efforts to limit greenhouse gases. It is simple social justice. There is no credibility in ignoring climate change or becoming the last defenders of the indefensible. IndustriALL has a responsibility to worry about jobs and the economy, but there are no jobs on a dead planet.

Society can, and must, make decisions for the protection of the environment. The concept of a Just Transition is that workers, their families, their communities and their unions should be kept whole, if their employment is affected by as a result. Workers did not choose jobs that damaged the environment; they needed work to support themselves and their families. It is profoundly unfair that the entire cost of changes towards sustainability should be borne by working people; but in the absence of a Just Transition program, that is almost certainly who will pay the price.

While the concept of a Just Transition could be applied to any number of employment impacts, it is intended mainly for those situations where society implements regulations or policies designed to protect the environment, that will negatively affect employment in some sector. The "visible hand of regulation" to protect the environment will always be experienced by workers in a different way than the "invisible hand of the marketplace".

The Just Transition concept has been criticized as a “nice funeral”. Nothing could be further from the truth. IndustriALL wants a future that sounds good; a future that is attractive to today’s workers as well as future workers. A pessimistic future by definition is not “Just”. It is up to us to define what would be needed for the transition to be perceived by workers as a Just Transition, and then fight to achieve that standard.

Strong social safety nets are a prerequisite for a Just Transition program, but a resort to such safety nets will never by labour’s first choice. Our first choice, and the most Just Transition possible, will always be create, evolve, or maintain sustainable jobs. A sustainable, or greener, job is not always what comes to an environmentalist’s mind. Even the manufacture of solar panels and windmills requires fuel, energy, steel, and plastics that must come from somewhere. These, then, could be considered sustainable jobs.

Fear prevents movement towards sustainability. Just Transition is meant to reduce the

level of fear. Industrialists fear their facilities becoming obsolete overnight, with the stroke of the regulators' pen. Workers - and the families and communities that depend upon them - fear for their jobs or, more correctly, future employment and/or security. Their fears are not unfounded. We have seen plenty of examples of unjust transitions. If a transition is coming, it cannot be left to the marketplace. The only way to ensure a Just Transition is to create structured programs to facilitate it and to deal with its consequences.

If workers are blackmailed with their jobs, the environment will lose. Therefore workers must not be asked to make this choice. Trade unions must avoid becoming the "last defender of the indefensible". There are many, particularly in the corporate world, who would be happy to have us fight that battle for them, while they prepare their own transition program – a transition for millionaires and billionaires. When the safety of their wealth is assured, they will have no hesitation in abandoning their workers, as they have so many times in the past. Fighting for the continuation of sunset industries buys no loyalty from the owners of those industries.

A Just Transition program is meant to be an all-encompassing, flexible approach to helping workers, their families, and their communities. Just Transition is not a suicide pact. It is not merely an enhanced unemployment program. It must involve workers in its design, and it must be customized to each situation. A Just Transition program might even, plausibly, assist in the creative restructuring of obsolete industrial sites. And it must keep workers and their unions whole.

Traditional labour market adjustment programs have often been top-down programs with the needs and goals defined by business, although there are examples of more inclusive processes in Europe. Labour market adjustment programs should take account of individual, family, and community needs and wants. Some workers might want enhanced early retirement. Others might want to go to a college or university and study a field unrelated to what they were doing. Some might want to enter an apprenticeship program. If new jobs are being created in the transition to a sustainable economy, those displaced from disfavoured jobs should have the right of first refusal, with moving and other assistance if necessary. It is important for workers that their rights as union members be protected, as well, and it is entirely reasonable for unions to demand institutional stability – protection for the union as an institution – through the transition period, as well. This could mean, for example, voluntary recognition of the union where new jobs are being created in more sustainable industries.

The question is fundamentally who pays for, and who benefits from, a transition to sustainability.

It would be very much easier to sell sustainability to trade unionists, especially trade unionists in dirty, toxic, or resource-depleting industries if there were any really good examples of Just Transition to point to. There are not. There are some example that are fairly good, like the programs that were put in place for German coal miners and steelworkers as these industries withered in Germany over the last couple of decades.

They were successful in that no unionized worker lost his or her job involuntarily, but less successful in creating new employment in affected regions and communities. There are no perfect examples where workers and their communities were fully protected. Until there are, sustainability will be a tough sell to many workers.

The absence of good examples does not mean we stop believing in Just Transition, or demanding Just Transition Programs from our governments. It means we have to build those examples and entrench their principles in our progress towards sustainability. Just like the fact that only one large scale coal plant currently practices Carbon Capture and Sequestration does not prevent us from demanding that more money be invested in CCS and hoping that it will work; in fact, needing it to work. But Just Transition is the key to breaking down the barriers and the resistance to the quite radical changes in current patterns of production and consumption that will be needed if we are to avoid sterilizing the planet.

Just Transition is the essential prerequisite of environmental change and the only way to prevent unnecessary conflict - and perhaps violent conflict - in society as that change takes place. Workers whose livelihoods, families and communities are threatened in the short and medium terms, and the unions that represent them, will resist change with all of their strength, if acceptable alternatives are not offered. Such resistance will prevent effective and consensual action on environmental issues, at least in the short term. Unions cannot and will not promote the kind of change that excludes workers from the process if their job security issues are not addressed effectively and explicitly or if the transition for their members is to a low-income non-union work environment. Our members do not need and will not tolerate their unions promoting the elimination of their jobs; and they do not need and will not tolerate union complicity in moving them into low-wage, non-union jobs. Union members are sympathetic to the cause of environmentalists, but are dependent upon their employers' abilities to continue their jobs. If environmental change is forced in the absence of Just Transition arrangements, workers and their unions will inevitably end up on the "con" side of the environmental change debate. We should not blame them, if the debate on environmental issues becomes framed in terms of jobs versus the environment rather than jobs and the environment. They will have no choice.

A Just Transition will cost money to implement, but cost is not an issue. There are plenty of opportunities to fund adaptation, development, and Just Transition with money left over. Setting aside the enormous amounts of money that were conjured out of nothingness to support corrupt bankers, or the potential funds that could be raised from a tiny tax on international currency speculation (the Tobin Tax), the amount of oil directly consumed by the worlds militaries is truly staggering, but if you add in the military contractors, subcontractors, and the so-called “defence industry”, it is absolutely obscene. Not only would cutting back on this madness instantly achieve a dramatic and significant reduction in carbon dioxide emissions, but would release truly almost unimaginable amounts of money for green technologies, development, Just Transition and all the rest. The labour movement has historically been proud to have links to the peace movements. Perhaps this is the time to renew and strengthen those links. Economic and social development,

poverty and inequality eradication, human rights, labour rights, democracy and environmental protection are all directly linked to demilitarization and peace.

INTERNATIONAL LABOUR ORGANIZATION and JUST TRANSITION

In 2013 the International Labour Organization (ILO) adopted a resolution and a set of conclusions concerning sustainable development, decent work and green jobs, and proposing a policy framework for a Just Transition. Then, in 2014 the Governing Body of the ILO endorsed a proposal to hold a tripartite meeting of experts on the subject. In 2015 ILO convened a Tripartite Meeting of Experts to review, amend and adopt draft guidelines based on a compilation and thorough review by the Office of experiences from country policies and sectoral strategies towards environmental sustainability, the greening of enterprises, social inclusion and the promotion of green jobs.

The resulting ILO Guidance on Just Transition (ILO document wcms_432859.pdf) identifies the following nine key points to manage the impacts of potential environmental regulations and promote the evolution of sustainable and greener enterprises, within the framework of a Just Transition:

I. Policy coherence and institutions (country specific)
II. Social dialogue (multistakeholder)
III. Macroeconomic and growth policies
IV. Industrial and sectoral policies (greener jobs; decent work)
V. Enterprise policies
VI. Skills policies (also education)
VII. Occupational safety and health
VIII. Social protection policies (health care, income security, social services)
IX. Labour market policies

The ILO's entry into the Just Transition debate is of great significance. It gives the concept an internationally accepted definition for the first time; as well as an institutional life within a specialized agency of the United Nations. References to Just Transition in other texts, such as the Paris Agreement of the 2030 Sustainable Development Agenda will now tend to automatically evoke the ILO definition, even if it is not specifically referenced.

AEROSPACE

AEROSPACE – INTRODUCTION

The global aerospace industries are high-technology, high value-added companies that produce the hardware of air transport, space, advanced research, defence, and related industries. Most of the direct jobs are high-skilled and well-paying and there is a strong multiplier effect in contract and dependent jobs. The sector as a whole is profitable, although individual companies within it may outperform or under-perform the sector average, and demand for air travel continues to increase particularly in emerging markets.
The aerospace industries support an estimated 58.1 million jobs globally, which includes some 8.7 million direct jobs (including 1.2 million in manufacturing aircraft, engines and components). Another 49-50 million induced or indirect jobs are created in activities from supplying fuel and other goods and services, to tourism.

AEROSPACE – SOCIAL CHALLENGES

The future of the aerospace industry relies in large part on its social credibility. This includes its relationships with its employees; and the communities in which it operates. Anything that harms the industry's credibility can threaten its future.

Corporate social responsibility statements made by aerospace employers tend to be very self-congratulatory. There are good employers in this sector that show genuine concern for their employees' and other stakeholders' well-being. Others are mainly public relations exercises.

Credibility suffers when the industry focuses on the next-quarter financial results and fails to take a long-term view. It suffers when companies engage "union busting" tactics to divide their workforce and divide the communities they are a part of.

- IndustriALL's strategic goals I and V

The ability to organize workers in this sector is being challenged by the biggest aerospace manufacturers at new sites. Examples include the southern USA where both Boeing and Airbus have interfered with workers' rights to organize, and China where almost every multinational now has outsourced at least a part of their supply chain if not final assembly. Collective bargaining trends have not been positive, despite the overall profitability of the sector.

Other effects of globalization, off-shoring, outsourcing, and technological change have manifested as redundancies and restructuring. These trends also shows no sign of slackening. Related to these trends, precarious work has emerged as an issue in the sector's increasingly far-flung supply chain.

Skills shortages are occurring in some occupational categories, engineering in particular,

and the ageing workforce in many countries means that there is a danger of losing a great deal of knowledge and experience in the next few years as workers retire. Employers urgently need to establish proper education, training, and apprenticeship programmes and begin recruiting younger workers.

Occupational health and safety is an ongoing issue, and the hazards of greatest concern are changing as the industry moves towards more exotic materials and manufacturing techniques.

> A concern is that some aerospace employers have engaged in programmes and activities designed to discourage or suppress the reporting of accidents, resulting in a distorted set of statistics. **Outside of Europe, a lack of respect for trade unions' role in occupational health and safety prevails**.
>
> *- IndustriALL's strategic goals I, III and I V*

AEROSPACE – ECONOMIC CHALLENGES

Despite the overall profitability of the industry, some major economic issues face it. Globalized trade, trade deals, and the use of offsets (which guarantee that a percentage of production will take place in a customer's country or region, usually with technology transfer included) are popular with shareholders whose goal is short-term profit and who demand an unrealistic return on investment. However, they threaten the long-term health of the industry as more and more players enter the field; many helped with government subsidies.

The future economic health of the industry depends on its willingness to invest in research and development, and good product decisions. In that regard it is disturbing to note that development of completely new platforms seems to be declining, with many companies concentrating on incremental improvements of existing platforms and competition based only on lowest cost. Technological changes are still underway, particularly in the areas of engines, and airframe materials. However, there is a need for massive investment in the development of new aircraft.

There is an unbalance between the defence and civil sides of the industry at the present time, made more difficult by decreasing flexibility to transfer personnel and production capacity between these two branches of the sector. This inflexibility makes it more difficult to respond to changes in demand for one, or the other, type of product. Suppliers in particular are being squeezed.

AEROSPACE – ENVIRONMENTAL CHALLENGES

Post COP21 and the Paris Agreement, this industry will need to pay much more attention to greenhouse gas emissions and other pollution both at its manufacturing sites, and from its products. With present technology, aircraft are probably the most difficult form of

transportation to power with anything other than liquid petroleum-derived fuels. However there will be increasing pressure on the industry to do just that, underlining again the need for a renewed and massive investment in research and development mentioned above.

The International Civil Aviation Organization (ICAO) Assembly has stated that its collective global aspirational goals for the international aviation sector are to improve fuel efficiency by 2% per year and keep net CO2 emissions flat beyond 2020. The incentive to meet even this goal is weak at the moment due to cheap crude oil prices.

SPECIFIC AEROSPACE OPPORTUNITIES

Despite the challenges, there are many opportunities for the aerospace sector to be successful into the future. There is the prospect of continued increasing demand for air travel. The maintenance, repair and overhaul sector is also expected to grow. If appropriate investments are made the industry could once again lead technological change in a wide range of areas, not just aerospace.

The average age of operating planes in today's air fleet is about 12 years, and the average age at which an aircraft is retired from service is about 24 years. That means that more than half of existing commercial aircraft could require replacement in the next 20 years, even ignoring overall growth in the industry. This is an enormous opportunity.
Aerospace companies must look to restore flexibility between its civil and defence sectors. It is not sensible for workers to be laid off from one branch of a company when the same company is trying to recruit skilled workers for its other branch.

IndustriALL and its affiliates will:

1. Build Union Power by:
   - Supporting organizing activities by strengthening international solidarity and developing global strategies;
   - Focusing on gaining union density, improving collective bargaining rights and social dialogue in the aerospace industries in all regions;
   - Supporting the development of strong, democratic, independent, representative and sustainable trade unions;
   - Building unity among workers and unions at the global, regional and local levels.

2. Confront Global Capital by:
   - Supporting affiliates who are fighting for their rights or for decent work against governments and employers in the aerospace sectors;
   - Building trade union networks
   - Fighting unfair trade deals and exposing unfair use of offsets.

3. Defend workers' rights by:
   - Combating anti-union, anti-worker efforts;
   - Fighting austerity programs and attacks on social standards;

- Coordinating efforts to including women and young aerospace workers;
- Making full use of intergovernmental and international bodies such as the UN, the ILO, and the OECD to ensure that global standards and international expectations are adhered to by aerospace employers.

4. Fight Precarious Work by:
   - Motivating affiliated unions to participate in IndustriALL Global Union's "Fight against Precarious Work" campaign;
   - Seeking the elimination, at least minimization, of clauses that limit the coverage of precarious workers in collective bargaining agreements.

5. Ensure sustainable industrial employment by:
   - Raising awareness of sustainability issues and building a shared view of sustainable industrial policy within the aerospace sector;
   - Influencing the shape and purpose of industrial policy development and implementation for the aerospace industries at global, regional and local level;
   - Investigating synergies with the sustainability strategies of other IndustriALL sectors, particularly automotive, mechanical engineering, and energy;
   - Seeking better international, national, and regional legislative and regulatory frameworks for the protection of occupational health and safety, and the environment;
   - Insisting on the full protection of the safety and health of aerospace workers, through the full recognition of their rights to know about all of the hazards of their work and receive the education and training to do it safely, the right to refuse or shut down unsafe work, and the right to be a full partner in the development and implementation of all health and safety policies, programs, risk assessments, and work procedures;
   - Pressuring the industry to adequately invest in research and development and to become a leader in addressing greenhouse gas emissions.

AEROSPACE – CONCLUSION

This sector produces a large number of high-wage, high-skilled jobs. In addition, the industry has pioneered a great deal of leading edge technology that has led to the creation of other industries. The aerospace industry has historically benefited from government industrial and/or defence policies. This has led some companies to structure themselves in a way that actually limits their ability to respond to changing market demand. In addition, shareholder demands and unrealistic expectations for short-term return on investment have led to an industry that is not making the necessary investments in research and development for its own long-term health.

Despite the overall economic health of the global aerospace industry, workers and the environment have not always been treated with respect by their employers. An increased effort to hold aerospace companies to account for their social and environmental behaviour is necessary.

The impact of the 2015 Paris Agreement on this sector is significant. The high fuel consumption of aircraft and the lack of viable alternatives to liquid hydrocarbons (e.g. jet fuel) will make it difficult to comply with the target of reducing greenhouse gas emissions in this sector. Although lighter aircraft and more efficient engines will take the industry part way, eventually offsets may be part of the answer.

INTERNAL

POSITIVE

NEGATIVE

Strengths

- a great deal of engineering and scientific capacity
- ties to the military have benefitted aerospace through sales and access to research and development resources

Weaknesses

- insufficient investment in new platforms
- sudden shifts in political direction may affect military-related sales and access to research and development resources

Opportunities

- rising demand for air travel after a dip following the 2008 economic crisis
- airlines with older and less fuel efficient aircraft are looking to renew their fleets

Threats

- allegations of questionable business (and labour relations) practices may harm public image and risk a backlash
- focus of attention regarding greenhouse gas emissions

EXTERNAL

AUTOMOTIVE

AUTOMOTIVE - INTRODUCTION

Automotive Sector

Transportation is a significant and growing contributor to greenhouse gases.

Demand for automobiles is projected to increase from 85.5 million units in 2013 to approximately 100 million units in 2018.

Vehicles, including automobiles, light trucks, and heavy transports have improved efficiency and reduced emissions, but their increased numbers overwhelm these improvements.

AUTOMOTIVE – SOCIAL CHALLENGES

1. The industry has shown weaknesses in responding to safety and accidents
2. Companies often do not acknowledge their significant social impact on employees and communities

AUTOMOTIVE – ECONOMIC CHALLENGES

3. There is going to be an increasing demand while the need for more sustainable fuel alternatives is also strong.
4. The industry is highly dependent on fuel costs and long-term fuel alternatives
5. The industry often fails to take long-term views in efforts to contribute to economic sustainability. Instead, many companies' business model is short-sighted, customer satisfaction is bad and their credibility regarding their efforts to make for a sustainable future is low.

Pressure to respond to a highly competitive global marketplace has resulted in some companies taking a short-term view. This has harmed the credibility of the entire industry. For example, the Volkswagen diesel engine scandal can be seen in this light, and so far the answers that Volkswagen has been able to provide as to what happened and what they plan to do about it have satisfied neither the regulators, nor public opinion. This is a company that otherwise has one of the best reputations in the business.

AUTOMOTIVE – ENVIRONMENTAL CHALLENGES

6. Greenhouse gas emissions are a serious issue in this sector. New fuel systems and a strong investment into electric cars can be a solution to this problem
7. The demand for cars has increased in the past decades intensely which is in part also responsible for the air pollution in large cities.
8. Similarly, noise is a significant issue in large cities in particular.

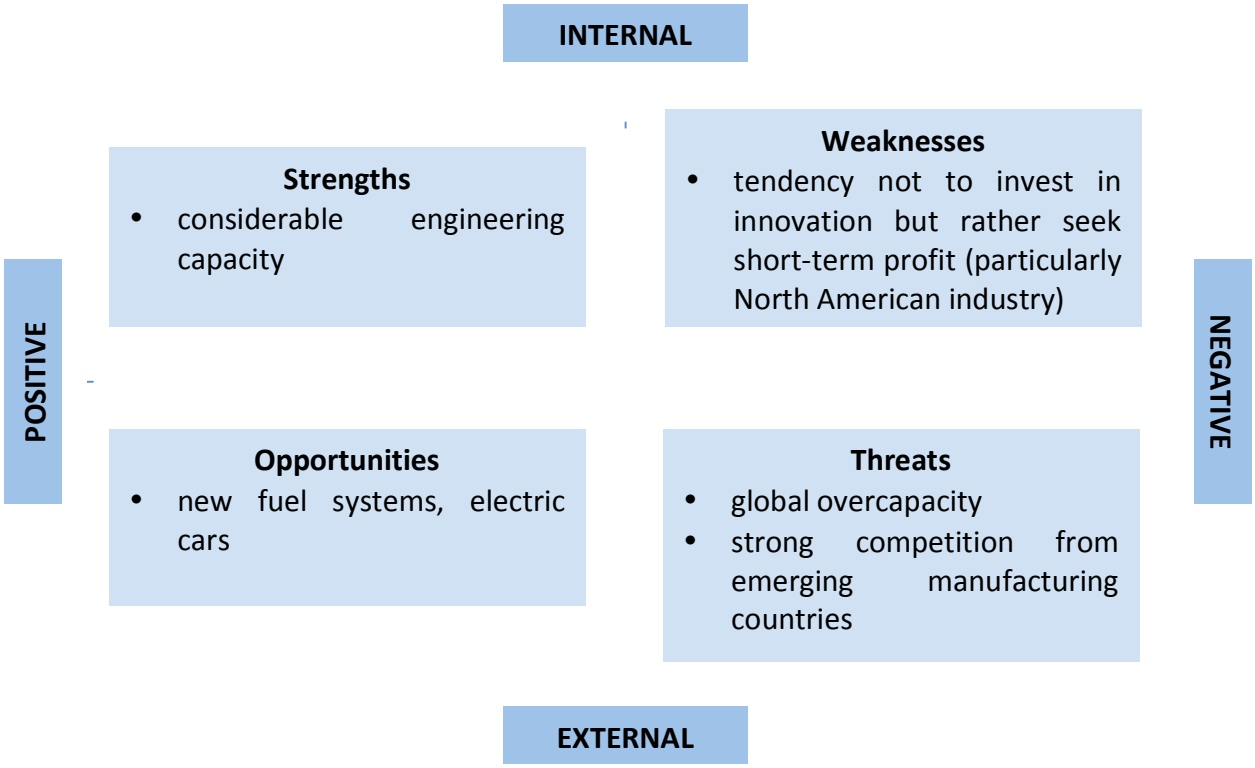
SPECIFIC AUTOMOTIVE OPPORTUNITIES

New technologies such as electric cars, hydrogen-fueled cars, and self-driving vehicles will potentially revolutionize this industry.
Finally the industry must decide whether it wishes to be seen as part of the solution, or only part of the problem?

For IndustriALL Global Union, a sustainable industrial policy for the automotive sector must address the problem of unionization, particularly in developing countries where the large manufacturers are increasingly building plant capacity.

CONCLUSIONS

The impact of the 2015 Paris Agreement on this sector is significant. New and emerging technologies will continue to enter the market and there will be even larger investments in research on this field in the future. Electric cars, hydrogen and fuel cells will be part of the transformation to more environmental sustainability.



BASE METALS

BASE METALS – INTRODUCTION

The iron, steel, aluminium, and other metals industries will always be necessary components for construction, consumer products, and as essential building blocks of other industries. These are the industries that in some ways have built modern industrial society, and have produced many good jobs and social benefits in the process.

However, they are also part of the environmental challenge that must be solved, both as a direct emitter of pollutants and as a heavy consumer of energy. The present economic landscape is unfortunately one of a global glut in these commodities, with dumping by Chinese producers exacerbating the problem. In spite of this, the world will not wait for the market for these commodities to improve before asking the industry to take action on the environmental dimension of sustainability. The good news is that technological solutions to the most pressing environmental problems are available.

BASE METALS – SOCIAL CHALLENGES

Base metals are globally dominated by large multinational companies. In a global industry, the issues of labour, environmental and human rights are inextricably linked.

Social standards will face an even greater threat under existing and proposed trade agreements.

Occupational health and safety remains an enormous issue in the base metals sector. Fatalities in recent years have increased, while management have failed uselessly at the problem, engaging consultants who promise to sell them a "magic bullet" to fix the problem, a magic bullet that does not exist.

> Instead, **a serious effort to engage with their employees and their unions on occupational health and safety matters would be a much more productive exercise**.
>
> *- IndustriALL's strategic goals I, III and IV*

If their attitude towards their employees has been dismissive, these companies' attitude towards the communities they operate in has been equally bad. Bankruptcies, restructuring, and downsizing have devastated countless communities who have relied on and supported these industries for decades.

IndustriALL Global Union also takes note of the extensive restructuring that has taken place within the industry and its impacts on social and environmental performance. Outsourcing and fragmentation make accountability more and more difficult to achieve when the essential functions of an organization are increasingly fragmented and responsibilities are diffused throughout multiple companies, each of which is driven by its own isolated profit-motive.

BASE METALS – ECONOMIC CHALLENGES

The companies that make up this sector have a history of attempting to externalize their costs; to force society to bear the hidden costs of production whether it is occupational illness or injury, or environmental degradation.

Unfortunately, at the time of writing this document, the world faces a glut of these commodities, overcapacity, and dumping by countries such as China. Facing this economic situation, and in the absence of a full employment economy, workers displaced because their companies fail to adapt will be unable to find new jobs.

If the industry's specific problems are not serious enough, the prospect of a new wave of global trade deals with worse than zero protection of labour rights and environmental standards, threatens even those decent jobs that remain. Trade agreements should contain enforceable labour and environmental standards; defining as an unfair trade practice the import of products made abroad under conditions that do not meet minimum environmental or social standards. The potential problem of “carbon leakage” has been well discussed at the recent climate talks (COP21, Paris, 2015).

BASE METALS – ENVIRONMENTAL CHALLENGES

Base metals provide a sort of indicator of the global economy as a whole. The enormous downward pressure on the global economy since the 2008-2009 crisis, has eroded environmental standards in the base metals industries.

Common sense solutions to cleaning up the environment have been replaced by corporate recklessness. The industry contributes to all sorts of environmental impacts, not just greenhouse gas emissions. Air water and land contamination of every sort have been attributed to these industries.

SPECIFIC BASE METALS OPPORTUNITIES

Many technologies already exist to make these industries more environmentally friendly. For example, direct steelmaking that bypasses coke ovens and blast furnaces is one such technology. Inert anode and wettable cathode technology in the aluminium industry is another. Despite the present economic environment, the industry retains extensive capabilities in research and development that could be put to the task of:

- Improving air and water quality.
- Reducing toxic wastes, and restricting the use of toxic chemicals.
- Promoting recycling, in ways that protect union jobs.
- Reducing greenhouse gas emissions.

The sector has the opportunity to transform into a socially, economically and environmentally sustainable sector. IndustriALL Global Union and its affiliates will urge the global base metals industry to

1. Engage with workers and their trade unions in a strong effort to improve current occupational health and safety.
2. Take responsibility for the effects this industry has on workers, their communities and the environment (especially with regard to restructuring processes).
3. Acknowledge that the problematic social performance of some members of this sector could be improved by greater transparency. For example, “whistleblower” language should be negotiated, protecting workers who report suspected environmental problems to the union or outside authorities. Local unions can also join with environmental groups on common issues.

IndustriALL Global Union will urge governments to

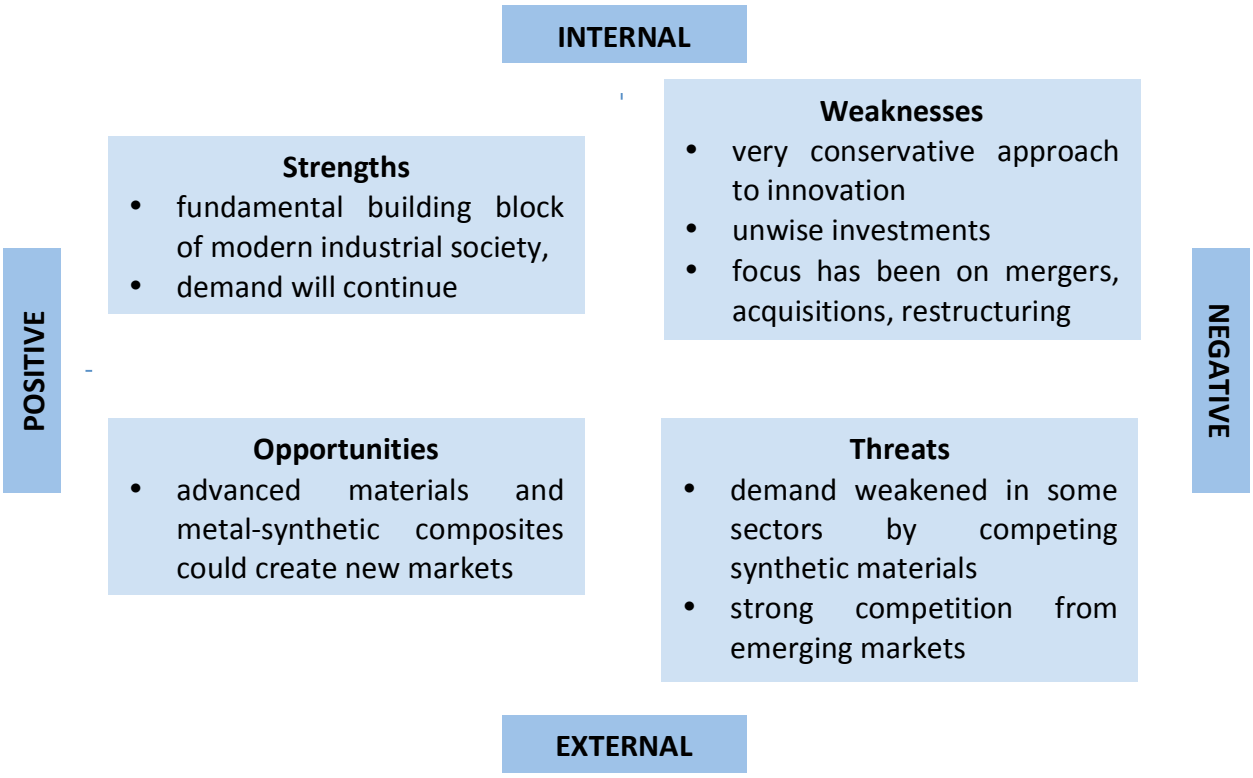
4. Include social and environmental minimum standards in the negotiation of trade agreements as a necessary condition.

BASE METALS – CONCLUSION

This essential economic sector has helped the world make the transition to the modern era. Now, it is time for the sector itself to go through a transition. It can do this by:

- Living up to the aspirational claims it makes in corporate social responsibility reports;
- Guaranteeing its own future economic success by wise investments, a more pragmatic approach to global trade, and better social and environmental performance;
- Ensuring that new technology is introduced in a way that is subject to democratic planning, and protects the interests of working people and their communities;
- Supporting sustainable industrial policies.

The impact of the 2015 Paris Agreement on this sector is significant. The main issue with this sector is the large energy consumption. However, in-house production will be part of the solution to make use of some of the currently unused energy resources in the process of manufacturing. Cogeneration could be an opportunity.


INTERNAL
Strengths
• fundamental building block of modern industrial society,
• demand will continue
Weaknesses
• very conservative approach to innovation
• unwise investments
• focus has been on mergers, acquisitions, restructuring
POSITIVE
NEGATIVE
Opportunities
• advanced materials and metal-synthetic composites could create new markets
Threats
• demand weakened in some sectors by competing synthetic materials
• strong competition from emerging markets
EXTERNAL

CHEMICALS (including PESTICIDES, PHARMACEUTICALS, and PLASTICS)

CHEMICALS - INTRODUCTION

The chemical, pesticide, pharmaceutical and plastic industries are value-adding industries that compete for their feedstock with industries that simply want to burn them. While many people associate pollution, industrial disasters and other environmental problems with these industries, they have arguably contributed and continue to contribute greatly to social and economic development. The chemical and rubber industries provide many of the materials out of which a sustainable infrastructure will be built.

CHEMICALS - SOCIAL CHALLENGES

The chemical and related industries have an uneven track record of relations with their unions. In developed countries the industry often has a mature relationship with its unions.

> In both developed and developing countries, the industry could do more in contributing to social progress through apprenticeship training, adult literacy and education programs, public health programs, and the like. **Trade unions can be effective partners in these social initiatives.**
>
> *- IndustriALL's strategic goal I*

It should also be noted that good examples exist in this sector of companies that have entered into Global Framework Agreements and have been willing to participate in social dialogue with IndustriALL Global Union and its affiliates, within regional and global networks.

CHEMICALS - ECONOMIC CHALLENGES

Over the last two or three decades, the chemical industry has grown rapidly in the developing world, and especially in emerging economic powers such as China and India. A significant percentage of this growth has been the result of domestic investment, but investment by multinational chemical companies has also been important. Safety and environmental standards vary widely, with some sites (especially smaller, local production) failing to implement even basic environmental controls. Developing and emerging economies therefore now harbour a disproportionate share of toxic production and toxic waste disposal sites, sometimes at the expense of investment and jobs in developed countries. The chemical industry has been increasing its use of contract and agency labour, rather than permanent, work forces.

These industries compete for access to non-renewable resources that are also used as fuels. Value-added production and job creation should be considered preferable to burning this resource. In some parts of the world, the viability of the chemical industry has been threatened by a shortage of affordable feedstock, while at the same time that same feedstock is being burned in increasing quantities as fuel.

CHEMICALS - ENVIRONMENTAL CHALLENGES

The chemical industry is widely criticized (sometimes unfairly) for its emissions, wastes, and secondary environmental effects resulting from the use and disposal of their products (for example, plastic containers and used tires). Public opinion tends to hold that chemicals and chemical products are much more a part of the problem, than a part of the solution.

The chemical and rubber industries have introduced some seventy thousand chemicals into widespread industrial use since the Second World War. Many more could be counted if small scale use were included. While some of these are relatively inert, others are persistent, bio-accumulative and/or toxic chemicals. The media are full of words that were rarely used or unknown a generation ago: "carcinogen", "mutagen", "teratogen", "endocrine disruptor", "hormone mimicker" and "reproductive toxin", for example. For only a handful of chemicals do we have even limited toxicological or human health data. Environmental effects are even less well understood.

This is an environmental problem with an occupational aspect. Many environmental chemical problems were first identified as the result of occupational illnesses.

Local authorities are frequently only minimally aware of, or concerned by, the kinds of industries in their midst, and are utterly unprepared for major industrial accidents.

Sustainable production and awareness for environmental impact of industrial production in this sector has **benefitted both workers and the environment – and it will do so in the future**.

- IndustriALL's strategic goals III and V

To their credit, many large chemical companies have implemented programs to try to improve their health, safety and environmental performance, and to communicate with stakeholders about their products and processes. Not all companies in this sector deserve praise in this regard, however.

Policy makers should recognize the potential that lies in this sector for social, economic and environmental sustainability and the substantial contributions that this sector has made to social development progress. Companies following sustainability programs in efforts to improve their environmental impact should be promoted and particular environmental offenders must be sanctioned.

In developed countries, this industry grouping has in general a fairly good record of adherence and compliance with national and international regulations and environmental agreements. This record is not as good in developing nations. Frequently, the industry has changed its behaviour and its attitudes towards regulations as a result of trade union pressure, or following an industrial disaster such as Sandoz' 1986 spill of chemicals into the Rhine, or Union Carbide's methylisocyanate disaster at Bhopal.

Opportunities for recycling and re-use of other chemical products are an under-explored field.

SPECIFIC CHEMICALS OPPORTUNITIES

A very wide range of opportunities exist for the chemical industry to advance global knowledge of best practices in environmental protection and sustainability. IndustriALL Global Union and its affiliates will urge the global chemical industry to:

1. Engage in a global social dialogue with employers in the chemical and related industries using the European experience as a model, to promote Process Safety Management (PSM), sustainable chemistry, and other best practices in health, safety and sustainability
2. Demand that these industries accept responsibility for the environmental, economic and social costs of chemical production
3. Demand that the industry fully engage workers, their unions, and IndustriALL in their "Responsible Care" program, at the local, national, and international levels. IndustriALL should renew its efforts for a role at the international level with the International Council of Chemical Associations (ICCA)'s "Responsible Care" program

IndustriALL will urge governments to

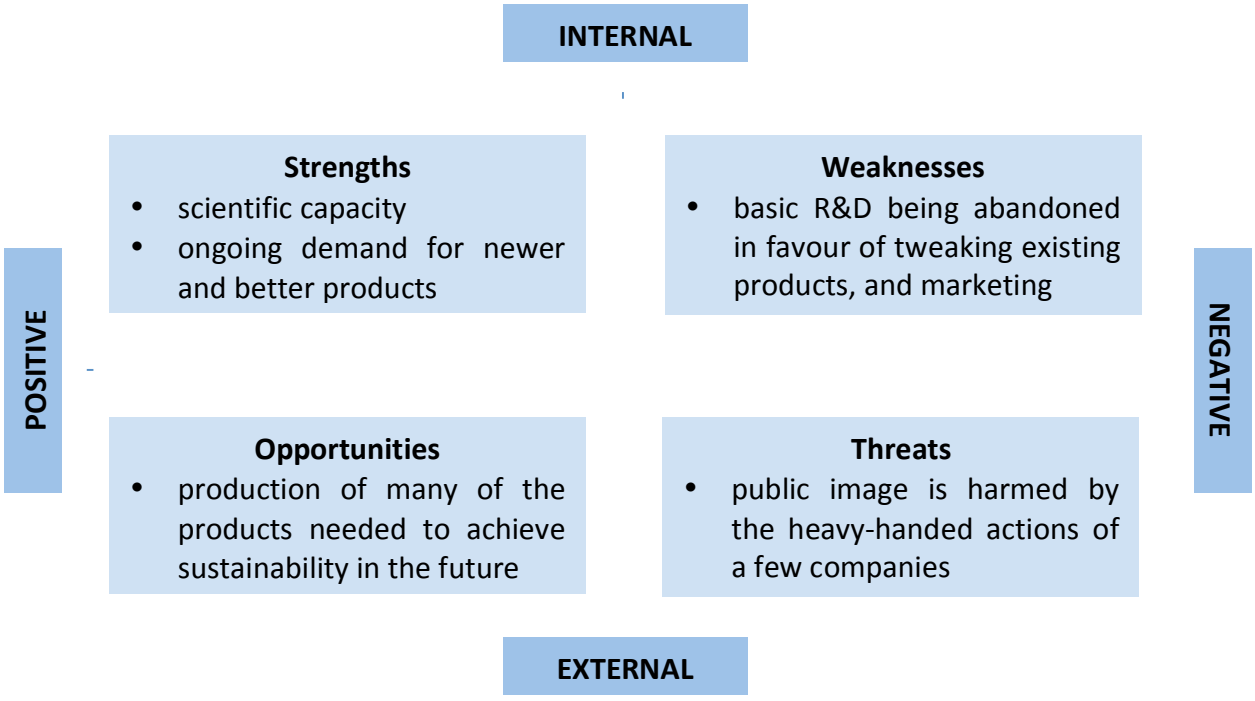
4. Adopt energy strategies that recognize the dual role of gas and oil as feedstock for value-added chemicals production as well as fuels
5. Enact chemicals regulations that place the burden of proof of human and environmental safety on those proposing to manufacture chemicals
6. Fully implement global programs on chemical safety such as SAICM, GHS, REACH, ILO Chemicals programs, and the WHO Global Plan of Action on Worker Health.

CHEMICALS - CONCLUSION

Much more, and better, information about the human and environmental effects of chemicals is needed. Programs such as Europe’s Registration, Evaluation, Authorization and restriction of Chemical substances (REACH) program are to be applauded even though care must be taken that regional industries are not unfairly disadvantaged. Banning certain chemicals may be justified in some cases, such as dioxin or asbestos, but it is a "supply side" chemicals management strategy that should be used judiciously - the benefits of a particular chemical may outweigh its risks. Equally, there must be recognition that there is no such thing as "clean production" if by that is meant zero discharge of all pollutants (including heat and carbon dioxide) simultaneously. There is, however, the promise of "cleaner production". The industry should commit to much more research into sustainable chemistry. In brief, this is the search for synthetic routes, processes and products that have, inherently, less potential to damage the environment.

The pharmaceutical industries could, and should, contribute to improved healthcare systems. One particular example is the HIV/AIDS epidemic which could be mitigated through the supply of low- or no-cost drugs, especially in developing countries.

The impact of the 2015 Paris Agreement on this sector is moderate. The main issue with this sector is the large energy consumption. However, in-house production and cogeneration will be part of the solution. In the future, there will be an even stronger need for advanced materials in other industries that the chemical industry is an important supplier for (films, photovoltaic, etc.), while some other branches of the chemical sector may be negatively affected. For the workers in the latter branches we need adequate Just Transition programmes.



ENERGY SECTOR, including OIL, GAS, NUCLEAR and ELECTRIC POWER

ENERGY - INTRODUCTION

Energy must be considered as more than just another industry or service, but an essential human need. Energy is the top priority sustainability issue and the basis of all future development. The generation and distribution of energy contributes significantly to global environmental problems. On the other hand, consistent access to affordable energy is the essential prerequisite for both social and economic (especially industrial) development. Future development of renewable energy may be based on a more decentralised model of power generation than the heavily centralised system we have now.

ENERGY - SOCIAL CHALLENGES

Oil and gas are “extractive industries” and share with mining a bad public image, particularly in their behaviour towards developing countries in which they operate. Concerns range from violation of worker rights, poor industrial relations practices, environmental damage, triggering of civil conflict, collusion with dictatorships, corruption and criminality.

In the developed world the experience with deregulation and privatization has been overwhelmingly negative. Besides eroding the concept of the common good, it has been used by some multinational enterprises to weaken labour rights, erode working conditions, and break unions. The circumstances in other regions and markets can be quite different; as can the experiences unions have with state-run enterprises under various legislative and regulatory frameworks.

On the other hand, this sector has created **some of the best examples of joint trade union-employer cooperation**. These are the Global Framework Agreements that have been signed by IndustriALL Global Union and several multinational companies in this sector.

- IndustriALL’s strategic goals I and III

ENERGY - ECONOMIC CHALLENGES

Despite a bump in growth after the 2008 economic crisis, worldwide primary energy consumption continues to grow by over two percent per year and fossil fuels continue to be our most important energy source. Oil remains the world’s leading fuel but over the last several years has consistently lost global market share. The United States remains by far the world's largest overall energy consumer, but the rate of consumption increase is greatest in China and India.

BP's "Statistical Review of World Energy" provides a widely used estimate of world oil reserves. According to BP, there are sufficient "proven" oil reserves and expected discoveries to meet demand for decades to come. However, the BP report is a summary of

estimates published by oil companies and governments. Reported "proven" energy reserves, in the case of all fossil fuels but especially in the case of oil, are subject to many political and economic incentives that encourage misrepresentation (in most cases, over-reporting). They should therefore be treated with caution. In addition, the size of energy reserves is somewhat dependent upon price. Resources that are not worth exploiting at low prices can become economically viable to extract at high prices. For example, Canada's large stated reserves of crude oil are significantly based on potential synthetic crude that can be manufactured from bituminous sands ("tar sands" or as the industry disingenuously refers to them, "oil sands"). These reserves are only available if the price of crude oil exceeds the cost of manufacturing synthetic crude.

In 2016 as this paper is being written, the world seems to be entering a period of cheap oil. Rising production as the result of new technologies such as fracking, and weakening demand, account for part of this. Geopolitical gaming accounts for the rest. Earlier predictions that peak oil was imminent and would signal an era of rapidly rising prices seem to have been postponed indefinitely. However, it is worth recalling that oil is a finite resource and if its consumption is unrestrained by, for example, concern for the climate effects of burning it, it will eventually become scarce. Ultimately the exploitation of any non-renewable energy resource will reach a point where the energy input equals energy output. For example, if finding and recovering a barrel of oil requires as much energy as the barrel of oil contains, it would ordinarily be uneconomical to recover it at any price. (There may be exceptions to this rule based on the need for different energy sources in different locations varying in transportability and utility of use). Even before that point is reached, the resource may become uncompetitive with other energy sources and therefore uneconomical to extract. Oil exploration, development, and production costs (in economic and environmental terms, and also in terms of energy inputs) in difficult environments such as the arctic or the deep offshore require much more energy to access than conventional crudes; while cheap oil from fracking may be a temporary phenomenon. The future price of oil remains impossible to predict.

Like many emerging energy technologies, including most renewables, carbon capture and storage or sequestration (CCS) has still to prove itself commercially viable. Although there are a number of small demonstration CCS projects in Europe and the US at early stages, most have either failed to make progress or face very high cost overruns. This only emphasizes the point that if coal is to have a future many full-scale CCS equipped coal plants must be built - and soon - to prove the technology. CCS-adaptable plants may cost around ten to twenty percent more to build than conventional plants in the long run. The first few built will probably cost much more. This explains in part why only a handful of such plants are being built today in Europe and virtually none in the rapidly growing economies of India and China.

The notion that regulation is largely unnecessary and that the free market will solve most of the problems of energy supply, must be considered thoroughly discredited in the aftermath of Enron, WorldCom, and the global financial collapse of 2008. The unregulated free market is neither the most efficient nor the most just way to provide essential energy

needs. The energy industries have generated and accumulated enormous wealth, but that wealth has only in a few countries been well distributed to the benefit of society. Good global energy decision-making will depend upon finding the right legislative and regulatory framework, the right economic instruments (carbon credits, auctioned or tradable permits, or a carbon tax) and finding the right price or cost levels for these instruments.

ENERGY - ENVIRONMENTAL CHALLENGES

The energy industries are deeply implicated in environmental issues, and in particular climate change. Energy will always have an environmental impact, but the impact can be minimized and localized if we choose to do so. Because the world continues to rely on fossil fuels for much of its energy needs, the production, transportation and use of fossil fuels for energy is responsible for the majority of man-made carbon dioxide emissions. It is within this sector that many of the solutions will have to be found, despite relentless resistance from a few energy companies.

The current glut of oil and gas, particularly in some regions as the result of hydraulic fracturing methods (“fracking”) may be temporary; there is some evidence to suggest that the lifespan of a “fracked” well is significantly shorter than the usual conventional oil or gas well. As easily accessible and inexpensive oil, gas, coal and uranium are depleted, future production will be heavily focused on resources in hostile and environmentally sensitive environments such as deep offshore regions and the Arctic, and expensive-to-recover resources such as bituminous sands, oil shales and heavy oil deposits. The long-term consequences for human health and possible soil and water contaminations in areas affected by fracking are also widely unknown. However, the methane and toxin levels found in drinking water near fracking plants are much higher than average. Especially in the developing world where farming is often an existential source of income, fracking could worsen the systematic disadvantages of developing countries.

The effects of global warming in the Arctic region could mean that oil and mineral deposits which have until now been impossible to get at may soon become accessible. For example, there are large quantities of methane hydrates on the cold ocean floor and locked into arctic permafrost. These could prove to be a new source of energy, if a viable and safe means of exploiting these deposits can be found. Alternatively, they could turn out to be a new means of environmental destruction since methane is a far more potent greenhouse gas molecule by molecule than carbon dioxide. If methane hydrate deposits become unstable as a result of ocean warming and release their methane rapidly to the atmosphere, the effects on the earth's climate would be even more sudden and catastrophic than what we are already facing.

Coal remains the fossil fuel that is associated with the most serious environmental problems and is therefore at the centre of our challenges. Coal-burning accounts for about forty percent of energy production-related global greenhouse gas emissions, or about twenty-five percent of total global GHG emissions. This makes it imperative that the world develops carbon mitigation strategies, such as carbon capture and storage or

sequestration (CCS). Of great environmental concern is that new coal-fired plants continue to be constructed at a rapid pace in India and China, most of which use conventional technology that is not readily or efficiently adaptable to CCS. We must ensure that at the very least, new plants being built today are high-efficiency plants that can be equipped with CCS systems as soon as possible.

Biofuels were seen by many as having the potential to diversify energy and reduce emissions. Unfortunately, much of that hope has turned out to be misplaced as energy inputs to grow and convert crops turn out to be much higher than initial estimates. The grain it takes to fill an SUV tank with ethanol could feed a person for a year. Using land to grow fuel leads to the destruction of forests, wetlands and grasslands that store enormous amounts of carbon often through a subtle chain reaction effect. In Brazil, for instance, a great deal of Amazonian forest is cleared annually for cattle pasture. This is at least in part because existing pasture lands have been taken over by soybean growers who are profiting from soaring prices caused by the conversion of US soybean acreage to corn production for ethanol. Brazil's bioethanol from sugar cane is often mentioned as a good example of sustainable biofuels but it is unclear whether its proponents have properly accounted for all of the effects of the program, particularly social impacts and competition for land space (with resulting loss in biodiversity). Furthermore, if Brazilian bioethanol is as environmentally efficient as claimed it is because of the prolific growth rate of sugar cane in Brazil's tropical regions and cannot be compared with the production of ethanol from corn grown in temperate climates.

Solar energy is a clean energy source (despite being responsible for some emissions attributable to the manufacture of solar panels) and is starting to make significant capacity gains as relative costs come down. There have been rapid advances in this technology, and its efficiency has risen significantly while production costs have dropped. This may also improve the situation for the developing world: decreasing solar panel costs are expected to increase the number of solar plants, especially in Africa. Solar energy is perhaps the most promising long-term solution presently available and aside from the obvious environmental benefits, it may also contribute to a balance of the current lack of access to energy in developing countries with a decentralised power generation.

Nuclear power could play a major role in mitigating the impact of carbon dioxide emissions although significant resistance to increased nuclear power capacity exists in the public mind and in political circles. Despite public scepticism, on a global basis IndustriALL projects that there will be some new nuclear stations built and nuclear plants presently on stream but reaching the end of their projected life will be replaced by new nuclear capacity, often on existing sites.

Worldwide wind generation capacity approximated 370 gigawatts in 2014, up from about 100 gigawatts in 2009. Globally, that remains a relatively small component of total energy generation but in a few European countries it supplies significant percentages of national totals. It is expected to continue to grow rapidly in coming years.

Large scale hydro-electric generation has been developed to its maximum capacity in several countries, although potential still exists in some parts of the world. Small-scale plants may become more important as a renewable energy source.

Utility workers will be affected by decisions about how best to supply the world's energy needs. For example, not all energy sources are equally capable of responding quickly to changes in demand. Solar and wind power may ultimately be more successfully adopted through a more decentralized model than our current one. There are fairly complex interactions between different energy sources that need to be considered in the design of the electric power grid. “Smart grids” and microgrids as part of a sustainable electrical system are worth mentioning although they may have a significant impact on electrical utility workers. Finally, it must be remembered that large parts of the world are still not reliably supplied with electric power. In particular, reliability of supply, stability of price and universal access are features of a sustainable energy system.

Hydrogen can be used as means of concentrating and distributing energy. Hydrogen is not an energy source in itself since hydrogen must be generated somewhere, potentially at large coastal electrolysis centres, or perhaps integrated with floating seawater desalination plants. However, hydrogen can be used as a transportation fuel or as a local energy source that creates no local carbon pollution. This makes it an attractive future option for some sectors and regions.

SPECIFIC ENERGY OPPORTUNITIES:

A sustainable energy industry is key to both development and environmental protection. It will benefit both workers and employers in the long run. IndustriALL and its affiliates will urge the energy industry to:

1. Seek adherence to strong sustainability standards, circular economy and life-cycle thinking for the upstream oil and energy industries that place real accountability on oil and gas companies that force them to accept responsibility for the environmental, economic and social costs of resource extraction
2. Condemn corruption, violent conflict, and other social ills
3. Provide for long term environmental stewardship of resource extraction sites
4. Guarantee a reasonable and just distribution of wealth (e.g. to shareholders, workers, community)
5. Build communities for the long term, not just for the lifetime of the resource
6. Collaborate in, and include worker participation in relevant voluntary agreements and CSR initiatives

IndustriALL and its affiliates will urge governments to:

7. Adopt energy strategies that treat energy supplies as more than just another commodity; but a human need and a human right
8. Adopt energy strategies that support truly sustainable sources of energy, including sustainable industrial policies and an examination of the visible and hidden subsidies currently in place

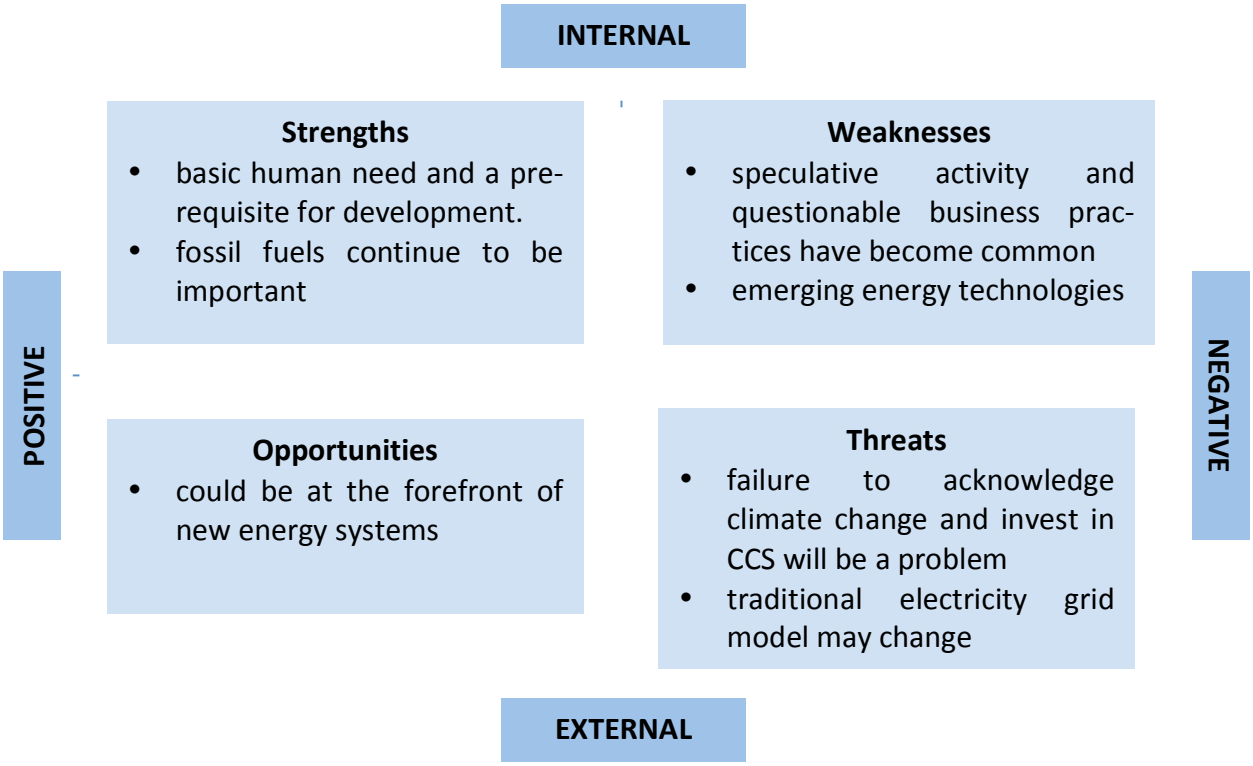
9. Rapidly deploy best available CCS technologies as fossil-fuel based generation will continue for the foreseeable future, and therefore everything that is possible must be done to make these energy sources as environmentally benign as possible.
10. Not rule out nuclear energy as a low-emitting energy source, although the nuclear industry must answer serious questions (particularly regarding wastes) and win public support.

ENERGY - CONCLUSION

Although the Paris Agreement of 2015 mandates that the world has entered an era of energy transition, we will continue to rely heavily on fossil fuels for at least the near future. Throughout the world new coal-fired power stations are moving from the planning stage to the construction phase and as yet there is only one power station globally that routinely operates CCS (Boundary Dam, Canada). Other sources of energy so far are promising but have demonstrated economic, environmental, or capacity limitations, but we need to determine how rapidly these can be scaled up.

IndustriALL supports a balanced energy future. Meeting the Intergovernmental Panel on Climate Change (IPCC) targets for carbon dioxide reduction will be difficult to say the least. Exploring all energy options, including CCS, nuclear, wind, solar, and other - is our only hope if the world is to avoid catastrophic climate change.

The impact of the 2015 Paris Agreement on this sector is massive. Energy production based on hydrocarbons is going to decrease massively while renewable energy plants will experience a strong growth. The question of nuclear energy will be decided nationally or regionally as part of the future energy mix. The energy grid will be rethought. For the workers in the affecter energy branches we need a Just Transition.



INFORMATION and COMMUNICATIONS TECHNOLOGIES, ELECTRICAL and ELECTRONICS (ICT, E&E)

ICT, E&E – INTRODUCTION

The ICT, Electrical and Electronics sector deals with a wide range of companies and supply chains producing consumer electronics, computer hardware, software, electrical appliances, and others, including ICT services. This sector's influence continued to grow in the past years significantly with the development and broader distribution of new technology. This sector produces high value products for both direct retail as well as a supplier for other sectors:

The supply chains that feed this industry are getting bigger and more complex as technology pervades every area of our lives. Apple, for example, deals with over 750 suppliers to make products such as iPhones and iPads, and in the automobile industry, electronic components can make up to 40 per cent of total costs in all car categories.

In the context of increased policy pressure after the Paris COP21, the ICT E&E sector is one key to industrial sustainability. Efficient energy use and management such as smart grids, microgrids, smart cities, smart factories, smart homes and smart meters will depend largely on the contributions from this sector and is therefore often seen as a sector that is particularly able to promote environmental policies. Strategies to protect the environment and stop climate change after the Paris agreement will in many countries will depend on this sector.

The industry is highly competitive, innovative, fast changing and with short production cycles. Industry 4.0 will be penetrating various industries faster than we could ever imagine. Trade unions must be prepared for the massive impact on employment, working conditions, and workers' rights, and concentrate on activities towards a Just Transition.

ICT, E&E – SOCIAL CHALLENGES

Unionization is a key problem in this sector: eight out of ten of the world's largest IT companies (by revenue) have very low or no union density. Agency or contract work is a frequent practice and the chances of agency or contract workers benefitting from collective bargaining is poor, considering their low rate of unionization. They often lack the fundamental possibility to negotiate the terms and conditions of employment.
In the ICT, Electrical and Electronics sector, labor intensive production of MNCs is rapidly shifting into ASEAN (Association of Southeast Asian Nations) countries and India where the standard wage of manufacturing workers is now lower than in China, the world biggest producer of ICT, E&E products. At the same time, the number of unorganized workers in the sector continues to increase all over the world and precarious work expands in the complex supply chain system which was created without protection of workers' basic rights.

Occupational Health and Safety is a problematic topic in this sector especially due to the

lack or corporate responsibility of multinational companies throughout the supply chain. Especially in electronics recycling (e-waste) in developing countries, safety equipment is often not provided for workers extracting hazardous materials. The extraction is often done by workers using their bare hands and a few tools. The workers are not protected from the thousands of toxins that exist in the old equipment, including lead, lead oxide and cadmium in circuit boards, cathode ray tubes and batteries, mercury in switches and flat screen monitors and brominated flame retardants. Women and children are regularly involved in these operations and hence the most vulnerable to occupational illnesses. Working conditions with subcontractors are often particularly precarious.

In smart factories, machinery, storage systems and production are capable of carrying out complex tasks, exchanging information and giving instructions to each other, without the need for human involvement. Smart technology and systems could also lead to extensive control and monitoring of workers' behavior and performance. Smart factories pose greater expectations on individual flexibility and precarious work is predicted to increase.

INDUSTRY 4.0

The fourth industrial revolution, or Industry 4.0, uses smart technology and real-time data to increase productivity and reduce costs. Industry 4.0 relies heavily on the Internet of Things - objects embedded with technology that can communicate with IT systems and can be detected by sensors. Cloud computing is also essential to support the billions of sensors, devices and the flow of information or data that they create. Advances in data analytics mean that powerful software has the capacity to analyze all this information (or Big Data) coming from manufacturing systems in real time. This provides vast benefits to multinational companies giving access to up-to-the second information on production across supply chains. The accessibility to such in depth information on the production process throughout the supply chain should then also be used to monitor the social and environmental standards and whether contractors of MNCs comply with the regulation.

ICT, E&E – ECONOMIC CHALLENGES

The ICT, E&E sector will continue to play an important role in the future, both as a supplier to other industries (i.e. automobile, aerospace, mechanical engineering, etc.) as well as a producer for the consumer as the demand for smart technology in the private life also rises. ICT E&E sector is experiencing in the most rapid globalization process among any other manufacturing sector. A few Solar PV giant companies start to dominate the market; however, there is not enough information on the labour rights, working conditions and occupational health and safety in the workplaces with low or no union density.

Furthermore, developments in 3D printing have the potential to drastically reduce production costs, and even reduce the need for production facilities significantly.

ICT, E&E – ENVIRONMENTAL CHALLENGES

The disposal of hazardous materials into the surrounding environment is one of the main environmental problems with this sector. Especially in the developing world, where companies often work with subcontractors, whose social and environmental standards are poor, soil and water are left highly polluted with heavy metals such as lead, cadmium and

mercury as well as solvents, benzene, etc. This is particularly strong in electronics recycling. The communities surrounding the industries and the workers are therefore not only exposed to the hazardous materials at work, but their families often also face the effects of poor disposal regulations and the consequential contamination of the surrounding areas. There is a pressing need for a fundamental paradigm shift to promote the development of clean technology, clean design, and to phase out the use of hazardous materials throughout the lifecycle of electronic products.

SPECIFIC ICT, E&E OPPORTUNITIES

ICT, E&E companies are expanding their business fields to various areas such as the Internet of Things, Cloud Computing, the advent of 5G technologies, digitization of industries, big data to eHealth applications, smart and efficient energy and intelligent transport systems, digital technologies are becoming the foundation of modern economy and societies. For example, Internet giant Google is now developing self-driving car aiming everyone could get around easily and safely, regardless of their ability to drive. Tendencies like these will continue to have an impact on the growth of this sector but research into energy efficient and environmentally sensitive manufacturing is an important precondition for this development.

E-waste related recycling regulations have been in force in Vietnam (2006), China (2011) and most recently in India (2012). But there is need for activities that monitor the implementation of those laws/regulations and promote safer recycling of electronic products and protect the health of workers involved in both formal and informal recycling in Asian countries, especially in South and Southeast Asia. International organization such as UNEP and ILO could take the leading role for the local implementation.

IndustriALL Global Union and its affiliates will companies to

1. Develop safer and more sustainable manufacturing practices and to proactively reduce and eliminate chemical and physical hazards through the development and adoption of safer alternatives.
2. Develop Cybersecurity systems and thereby creating secure employment.

IndustriALL Global Union and its affiliates will urge governments to:

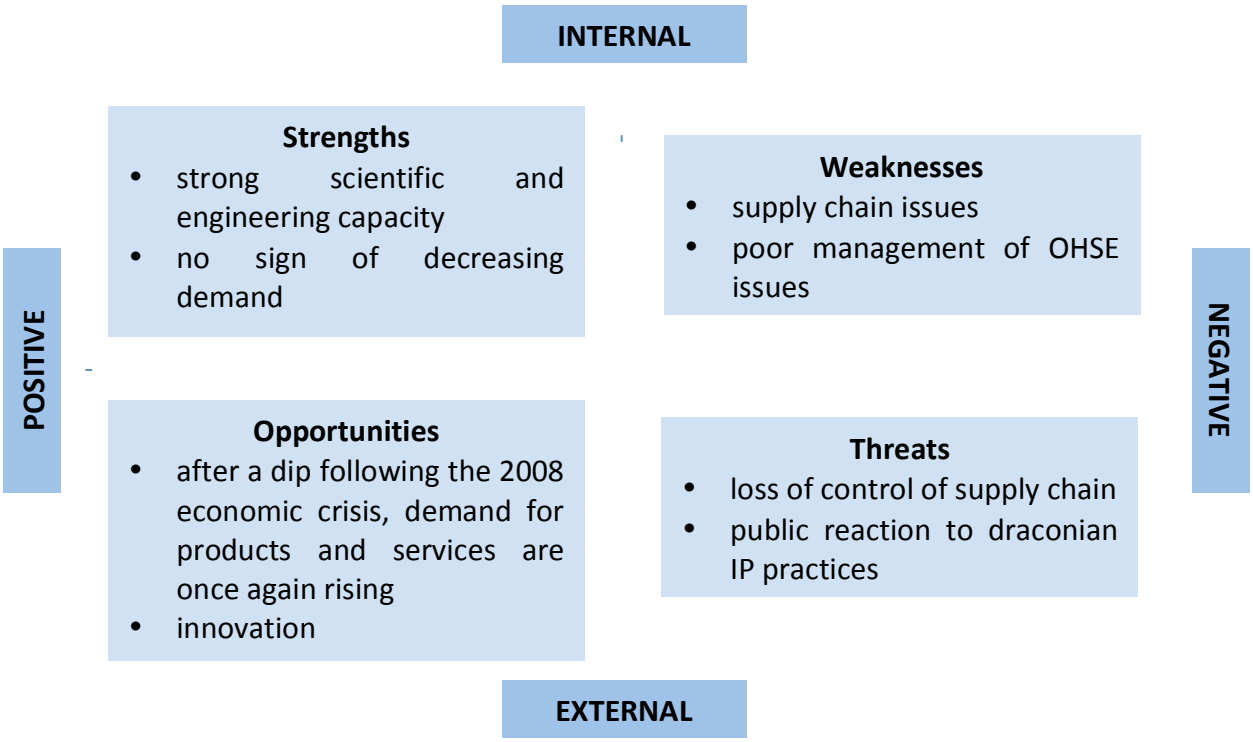
3. Strictly implement international rules such as the ILO core labour standards, throughout the supply chains
4. Promote fundamental rights on occupational health and safety (OHS) and sustainable employment with effective workplace protection through collective bargaining and full access to information on all workplace materials
5. Develop and maintain cooperation and collaborative actions with other organizations such as non-governmental organizations (NGOs) and civil society with a view to form an alliance against common challenges
6. Promote long-term employment relationships and demanding governments and employers to establish mechanisms that favor them
7. Foster tripartite collaboration for dealing with temporary and other forms of

precarious employment as per the points of consensus of the ILO Global Dialogue Forum on Adaptability of Companies to Deal With Fluctuating Demands and Incidence of Temporary and other Forms of Employment in Electronics that took place on 9-11 December 2014 in Geneva

8. Build affiliates' capacity to develop their own vision of sustainable industrial development and gaining the ability to utilize various tools to implement it
9. Pursue union participation in all aspects of industrial policy development and implementation
10. Develop sustainable industrial policy and strengthening demands on governments in cooperation with the national centers and other industrial unions in their respective countries
11. Develop collaborative activities and seeking synergies to effect sustainable industrial policies, with other related sectors such as electric power sector

ICT, E&E – CONCLUSIONS

The impact of the 2015 Paris Agreement on this sector is significant. Demand for products from this sector – particularly energy- and environmentally- efficient products – will rise significantly in the future. Some products will be continued and advanced while others might not. For affected workers in potentially declining industries we need adequate Just Transition measures.



MATERIALS, including GLASS, CERAMICS, and CEMENT

MATERIALS, including GLASS, CERAMICS, and CEMENT - INTRODUCTION

The materials sector is an energy-intensive group of industries and the cement industry, in particular, is a significant contributor to global carbon dioxide emissions. On the other hand, high-quality materials have the potential to play a major role in energy efficient construction and retrofitting. Good construction materials are needed for insulation and low energy housing, the glass industry largely contributes to the production of solar panels and hot water production. The economic and social benefits of these industries are relatively well distributed geographically, compared to many other industries.

MATERIALS, including GLASS, CERAMICS, and CEMENT - SOCIAL CHALLENGES

Materials industries could be an important engine of social and economic development, both directly and indirectly, especially if unionization creates decent wages and working conditions in this sector. However, this also stresses the importance of organizing subcontracted labor (see for example transportation, logistics and other departments as well as workers who are directly involved in maintenance and processes.

Chrysotile Asbestos continues to be used, mainly as a reinforcing additive in concrete, and mainly in the developing world. The hazardous nature of all forms of asbestos, including chrysotile, is beyond dispute.

> Even if it could be handled safely, as the asbestos industry falsely claims, there is strong evidence that in actual practice workers, and often their family members, are heavily exposed. **As there are effective and less hazardous substitutes for asbestos, the material should be banned from use (with appropriate Just Transition measures for those workers employed in its production).**
>
> *- IndustriALL's strategic goal III*

MATERIALS, including GLASS, CERAMICS, and CEMENT - ECONOMIC CHALLENGES

The bulk of global cement production capacity is now located in developing regions. The major cement multinationals such as LafargeHolcim, Heidelberg Cement/Italcementi and Cemex have approximately thirty percent of their production capacity located there. With a strong annual production increase through the first decade of the 21st century, China now accounts for over half of global cement production.

In addition, there are several Asian-based cement multinationals, rapidly expanding in China from Hong Kong and Taiwan. These include: Chia Hsin Cement Group; Taiwan Asia Cement Group; Taiwan Cement Corporation; Rui An Hong Kong; Conch Group; Hua Xin Group; Shan Shui Group; Zong Lian Group; and the Hua Run Group. In case of an economic downturn in China, one of the risks is that Chinese cheap cement will flood developing and developed countries' markets alike.

The economic sustainability of (especially) the fine ceramics and crystal glass industry is threatened by counterfeiting. In Europe, for example, labour costs account for fifty percent of the finished product cost. In some of the countries where counterfeiting takes place, the raw materials costs are a third, energy costs a fifth, labour costs a tenth and packaging costs half of European Union industry levels. A situation like this hardly makes for a sustainable industrial employment. Companies profit largely while workers rarely experience the benefits of the growing demand.

MATERIALS, including GLASS, CERAMICS, and CEMENT - ENVIRONMENTAL CHALLENGES

The cement industry produces five percent of total worldwide carbon dioxide emissions. This compares to the transport industry which accounts for twenty percent or the power industry which accounts for thirty-five percent. Additionally, almost forty percent of total emissions come from the building sector (heating, cooling, lighting), part of which can be attributed to choices of materials and that could be influenced positively by sustainable construction methods and use of energy efficient materials (i.e. energy-efficient buildings and housing, for which several standards already exist).

Almost half of the total carbon dioxide emissions associated with the use of cement and concrete can be attributed to the chemical transformations undergone by limestone as it is converted to Portland cement clinker. These are inherent to the process and therefore cannot be improved through increasing the energy efficiency of the kiln (although in the future they may be amenable to some form of carbon capture and storage) although new cements based on different chemistry (e.g. Ecocem's magnesium silicate cements) may avoid this limitation. The remainder of carbon dioxide emissions result from energy used to heat the kiln, quarrying, transport, etc. that can be improved through increased efficiency and alternate fuels.

The cement industry would benefit from an effective emissions permit or trading scheme (allowing emissions from cement plants to be offset by carbon dioxide reductions elsewhere). Nonetheless, this would require on top tariffs in order to prevent low-cost producers to ship cement globally since, for the time being, transportation costs are near to nothing.

Cement kilns have been offered as safe waste disposal sites, because of the high operating temperatures and long residence times in the kilns. It is true that operating temperatures of cement kilns are extremely high – considerably higher than a typical municipal waste incinerator, and high enough in theory to safely dispose of many problematic waste materials if carefully and consistently operated. However, there is little evidence to prove that cement kilns are operated to a standard that would be expected of a facility handling extremely toxic materials, and hazardous emissions may be released to the environment. If they are to be used in this fashion, strict operating controls and an inspection and enforcement framework need to be established.

The glass and ceramics industry sectors are high-energy consumers and thus contribute to GHG emissions. They also discharge a range of pollutants from metals to dyes. On the other hand, the glass industry is also a key industry for a more sustainably future, since it provides solar panels (photovoltaic and hot water generating) for sustainable energy generation.

Heating, cooling, and otherwise operating buildings account for a great deal of total carbon dioxide emissions. High-quality, energy efficient building materials therefore could make a significant contribution to controlling greenhouse gas emissions.

SPECIFIC MATERIALS SECTOR OPPORTUNITIES

This industry grouping includes some of the greatest challenges to, as well as many of the potential solutions to, a sustainable future. IndustriALL Global Union and its affiliates will work to secure sustainable jobs in this sector.

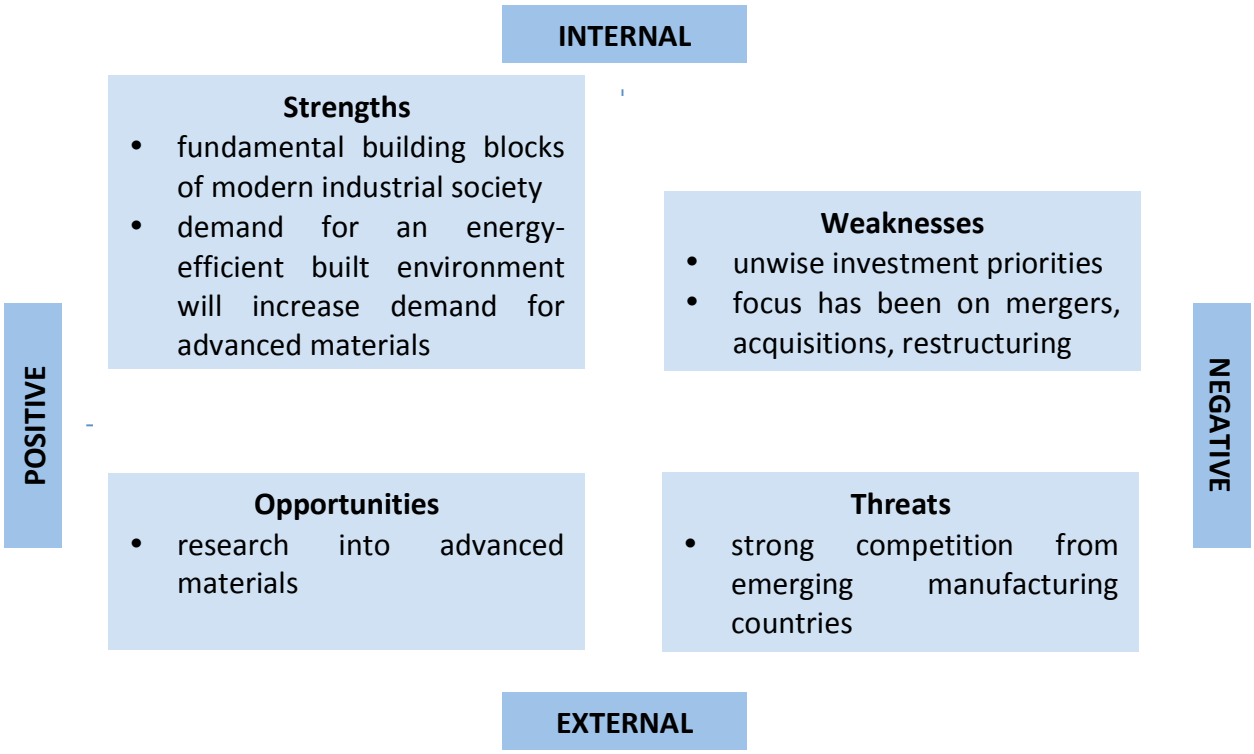
IndustriALL and its affiliates will urge employers in the materials and related industry sectors to:

1. Adopt sustainable materials production practices
2. Invest in the development and implementation of materials, technologies and solutions that mitigate environmental impacts, especially in the case of cement. High-quality and energy-efficient materials will help the world achieve sustainability
3. Engage workers, their unions, and IndustriALL in relevant industry-sector voluntary agreements such as the Cement Sustainability Initiative (CSI), adopting best practices in the areas of:
   - climate protection and carbon dioxide management
   - responsible use of fuels and materials
   - employee health and safety
   - emissions monitoring and reporting
   - local impacts on land and communities
   - reporting and communications

MATERIALS, including GLASS, CERAMICS, and CEMENT - CONCLUSION

While the sector faces significant environmental challenges, it also promises to be part of the solution in our quest for sustainability. Carbon dioxide emissions from cement kilns may in the future be able to be controlled with carbon capture technologies, or benefit from other technological change.

The impact of the 2015 Paris Agreement on this sector is significant. The main issue in this sector is carbon dioxide production during the manufacturing of cement in particular. This, however, is a process that is very hard to control: industrial CCS may eventually become an option. Cement is a highly relevant material for building (i.e. of renewable energy plants) and the demand will rise. Possibly, offsets will be part of the solution.


INTERNAL
Strengths
• fundamental building blocks of modern industrial society
• demand for an energy-efficient built environment will increase demand for advanced materials
Weaknesses
• unwise investment priorities
• focus has been on mergers, acquisitions, restructuring
POSITIVE
NEGATIVE
Opportunities
• research into advanced materials
Threats
• strong competition from emerging manufacturing countries
EXTERNAL

MECHANICAL ENGINEERING

MECHANICAL ENGINEERING - INTRODUCTION

IndustriALL Global Union's Mechanical Engineering sector encompasses a wide range of industries and products, including (for example) machine tools, specific transportation equipment, construction and agricultural equipment, elevators, lifts, robots, automated waste management and recycling machinery, some medical furnishings and devices, and other industrial or architectural machinery, both stationary and mobile.

With such a diverse sector it is difficult to generalize the social, economic and environmental impacts and opportunities. However, it can be said that as industrial transformation proceeds, many of the inputs to that transformation will come from industries in this sector. Mechanical Engineering can be rather part of the solution than of the problem if there is a sustainable industrial policy.

MECHANICAL ENGINEERING – SOCIAL CHALLENGES

Many industries in this sector are male-dominated, and in developed countries the workforces tend to be aging. The hiring and integration of many more women and young workers will be critical to the future success of this sector. In addition, knowledge management, knowledge-based apprenticeship and scholarship systems will be a key to a future role of Mechanical Engineering in solving – not only technological – challenges.

Growth in regions that are not traditionally strongly unionized, such as developing countries, will challenge our affiliates' ability to organize the workers in those areas. However, since the sector is dominated by large multinational companies, the establishment of strong trade union networks can help to promote solidarity and cooperation – and organizing campaigns. It will be interesting to figure out where Research and Development in the different sub-sectors within this sector is located.

MECHANICAL ENGINEERING – ECONOMIC CHALLENGES

Advanced technologies such as robotics and digitization as well as integrated digitization are likely to see growth. Traditional machine tools may not do as well (already today, classical tool-manufacturing is replaced by 3-dimensional printing designs), but the best estimate currently is that machine tool demand will remain more-or-less flat. The sustainable use of resources and energy will remain important, but will be an issue of the past with advanced, modern technology

New concepts in production, such as precision agriculture, will require new types of machinery.

MECHANICAL ENGINEERING – ENVIRONMENTAL CHALLENGES

This diverse industrial sector will have sub-sectors that benefit from, as well as sub-sectors that are challenged by, efforts to contain global warming.

For example, a continued or increasing demand for energy-efficient construction and agricultural equipment can be expected, as well as for “greener” industrial equipment.

SPECIFIC MECHANICAL ENGINEERING OPPORTUNITIES

A rapidly evolving sector, driven by both environmental imperatives and technological change, presents opportunities as well as challenges. Especially the power generating technologies (i.e. wind power stations), decentralized power generation and small water power generation present huge opportunities for future mechanical engineering.

Trade unions will need to network aggressively and seize opportunities for organizing as soon as they arise. With the radical transformation expected in this broad category of industrial production, a failure to do so could effectively mean de-unionization.

Climate change and sustainability policies will create new markets for the specialized machinery need for e.g. precision farming and waste sorting; as well as rapid advances in the energy and resource efficiency of more typical machinery. Some buyers of mechanical engineering products will want to renew their equipment to take advantage of these advances.

Certifications for energy and resource efficiency need to be standardized and implemented. Rapidly evolving future skills needs implies the need for a transformation of education and training for future workers in this sector.

Manufacturers of mechanical engineering equipment of all sorts will, like automobile and aircraft manufacturers, as well as power generating systems, strive to make their equipment lighter as part of the drive for greater energy efficiency. This means increase use of materials such as carbon-fibre composites and a reduced usage of traditional materials such as steel, iron, and aluminium. Of course the usage of traditional metals will not disappear.

Equipment engineers and designers will increasingly need to look at the entire life-cycle of the product from energy and material inputs, to maintenance and repair schedules, to eventual scrapping and recycling.

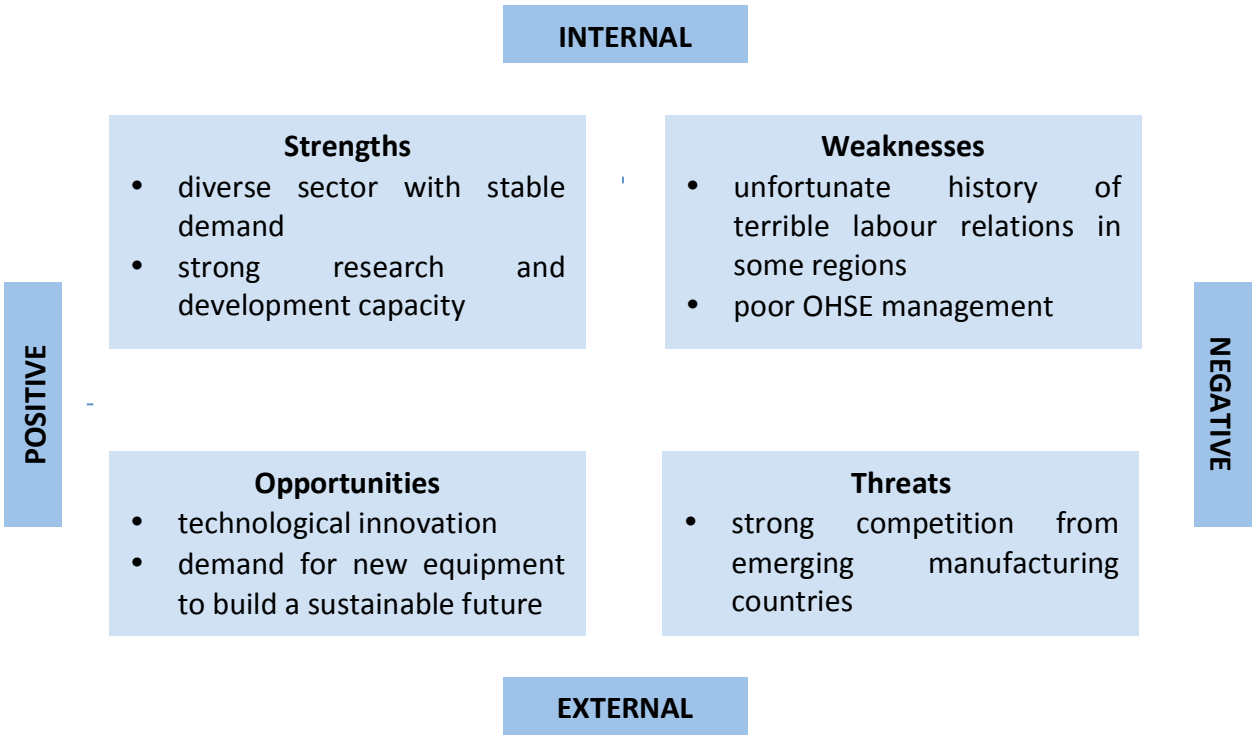
Sustainability objectives will increasingly be integrated into the design of machinery and equipment through self-monitoring machines with better sensors and advanced data processing (or even artificial intelligence) to manage inputs such as raw materials and energy in the most efficient way.

CONCLUSIONS

Market forces as well as the legislative and regulatory framework (including measures to address climate change) will drive company behaviour in this sector.

Government initiatives and industrial policies, with accompanying incentives and disincentives, will also play a major role.

The impact of the 2015 Paris Agreement on this sector is significant but overall quite probably positive. There is increasing demand for products from this sector, especially under the conditions of environmental sustainability and new technology, but also in the context of digitization and industry 4.0.



MINING SECTOR

MINING - INTRODUCTION

Without the materials supplied by mining and the wealth it creates, modern economic development would be impossible. Yet, by definition, the mining industry extracts non-renewable resources from the earth. It is not surprising that the mining industry has a major environmental impact. The social record of the mining industry, particularly in the developing world, has been generally erratic.

MINING - SOCIAL CHALLENGES

In terms of occupational health and safety, the global mining industry is consistently one of the most lethal industries for workers. This is why the IndustriALL Global Union campaign for the full implementation of ILO Convention 176 on Safety and Health in Mines is so important. In many parts of the world, the mining industry has an unfortunate reputation for its ruthless treatment of workers, local populations and indigenous peoples, violations of human rights and labour rights. The same multinational mining companies sometimes present quite a different face in the developed world than they do in their operations in the developing world.

Mines are frequently located in isolated areas where they can exert a great deal of control over their host communities, and are less likely to be subject to outside scrutiny. The voice of workers, through their unions, may be the only voice able to challenge the practices of the employer.

Corporate Social Responsibility (CSR) statements by some mining companies can often be little more than words on paper. The phrase "blood diamonds" is used to refer to diamonds (or, by extension, other precious stones) that have their origins in a war zone and/or are used to finance armed conflicts or illegal activities. Similarly, gold mining implicated in environmental and human rights transgressions produces "dirty gold".

There is a strong link between a company's labour relations practices and its treatment of the environment and communities in which it operates. **Trade unions, as the most well-organised structures within civil society, have a critical role to play.** However, in the absence of a strong and independent trade union it is difficult to obtain credible information on whether a company is attempting to **respect labour rights, provide decent work conditions**, or adhere to environmental best practices and standards. The increasing use of contract or agency labour at mines undermines the very notion of sustainable development.

- *IndustriALL's strategic goals I and III*

MINING - ECONOMIC CHALLENGES

In terms of "wealth creation", the mining industry plays an important, even crucial, role in many economies. These industries also provide the materials without which many aspects of economic development would be unthinkable, in terms of energy, products manufactured, and the employment thereby created.

Developing countries tend to rely on the export of natural resources for a greater percentage of their national wealth than developed countries. Most African mineral endowed economies earn for instance, between10% and 90% of their total export revenue from mineral resources. Despite this substantial mineral wealth, the level of poverty in Africa is the highest in the world. This wealth, if well distributed by means of taxes and wages and properly managed by national governments, could encourage economic diversification and progress, with mining serving as the catalyst for manufacturing. Developing countries that rely heavily on oil or mineral exports suffer higher rates of poverty and child mortality, and spend more on their militaries than similar countries with more diverse economies. The dependence on mineral resource extraction can only be broken with a paradigm shift that moves away from mining's enclave model of production to an integrated model of production, with down-stream linkages into mineral beneficiation and manufacturing and up-stream linkages into mining capital goods, consumables & services industries

Financial bonds for the "perpetual care" of mining sites, including restoration, reclamation or conversion of lands for eventual re-use have become more common and reliable but are far from the norm. These considerations should be considered part of a Just Transition for mining sites and the workers and communities that depend on them. Too frequently, mining companies consider the communities that grow up around mines to be temporary conveniences and fail to plan or build for the longer term - beyond the life of the mine. From a policy perspective we need legislation that holds companies accountable for the situation they build and/or leave behind.

MINING - ENVIRONMENTAL CHALLENGES

Mining is often in competition with other land uses, habitats, or indigenous land claims. Aggressive mechanized methods of mining, such as "mountain top removal", permanently and radically disturb the landscape where they are used. Mining operations use or contaminate large amounts of water. Disposal areas for waste and tailings are frequently the targets of complaints of visual pollution and dust, or if in the form of tailings ponds, risk of release to water courses. Erosion and dust can result from mining operations, especially open pits and/or tailings areas. The discharge or run-off of chemicals used in the mining process, as well as dissolution of contaminants from tailings, can result in high concentrations of arsenic, sulphuric acid, heavy metals, or other pollutants in ground water and surface water. Abandoned mines are sometimes safety hazards, continuing sources of pollution, or the cause of dangerous sinkholes. Modern mining operations utilize heavy equipment, and the transport of materials, equipment and ore over longer and longer distances; all requiring intensive energy inputs and therefore contributing to greenhouse gas emissions.

In recent years, some mining companies have made efforts to improve their environmental performance and image through more efficient methods, better management of waste and tailings, and stronger efforts to restore sites. National and international industrial policy

focussed on a more sustainable society, economy and industrial production should find a way to put incentives for companies for such measures and sanctions for those who are particularly reckless with their use of resources, whether they are labour, materials or land.

COAL

Because of its importance within the overall mining sector, a few words specifically about coal are merited. Coal remains the fossil fuel that is associated with the most serious environmental problems and is therefore at the centre of our challenges. Coal-burning accounts for about twenty-five percent of total global GHG emissions. This makes it imperative that the world develops carbon mitigation strategies, such as carbon capture and storage or sequestration (CCS). Of great environmental concern is that new coal-fired plants are being built almost every week, most of which use conventional technology that is not readily or efficiently adaptable to CCS. We must ensure that at the very least, new plants being built today are high-efficiency plants that can be equipped with CCS systems as soon as possible – and we need adequate national regulations promoting the use of such sustainable technology in modern mining companies.

Like many emerging energy technologies, including some renewables, carbon capture and storage or sequestration (CCS) has still to prove itself commercially viable. Although there are a number of small demonstration CCS projects in Europe and the US at early stages, most have either failed to make progress or face very high cost overruns. Many such pilot projects have been shut down and abandoned. This only emphasizes the point that full-scale CCS equipped coal plants must be built - and soon - to prove the technology. CCS-adaptable plants may cost around ten to twenty percent more to build than conventional plants (the first few built will probably cost much more). This explains in part why only a handful of such plants are being built today in Europe and virtually none in the rapidly growing economies of India and China.

The world will continue to rely heavily on fossil fuels for some years to come, but post-Paris we are in a transition period. Throughout the world new coal-fired power stations are moving from the planning stage to the construction phase and as yet there is just one power station routinely operating CCS (Boundary Dam, Saskatchewan, Canada). Other sources of energy so far have demonstrated economic, environmental, or capacity limitations, but we need to determine whether these can be scaled up.

IndustriALL supports a balanced energy future. Meeting the Intergovernmental Panel on Climate Change (IPCC) targets for carbon dioxide reduction will be difficult to say the least. Exploring all energy options, including CCS, nuclear, wind, solar, and other - is our only hope if the world is to avoid catastrophic climate change.

In November 2015, in Hannover Germany, IndustriALL held a summit of its major coal mining affiliates. The following Conference Statement on Climate Change and the Coal Commodity Crises, adopted unanimously, illustrates the responsible and thoughtful position of coal miners.

STATEMENT of the IndustriALL Coal Mining Conference, 19 November 2015

The representatives of the coal mining union affiliates of IndustriALL from the following countries, Australia, Germany, Poland, Hungary, Russia, Ukraine, Spain, India, Indonesia, Vietnam, Turkey, Pakistan and South Africa, meeting in Hannover, Germany on the 18th – 19th November 2015, hereby make the following statement:

Noting that:

1. Coal Mining Unions are suffering from the triple challenge of climate change, the commodities crisis and the inherent employer ideology within the industry intent on destroying trade unions.
2. Coal Mining Unions have a proud history and tradition of militant struggle and global solidarity with each other. This proud history and tradition has seen coal mining unions defend and improve the lives and conditions of their members, their communities and society more broadly. This history and tradition include the acknowledgement that the industrialization of the global economy has been on the back of coal mining, even as ironically, coal mining unions are being threatened by the consequences of industrialization – climate change. Climate change is an existential question for coal mining unions that therefore take the issue of climate change more seriously than any sector of the global economic production value chain.
3. IndustriALL's Executive Committee meeting of 19-20 May 2015 in Stockholm adopted unanimously a decision "calling upon IndustriALL affiliates to deliver a strong message to their governments on reaching the best possible result in the continuing UN climate change talks including Just Transition."
4. The almost hysterical call by some Non- Governmental Organizations (NGOs) to shut down coal mines as a quick fix solution to climate change and the uncritical policy response by the European Union and the United States of America to accelerate the shutdown, while somewhat understandable, is misplaced and regrettable in the absence of Just Transition measures for coal mine workers, while ignoring the developmental imperative of emerging economies and some European union country members depending on coal for their development.
5. While the success of the German experience in the transition to a low carbon emission economy is noted as an example of a model for a managed transition that is socially acceptable, it is also a product of coherent deep rooted co-determination industrial policy unique to the German industrial relations system.
6. This Coal Mining Conference supports the ILO's adopted criteria for a Just Transition ahead of the COP 21 session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris, France. The adopted criteria for a Just Transition are critical in ensuring efforts:

- to raise ambition and ensure that concrete steps are taken to reduce emissions in line with the <2 Cº pathway, including appropriate funding of and investment in technologies to reduce emissions from coal combustion.
- to ensure adequate technical and financial resources are made available to vulnerable and developing nations.
- to secure a Just Transition for workers and their communities, with all that it implies in the way of industrial transformation and social protection.

These efforts can be accomplished by adopting sustainable industrial policies, ensuring strong social protection programs, and designing and implementing specific Just Transition programmes.

7. Precarious work and contracting out, which has become rampant in the coal industry as a business model, present a direct threat to the existence of trade unions and the health and safety of mine workers.
8. Mechanization is recognised as another direct threat to trade union organising.
9. Privatization of the coal industry in the affected countries has caused immeasurable suffering to mine workers through a downward variation of labour standards and the rights of workers.
10. The current global coal crises is a direct result of the greed of the mining industry for profit, so immediate after the most unprecedented commodities boom in living memory.

Therefore, the Coal Mining unions gathered here hereby make the following Statement:
1. This Coal Mining Conference supports the ILO's adopted criteria for a Just Transition ahead of the COP 21 session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris, France.
2. We call upon the COP 21 Conference to adopt the ILO's criteria for a Just Transition which calls for sustainable industrial policies, strong social protection programs, and designing and implementing specific Just Transition programmes.
3. We call for investment in innovative clean coal technology such as carbon capture and storage and carbon re-use which is more than necessary to safeguard the future of a climate friendly coal. Therefore mining companies and governments/states should invest in research and development for the development and implementation of clean coal technologies.
4. We recommit ourselves to IndustriALL's call to affiliates to deliver a strong message to their governments on reaching the best possible result in the continuing UN climate change talks including Just Transition.
5. We call upon mining companies in the coal sector to respect trade union rights, human rights and environmental rights, particularly in this period of the global coal crisis.
6. We call upon IndustriALL Global Union to escalate the campaign against Precarious Work to which we, as coal mining unions gathered here, fully support.
7. We reiterate the demand that all countries not only take the necessary steps to ratify ILO Convention C176, but that they also take urgent action to ensure that the commitments contained in the Convention are put into practice.
8. We commit ourselves to implementing IndustriALL's 5 key strategic goals and objectives as a strategic response to the challenges discussed at this conference.

SPECIFIC MINING OPPORTUNITIES:

The goal of IndustriALL is a mature union-management relationship in which dialogue can replace a culture of conflict. In addition, IndustriALL and its affiliates will expect mine operators to:

1. Seek adherence to mining stewardship standards that place real accountability on mining companies and force them to accept responsibility for mining-created environmental, economic and social costs
2. Condemn corruption, violent conflict, and other social ills

Sustainable mining practices benefit both workers and employers in the long run, and are key to both development, and environmental protection.

- IndustriALL's strategic goal V

3. Demand long term environmental stewardship of mining and other resource extraction sites
4. Guarantee a just distribution of mining-generated wealth (e.g. shareholders, workers, community)
5. Build and care for communities for the long term, not just for the life of the mine
6. Demand that companies recognize the Union and IndustriALL (especially multi-national enterprises (MNEs)), including recognition of collective bargaining rights
7. Campaign for the adoption of ILO Convention 176
8. Utilize the GRI mining industry guidelines.
9. Collaborate in, and include worker participation in relevant voluntary agreements and CSR initiatives

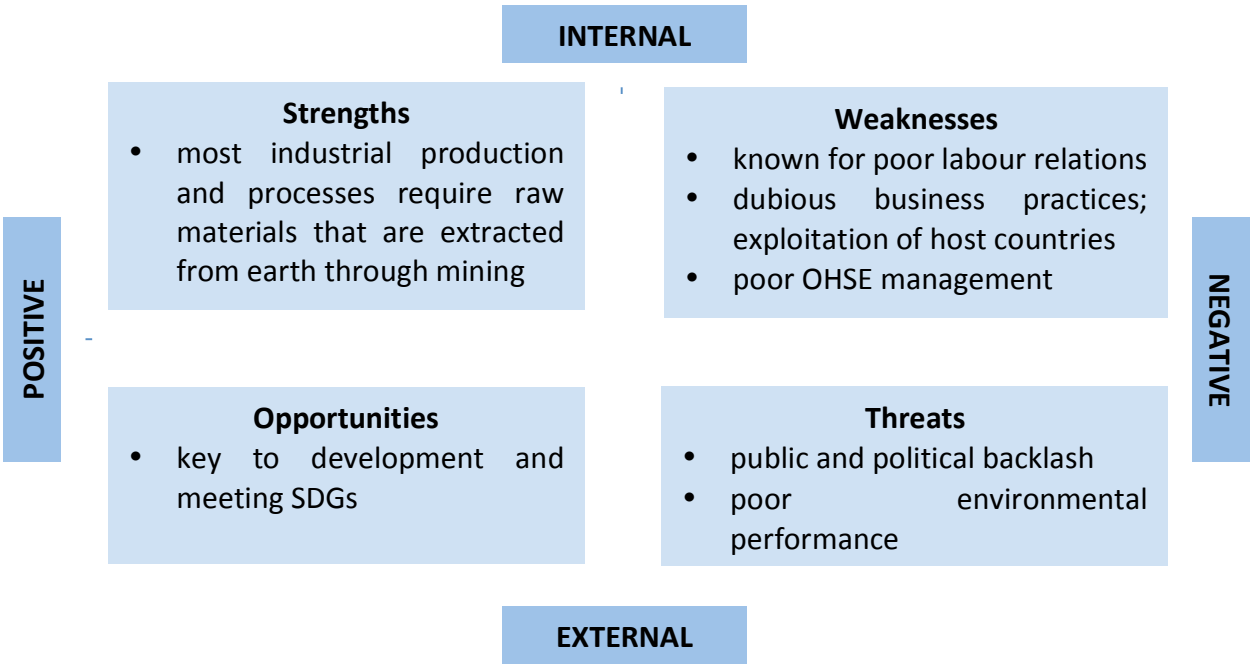
In addition, IndustriALL and its affiliates will urge governments to:

10. Adopt energy strategies that treat energy supplies as more than just another commodity; but a human need and a human right
11. Rapidly deploy best available CCS technologies as fossil-fuel based generation will continue for the foreseeable future, and therefore everything that is possible must be done to make these energy sources as environmentally benign as possible.
12. Not rule out nuclear energy as a low-emitting energy source, although the nuclear industry must answer serious questions (particularly regarding wastes) and win public support.

MINING - CONCLUSION

Resources and energy will continue to be obtained through mining. Despite this crucial role, the mining industry's environmental and social performance threatens its economic sustainability. An effective mix of voluntary and regulatory instruments is essential if this sector is to meet the challenges of the twenty-first century. In the face of these challenges, IndustriALL believes that some sort of international regulatory framework for extractive companies is needed. Voluntary corporate social responsibility initiatives are not enough; there must be third party verification of behaviour, along with rewards and penalties for good, or bad, behaviour. In addition, host countries to multinational mining companies (especially developing countries) need to have mechanisms to ensure that best practices and standards are followed, and a dispute resolution process if they are not. IndustriALL believes that mining companies must be held accountable for their labour, environmental and human rights practices through strong systems of national regulation and international conventions (such as those of the ILO) that include the right to organize. Finally, low commodity prices and the 2015 Paris agreement have forever changes the fundamental economies of coal mining. IndustriALL and its affiliates must insist on a Just Transition for all existing coal miners.

The impact of the 2015 Paris Agreement on this sector is massive. Coal mining will decrease immensely while other materials, i.e. exotic metals such as lithium, cobalt, rare earths etc. are going to experience a significant increase due to the large demand for advanced products of other sectors (ICT, mechanical engineering, etc.).



PULP / PAPER, PACKAGING and FORESTRY

PULP / PAPER, PACKAGING and FORESTRY - INTRODUCTION

Challenges to the environmental, economic, and social sustainability of this industry group include resource management practices, pollution, trade issues, energy usage and technological change, and contract and agency labour. In addition the industry has found itself the victim of illegal international trade practices, and currency speculators, and unpredictable energy costs. The social and economic impacts of its operations are very important, in particular since many of these are in regions where there are few other economic activities and the fate of entire communities may depend upon a single industry.

PULP / PAPER, PACKAGING and FORESTRY - SOCIAL CHALLENGES

Forest-dependent jobs are often found in small communities and remote areas where there are few other economic opportunities. The social impacts of this industry group's operations are thus very important in many regions. The fate of entire communities may depend upon a single industry.

> Given changing patterns of supply and production capacity, issues of inequity and payment of wages and benefits, and a tendency to seek to replace regular workers with capital, or with contract and agency labour who have lower levels of social protection, the **forest industries will continue to be a challenge for global trade union action**.
>
> *- IndustriALL's strategic goals III and IV*

Land claims, communities, and cultures of indigenous peoples sometimes conflict with commercial forest use. In other cases indigenous groups have been willing partners, operators, or owners of forestry companies.

The harvesting of forests for lumber and fibre may compete with agricultural, recreational, conservation and other interests. They also provide materials, energy, food, and economic income for many communities; often in regions without obvious economic alternatives. The extremely poor of the world tend to be those most dependent upon their forests. Each of these interests emphasizes the need for adequate forest protection measures to address the various drivers of deforestation and forest degradation. Forests also play a key role in reducing greenhouse gases as they serve as carbon sinks. Deforestation adds to approximately 15 percent of the world's greenhouse gas emissions and is the third largest contributor to global greenhouse gas emissions.

IndustriALL Global Union works closely with the Building and Wood Workers' International (BWI)

> Social sustainability of forest lands should include respect for indigenous, traditional or customary land tenure, benefit sharing with affected communities, **compensation for displaced workers and their communities, education and training in forest stewardship, respect for human rights and the ILO conventions**, and so on.
>
> *- IndustriALL's strategic goals III and V*

in evaluating, and deciding whether to support, various forest certification schemes. There are a number of forest certification schemes in existence to try to ensure that purchasers of forest products know whether best environmental practices have been followed in the harvest of the trees used. Some of the certification schemes also touch on the social dimension of sustainability.

PULP / PAPER, PACKAGING and FORESTRY - ECONOMIC CHALLENGES

The pulp, paper, and packaging sector, as well as the forestry sector, have experienced high and escalating costs of raw materials, as well as unpredictable energy costs. This is especially true in the OECD countries, where fibre (including recycled fibre) has experienced steep price increases; exacerbated by speculation in commodities and currencies. European, Nordic, and North American pulp/paper companies have sought the lowest-cost fibre sources possible, and some have sourced from illegal logging operations. An estimated one fifth of all EU timber imports stem from illegal logging. Each cubic meter of illegal timber means a loss of employment for at least four workers in the production chain.

Migration of capital has also resulted, with major investments being made in regions where large, fast-growing tree plantations can be created, alongside which are often constructed modern, high-tech pulp mills and paper mills.

Misguided agricultural subsidies encourage the conversion of productive forest land to other uses, including biofuels.

Global demand for printing and writing papers has declined, but some producers are increasing production for export regardless. Paper machine and total mill shutdowns have become common in Nordic, European, and North American countries, costing thousands of family-sustaining jobs that are the lifeblood of the rural communities where pulp and paper mills are located. At the same time, growth and investment in the global south has been phenomenal. Even in the developing world, the trend has been to substitute capital for labour and the labour intensity of pulp and paper products has dropped to about a third of what it was twenty years ago. The carry-over effect in the trade union arena is very evident. Pulp and paper trade unions in the north are working to prevent cuts to workers' social packages, preserving jobs, or negotiating redundancy packages. Unions in the south are seeking ways to increase wage and benefit levels in light of a booming pulp, paper, and forest products industry.

The UN's Reduced Emissions from Deforestation and Forest Degradation (REDD) program (among other instruments) is intended to draw attention to and mitigate these effects, but there are many loopholes and a lack of capacity for monitoring and enforcement. The desired outcome - reducing or eliminating real rates of deforestation - must define the legislative and regulatory framework of the host jurisdiction. The time required to grow a tree from planted seedling to harvestable tree must be properly accounted for, and the calculations to estimate carbon sequestered versus carbon

released from e.g. a managed woodlot are complex and somewhat controversial. The right price tag for forest resources and eco-system services has to be established.

Pulp and paper companies are already active in the carbon market, and the price of a unit of carbon emissions can affect competitiveness.

PULP / PAPER, PACKAGING and FORESTRY - ENVIRONMENTAL CHALLENGES

This industry group has an enormous impact on the environment, from its forestry practices to the end-use of paper and packaging. When sourcing raw material from forests that are properly managed, this sector has the possibility of relying on carbon neutral biomass energy as a sustainable, responsible, renewable, and economically significant energy source. While several developed nations have established forest sustainability practices in place, forestry practices in other nations are characterized by inappropriate cutting methods, insufficient replanting, and damage to forest soils (including damage due to compaction from heavy equipment, and road building), lakes, waterways, and ecosystems. Truly sustainable forest harvest levels should be based on the ability of a forest to regenerate indefinitely. Sustainable alternate fuels for transportation throughout the supply, production, delivery, recycling and disposal processes is a further key environmental challenge. Sulphur emissions from the various transportation methods must be reduced in order to make the industry environmentally sustainable.

A key environmental issue for this industry group is deforestation and forest degradation. Forests provide biodiversity, carbon sequestration, and watershed stabilization. World demand for wood rose by over sixty percent between 1960 and 2000, and grew by another thirty percent between 2000 and 2010. Much of this increased demand is supplied from tropical rain forests and northern (especially Siberian) forests, both problematic. Only a minority of wood production comes from "managed" forests with sustained yield plans in place.

Typically, pulp and paper mills are located on major rivers or on tidal waters. Pulp and paper mills require large amounts of wood fibre, fresh water and electricity. Pulp and paper mills are also significant users and dischargers of toxic pollutants, including general organic content in effluent, organochlorines as the result of bleaching, air emissions, solid waste and sludge, and greenhouse gasses. In the developing world, these effects are often particularly drastic. Where there is a lack for regulation, usually businesses are booming and costs are socialized while profits are privatized. The environment as well as workers in already disproportionately deprived areas pay the price. Optimal utilization of all resources: fibre; chemicals and auxiliaries; energy; and water, must be the industry's goal – and a very important policy goal to promote for legislators.

Emissions attributable to deforestation account for roughly one fifth of the world’s total man-made greenhouse gases. Some have argued that the value of undisturbed forests is greater than that of the fibre, paper, or finished wood products they might supply. This is a simplified view that ignores, for example, recycling and the businesses built around

recycling which have become massive industries in themselves.

Climate change is both a cause, and an effect, of stresses on forests. With rising average temperatures forest ecosystems will become increasingly degraded, which will reduce their effectiveness as carbon sinks and climate moderators, which will in turn increase the stress that they are under. Breaking up this destructive cycle has been identified as a comparatively low-cost solution in the fight against climate change.

SPECIFIC PULP / PAPER, PACKAGING and FORESTRY OPPORTUNITIES

Practices and standards vary from region to region with some regions being much better in terms of sustainable forestry, for example, than others. Nevertheless, in general forestry and pulp and paper can best be described as potentially sustainable industries that are presently plagued by a number of unsustainable practices. IndustriALL, working with the BWI, should utilize one or more of the existing forestry certification schemes to involve itself at the governance or oversight level of forestry practices. At the moment, the BWI works most closely with the Forestry Stewardship Council, based in Bonn, Germany; and the Program for the Endorsement of Forest Certification, based in Geneva, Switzerland. Both of these include strong support for core labour standards. The Sustainable Forest Initiative also has trade union involvement. Other opportunities include advancing nation-specific sustainability policies and supporting mechanisms as well as participation in global efforts to implement and monitor REDD principles. IndustriALL Global Union should attempt to broaden these certification initiatives into the pulp and paper sector.

IndustriALL and its affiliates will urge forestry, pulp and paper companies to:

1. Recognize that properly managed and harvested forests ensure sustainable industries. Real efforts are needed to address current unsustainable practices, including illegal logging. Sustainable forestry practices, and sustainable industry practices, create sustainable jobs.
2. Utilize forestry certification schemes and engage workers, their unions and IndustriALL more fully in them. IndustriALL will continue to collaborate with BWI on forestry certification.
3. Accept responsibility for the impacts of its business decisions on forestry communities, which are often dependent upon one industry and one or two major employers for survival.
4. Engage workers, their unions, and IndustriALL more fully in relevant industry-sector voluntary agreements.

IndustriALL will urge governments to adopt:

5. Forestry strategies that base harvest levels on verifiable renewal rates.

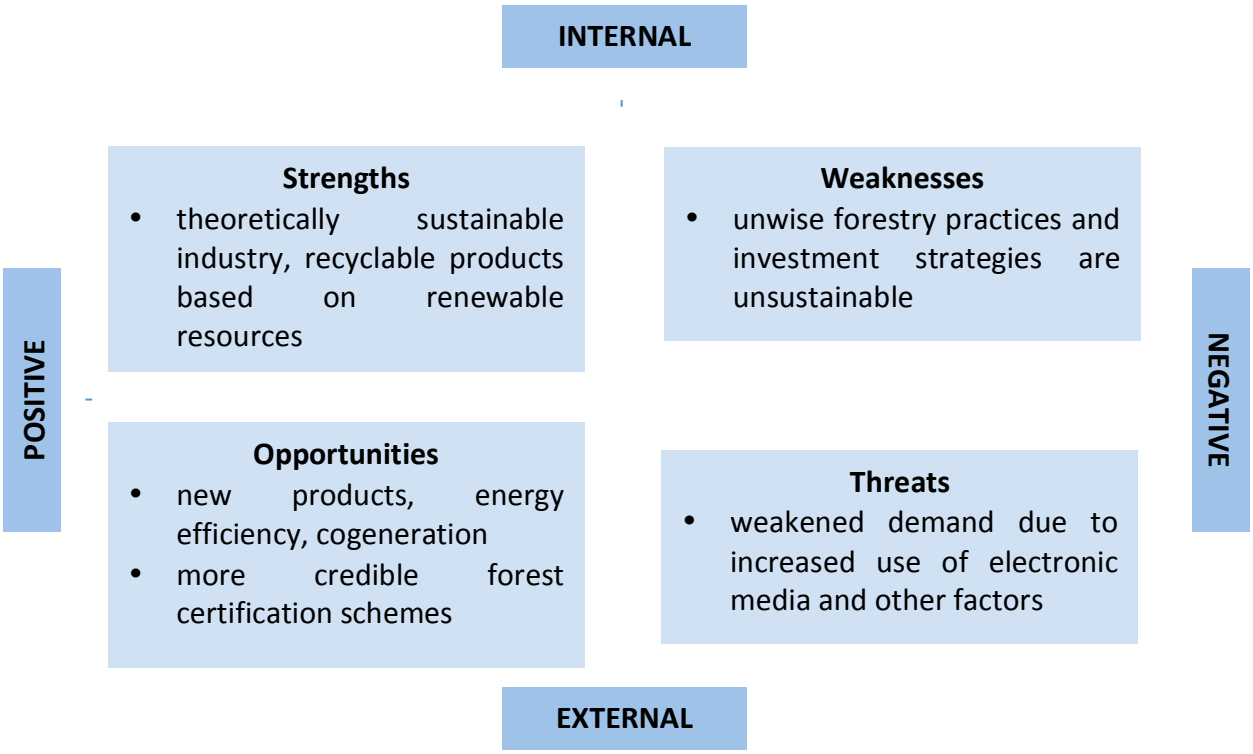
PULP / PAPER, PACKAGING and FORESTRY - CONCLUSION

It is clear that a fragmented trade union approach to the pulp, paper and forestry industries will not be able to make the case for sustainability. Even within the areas of traditional trade union interests, there is a need for greater cooperation, solidarity, and union-building

projects to build a level of parity among pulp and paper workers worldwide, as well as to put pressure on multinationals - wherever they are operating - to better defend wages, working conditions, and sustainable jobs.

Perhaps the greatest challenge to the sustainability of the pulp / paper and forestry sector is the short planning horizon of many company executives. The principal resource may require many years to reach harvestable size, but planning consists of maximizing profits and share values in the next quarter. Restructuring has resulted in a separation of pulp and paper mills from their forest base. Relying on the free market to provide source fibre has encouraged poor forestry practices.

The impact of the 2015 Paris Agreement on this sector is significant. Forestry managing practices will (have to) change drastically and there will be stronger pressure to guarantee sustainable forests for e.g. pulp and paper production. Whether the sector will grow or decrease in importance depends on the region (i.e. global north vs. south). The interpretation and implementation of REDD (Reducing Emissions from Deforestation and Forest Degradation) will affect this sector.



RUBBER

RUBBER - INTRODUCTION

The rubber industry is a value-adding industry that competes for their feedstock with industries that simply want to burn them. While many people associate pollution, industrial disasters and other environmental problems with these industries, they have arguably contributed and continue to contribute greatly to social and economic development. The chemical and rubber industries provide many of the materials out of which a sustainable infrastructure will be built.

RUBBER - SOCIAL CHALLENGES

The chemical and related industries have an uneven track record of relations with their unions. In developed countries the industry often has a mature relationship with its unions.

> In both developed and developing countries, the industry could do more in contributing to social progress through apprenticeship training, adult literacy and education programs, public health programs, and the like. **Trade unions can be effective partners in these social initiatives.**
>
> *- IndustriALL's strategic goal I*

It should also be noted that good examples exist in this sector of companies that have entered into Global Framework Agreements and have been willing to participate in social dialogue with IndustriALL Global Union and its affiliates, within regional and global networks.

RUBBER - ECONOMIC CHALLENGES

Over the last two or three decades, the rubber industry has grown rapidly in the developing world, and especially in emerging economic powers such as China and India. A significant percentage of this growth has been the result of domestic investment, but investment by multinational companies has also been important. Safety and environmental standards vary widely, with some sites (especially smaller, local production) failing to implement even basic environmental controls. Developing and emerging economies therefore now harbour a disproportionate share of toxic production and toxic waste disposal sites, sometimes at the expense of investment and jobs in developed countries. Especially the rubber industry has been increasing its use of contract and agency labour, rather than permanent, work forces.

These industries compete for access to non-renewable resources that are also used as fuels. Value-added production and job creation should be considered preferable to burning this resource. In some parts of the world, the viability of the rubber industry has been threatened by a shortage of affordable feedstock, while at the same time that same feedstock is being burned in increasing quantities as fuel.

RUBBER - ENVIRONMENTAL CHALLENGES

The rubber industry is widely criticized (sometimes unfairly) for their emissions, wastes, and secondary environmental effects resulting from the use and disposal of their products (for example, plastic containers and used tires). Public opinion tends to hold that chemicals and chemical products are much more a part of the problem, than a part of the solution.

The chemical and rubber industries have introduced some seventy thousand chemicals into widespread industrial use since the Second World War. Many more could be counted if small scale use were included. While some of these are relatively inert, others are persistent, bio-accumulative and/or toxic chemicals. The media are full of words that were rarely used or unknown a generation ago: "carcinogen", "mutagen", "teratogen", "endocrine disruptor", "hormone mimicker" and "reproductive toxin", for example. For only a handful of chemicals do we have even limited toxicological or human health data. Environmental effects are even less well understood.

This is an environmental problem with an occupational aspect. Many environmental chemical problems were first identified as the result of occupational illnesses.

Local authorities are frequently only minimally aware of, or concerned by, the kinds of industries in their midst, and are utterly unprepared for major industrial accidents.

Sustainable production and awareness for environmental impact of industrial production in this sector has **benefitted both workers and the environment – and it will do so in the future**.

- IndustriALL's strategic goals III and V

Policy makers should recognize the potential that lies in this sector for social, economic and environmental sustainability and the substantial contributions that this sector has made to social development progress. Companies following sustainability programs in efforts to improve their environmental impact should be promoted and particular environmental offenders must be sanctioned.

Although vulcanization makes it virtually impossible to re-process tire rubber into new tires, the rubber industry has enormous opportunities for recycling and re-use of rubber products. Tires can be retreaded rather than scrapped. Scrapped tires can be directly used in certain types of construction, or to make other products such as ground rubber which has many potential uses. Finally, scrap tires can be burned for their fuel value in controlled conditions, such as cement kilns.

Opportunities for recycling and re-use of other chemical products are an under-explored field.

SPECIFIC RUBBER OPPORTUNITIES

A very wide range of opportunities exist for the rubber industry to advance global knowledge of best practices in environmental protection and sustainability. IndustriALL and its affiliates will urge the global chemical industry to:

1. Engage in a global social dialogue with employers in the rubber and related industries using the European experience as a model, to promote Process Safety Management (PSM), sustainable chemistry, and other best practices in health, safety and sustainability
2. Demand that these industries accept responsibility for the environmental, economic and social costs of rubber production
3. Demand that the industry fully engage workers, their unions, and IndustriALL in their "Responsible Care" program, at the local, national, and international levels.

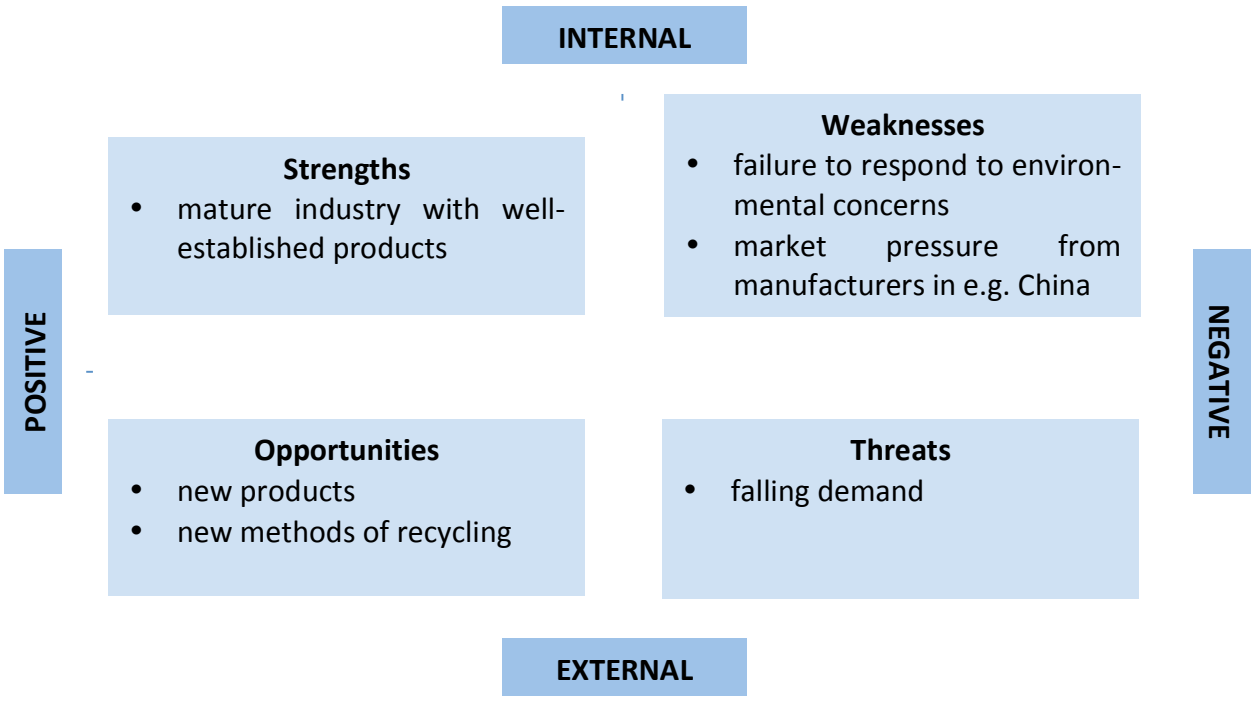
IndustriALL will urge governments to

4. Adopt energy strategies that recognize the dual role of gas and oil as feedstock for value-added production as well as fuels

RUBBER - CONCLUSION

A main issue for the rubber industry remains the question of recycling. Vulcanized rubber is very difficult to recycle into new tires – instead they are often either burned (thereby producing many toxins) or shredded for other purposes, such as granulate for playground and sports floors etc. The latter option hardly provides the demand for the amount of rubber that needs to be repurposed.

The impact of the 2015 Paris Agreement on this sector is moderate. There will be a continued demand for rubber products, especially tires. Used tire disposal and recycling will remain a concern.



SHIPBUILDING & SHIPBREAKING

SHIPBUILDING & SHIPBREAKING – INTRODUCTION

The world shipbuilding industry is facing a challenging period as the global overcapacity triggered the downturn of the global shipbuilding industry. The total amount of work on the order books of the big shipbuilding countries/regions (China, Korea, Japan and Europe) shows that it is very difficult to maintain the current level of shipyard capacities and employment. At the same time, the shipbuilding workplaces have been rapidly moving from the big shipbuilding countries to emerging economies, namely Brazil, India, the Philippines, and Vietnam.

The shipbuilding industry needs for sustainable development in order to protect employment of the shipbuilding workers. There are significant opportunities for existing shipyards to shift their business to offshore vessels and structures and environmentally sound ships as alternative sources of energy in the oceans have been explored.

The South Asian region, India, Bangladesh, and Pakistan account for nearly 70% of the world's shipbreaking in gross tonnage and it is estimated that over 120,000 shipbreaking workers are exposed to hazardous materials without any proper knowledge of Occupational Health and Safety (OHS) and workers' basic rights.

SHIPBUILDING & SHIPBREAKING – SOCIAL CHALLENGES

The shipbuilding sector is a heavy industry that is strongly characterized by mature industrial relation in many parts of the world. It also has shown relatively strong unionization and labour relations in the past. However, as a result of severe competition in the shipbuilding industry, social dumping is rampant in the industry and precarious work is globally increasing. The number of precarious workers in the shipbuilding industry has been rising rapidly over the last decade. One of the biggest issues of the unions is finding ways on how to reach out to precarious workers, especially to sub-contracted workers and migrant workers, in order to protect their basic rights within the same collective bargaining agreements as the organized regular workers.

At the same time, more than 130,000 precarious workers are involved in the shipbreaking industry in India, Bangladesh and Pakistan. Shipbreaking will continue to increase in next 25 years. In both the shipbuilding and shipbreaking industry, there are still large numbers of workers who have little or no chance to bargain collectively on their terms and conditions of employment. Most workers at shipbreaking yards in South Asia are exposed to an enormous threat to their health and safety (such as the high risk of industrial accidents, toxic substances such as oils, asbestos and PCBs) without proper training and without personal protective equipment. Every year, hundreds of shipbreaking workers lose their lives in occupational accidents. IndustriALL Global Union is committed to continue supporting the shipbreaking workers' unions, as well as to reach out to the unorganized

workers and promote occupational health and safety.
There are many international rules/guidelines on the issue; however, the implementation at the workplace level is not much improved and the many workers are still facing serious occupational accidents including fatalities, especially in India, Bangladesh, and Pakistan.

SHIPBUILDING & SHIPBREAKING – ECONOMIC CHALLENGES

The existing policies of some governments are causing strong market distortions. The shipbuilding industry is aiming at increasing transparency in the market, which should in particular provide a better comprehension of the magnitude and the sources of oversupply and overcapacity. Excess supply and excess capacity are generally associated with increased pressure on governments to support the industry during economic downturns.

The offshore sector involves various and elevated risks. These are notably linked to complicated construction processes, strict regulations, high levels of investment needed and the absence of a level playing field in the market. The shift towards offshore industry represents a big challenge for employees that can be tackled through education, training and research.

After the sharp decrease of oil prices in recent years, oil companies announced reductions of their oil exploration investments. Offshore vessel deliveries are expected to decrease significantly in the next few years. Upstream costs, capital and operating cost have been steadily increasing in recent years and put many projects at risk, as they are vulnerable to an oil price drop. Cost escalation in offshore oil and gas exploration and production activities is expected to be the biggest challenge for the offshore industry.

Shipbreaking is currently experiencing a downturn because China's economic slowdown has put massive amounts of cheap Chinese steel on the market; pushing the price of steel so low that shipbreaking is not profitable. The downturn is forecast to continue for five years; however the industry will definitely grow after that point, as there are more ships on the sea now than ever before.

SHIPBUILDING & SHIPBREAKING – ENVIRONMENTAL CHALLENGES

Shipbreaking is a highly polluting industry. Large amounts of carcinogens and toxic substances (PCBs, PVCs, PAHs, TBT, mercury, lead, isocyanates, sulfuric acid) not only poison workers but are also dumped into the soil and coastal waters. An average size ship contains up to 7 tons of asbestos which is often sold in the local communities after scrapping. As the majority of yards have no waste management systems or facilities to prevent pollution, shipbreaking takes an enormous toll on the surrounding environment, the local communities, fishery, agriculture, flora and fauna. This naturally causes serious environmental damage with long-term effects for occupational, public and environmental health.

Unions create pressure on governments and shipping companies, pushing them to support

the Hong Kong Convention. Compliance with the convention will dramatically improve workers' health and safety, as well as the environment.

SPECIFIC SHIPBUILDING & SHIPBREAKING OPPORTUNITIES

Because of the economic crisis and overcapacity of shipbuilding yards, the products are (should be) shifting from ships to more value added ships, offshore and sustainable energy related equipment/products, or other business. In order to do that, Just Transition is needed for workers and the industry.

There is a need for a "life-cycle" or "cradle to grave" approach. Shipbuilding companies should consider the recycling of a ship already at the time of its conception and design. As the life-cycle approach, all maritime industries should promote new technologies, eco-friendly products, and provide sustainable employment. Safer, eco-friendly ships that are producing less toxic waste and fewer emissions are in the interest of shipbuilding workers, maritime transport workers, shipbreaking workers and the environment alike.

Since maritime industries have specific characters (builders, owners, operators, flags, recyclers, and workers) which are complicatedly linked across borders, strong, comprehensive and legally-binding rules covering all stages of maritime industries are needed. The IMO Hong Kong Convention on ship-recycling could be the first step which mandates shipbuilders-owners/operators-recyclers to carry inventory of hazardous materials and to provide technical assistance including training workers and ensuring the availability of relevant technology, equipment and facilities in the shipbreaking yards. The convention was adopted in 2009 but is not yet in force.

Building affiliates' capacity to develop and implement their own vision of sustainable industrial development by the sharing of good practices is a main goal in the near future.
IndustriALL will

1. Continue to promote the strategic bridge between shipbuilding and shipbreaking workers so that knowledge of union activities such as occupational health and safety can be transferred.
2. Ask affiliates to monitor/demand a strong implementation of the rules and guidelines to the local authorities (shipbreaking in South Asia countries.)
3. Continues to participate on the above mentioned issues and raise them to international organizations, especially to the ILO, IMO, and OECD WP6.

IndustriALL will and its affiliates will urge the global shipbuilding and shipbreaking industry to:

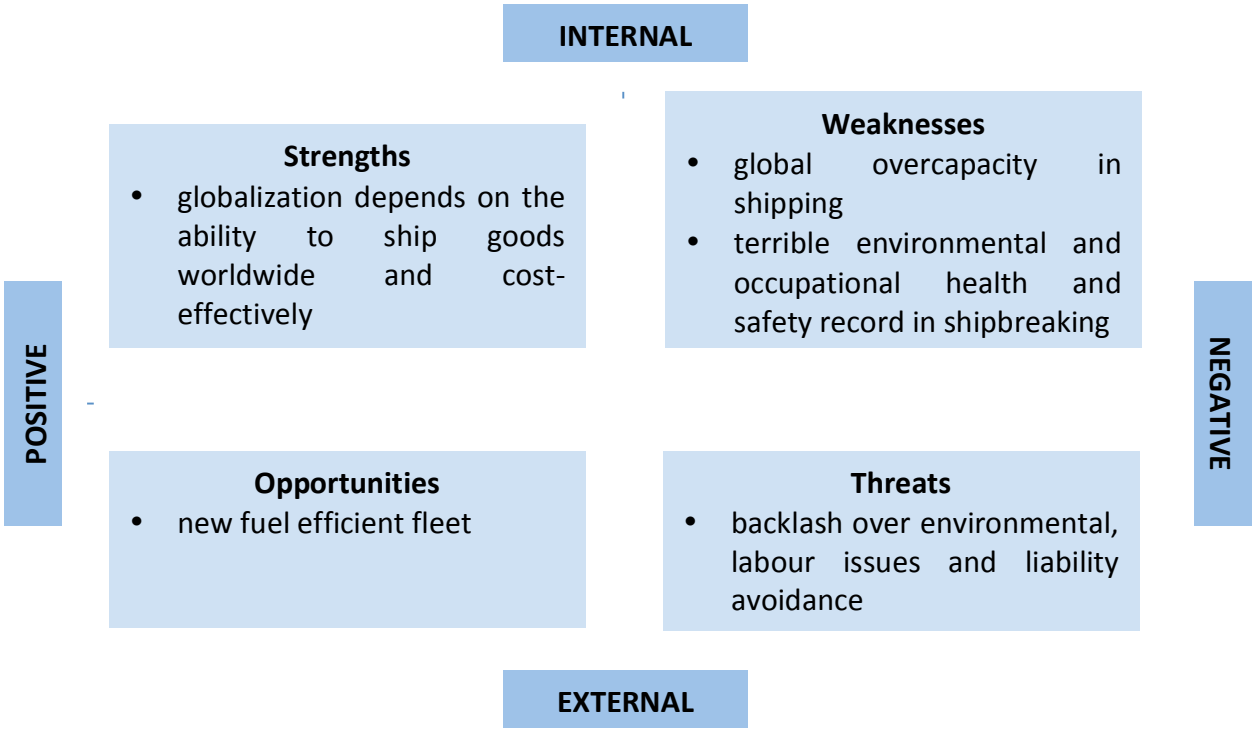
4. Demand that companies engage with workers and their unions in social dialogue.
5. Promote occupational health and safety in both shipbuilding as well as shipbreaking sites
6. Invest in sustainable, "green" ships in the future where the life-cycle and potential for recycling is already taken into account

IndustriALL will urge governments to

7. Create and implement strong, comprehensive and legally-binding rules covering all the stages of maritime industries.
8. Put pressure on companies to comply with the IMO Hong Kong Convention.

CONCLUSIONS

The impact of the 2015 Paris Agreement on this sector is moderate. The demand for more efficient ships will increase and shipbreaking will experience an increase as well as old ships are disassembled.



TEXTILES, GARMENTS and TANNING

TEXTILES, GARMENTS and TANNING – INTRODUCTION

This group of industries, including textile, garment, leather and shoemaking, is heterogeneous, with huge multinationals as well as small and medium-sized enterprises.

The textile, garment and leather and shoe industries have undergone globalization and severe restructuring in recent decades. The advent of so-called “fast fashion” and “fast retailing”, with ever-accelerating cycles of fashion shows and pressure to adopt the latest styles, may drive consumerism and short-term profits but is hardly compatible with long-term sustainability. The social dimension of sustainability has been paid little attention throughout this process.

TEXTLIES, GARMENTS and TANNING – SOCIAL CHALLENGES

Textiles, garments, leather and shoes have experienced every downside of the globalization process. Historically the process of internationalization, meaning transfer, decentralization, trade and shipment of goods across borders began in these industries before any other. This was due to many factors. It was relatively easy to "globalize" these industries. For one thing, it is easy to move production, because of the nature of the production process, much of which can be done without huge machines and massive capital investment. For another, employers have chosen to move production to any locale where they can seek lower and lower labour costs. Technological change has favoured this process, as well. Many famous brand names exist as "virtual corporations" with no production facilities of their own. Their main functions are to design, advertise, and take orders for products. Their actual production is contracted out to producers anywhere in the world.

> Globalization within this group of industries, over the last couple of decades, has been mainly a process in which **the most exploitative forms of labour practices have been utilized and institutionalized**; including poor working conditions, lack of attention to basic safety, exploitation and blackmail of women workers, and even child labour. **The driving force is based almost solely upon the search for lower labour costs and lower workplace and environmental standards.**
>
> *- IndustriALL’s strategic goals III and IV*

It is difficult to even catalogue the abhorrent labour practices that have emerged over the last fifteen years under the economic agenda of laissez-faire globalization and free trade. Since the signing of the Uruguay Round of international trade agreements at Marrakech in 1995, there has been a steady deterioration. These sectors employ many women, who are able to work from their homes. In fact, there is a tradition and history of women working from their homes, in many parts of the world. The combination of this ability and tradition makes this group of industries a field where exploitation and abuse of women is much easier than for many others. Crowded, multi-story workplaces, locked doors, "sweatshop" working conditions, little light or ventilation, occupational diseases, an absence of even basic electrical safety, building

standards, structural soundness, fire prevention and fire escape measures, as has been demonstrated in many recent disasters, such as the garment factory fires and building collapses. Vicious and violent union busting is common.

Occupational diseases are rampant. In many other industries in developed countries, sophisticated approaches to ergonomics are being developed and implemented. In the world of contracted-out garment production, workers rarely even get chairs to sit on. In developed countries, workplace conditions are regulated but in the world of contracted-out garment production you may find workers working where they live, working on wharves and warehouses, working anywhere. In developed countries, child labour persists but the scope of the problem is limited. In the world of contracted-out garment production, the common use of child labour destroys the future for these children, their families, their communities, and their countries.

THE ACCORD on FIRE and BUILDING SAFETY in BANGLADESH

The Accord on Fire and Building Safety in Bangladesh was an initiative of IndustriALL Global Union and UNI Global Union in 2013. In reaction to a series of catastrophes in the textile and garment industries of Bangladesh, most notably the Rana Plaza disaster that killed (officially) 1127 workers, mostly young women, the global labour movement demanded that the fashion brands and retailers finally take responsibility for the working conditions in their far-flung supply chains. The Accord is not just another voluntary initiative; it is an enforceable contractual agreement. By working with the fashion brands and retailers, pressure is put on the factory owners in Bangladesh to improve safety, and resources are made available if necessary to help correct safety deficiencies. As of 2016, over 200 fashion brands and retailers have signed the Accord, and inspections, remedial actions, and safety training are underway. For more detailed information on the Accord please visit http://bangladeshaccord.org/

TEXTLIES, GARMENTS and TANNING – ECONOMIC CHALLENGES

Despite many things that are said about this industrial sector, it possesses the economic ability to change. The economic dimension of sustainability is, in this case, closely linked to the social. Profits are actually quite good, and liabilities are almost non-existent; as evidenced by companies' ability to move freely to other areas. Employers can and do close their factories at any time, accepting no obligations or liabilities for the workers, and the families who depend upon them, at that production facility. The economic sustainability of the industry, from a trade union point of view, relies upon a "race to the bottom" mentality as production and jobs leave high-standard areas and in exchange, new workers receive very low wages and obtain very low standards in other areas.

There is a substantial “hidden workforce” in this sector. Areas of significant economic growth for the textiles, garments and leather industries include the informal sector, and in the free-trade export processing zones (e.g. "maquiladoras" and similar zones). If the informal sector is counted, we believe that employment in these industries is growing, but it is impossible to obtain reliable statistics.

The free-trade export processing zones are heavily exploited by the garments industry, perhaps more so than even the electronics industry (note: in the case of free-trade export zones, it is the garment industry, more than textiles and leather that is implicated). These zones, an outgrowth of the global market liberalization, free trade and deregulation mentality, have created many contrasting and contradictory situations. For instance, often people working in these zones produce clothing that they will never be able to afford to buy themselves. Secondly, it is very difficult for consumers in developed countries to understand the complete process of production of clothing. If you consider a shirt, it is possible that the manufacture of the fabric, the cutting, the sewing and the final finishing are all done in different countries. The label that people look at is only the label of the last process. The third is that markets are often flooded with massive imports of e.g. Chinese products, or sometimes even used clothing donated by well-meaning people in developed countries but then purchased and sold by unscrupulous profiteers in developing areas of the world - imported with no regard to social and environmental conditions - driving out local production. For example Burkina Faso was a significant producer of cotton but now their market is full of imported fabrics (e.g. synthetic fabrics from the Far East) and their former factories, producing for local markets with local workers in cotton, printing, dyeing, now are closed.

TEXTLIES, GARMENTS and TANNING – ENVIRONMENTAL CHALLENGES

Environmental impacts of this industry sector are very significant. Even more, there is a problem with environmental justice as the sector is concentrated in areas where the poorest people live, and there is little consideration for the living conditions of people in the areas of production. If you consider the environment in the strictest sense, meaning, e.g. the external effects of production, then it is worth noting that the worst effects result from the textiles and tannery industries. Two examples:

(1) In textiles, very often, the dyes that are used are not well characterized for human or environmental effects. Worse, even European companies operating in other countries use some e.g. azo dyes, which are forbidden in many parts of Europe, This situation is so serious that some clothes may be potentially harmful for the health of the wearer, let alone the workers. Particularly in developing countries, waste dyes and by-products continue to be disposed of in open water, with the consequent effects on marine fauna.

(2) The conditions of tanneries in many countries are really appalling. In Niger, for instance, there is a special area in Niamey, located on the bank of the river Niger, where there are a lot of open-air tanneries. The tanneries throw their wastes on the bank of the river. Many families live and work in this area, even where the waste is being left to rot. The smell is unbearable, and yet families are living there, catching fish, raising their families - it is a nightmare situation. Similar conditions prevail in areas of Pakistan, Morocco, and in all likelihood other places.

Research on environmentally less-harmful tanning methods is actually very advanced, but there is a lack of will on the part of the industry to respect the environment. In Tuscany, there is advanced research on how the industry can convert or dispose of almost all of their waste in environmentally responsible ways. If they can do so, there seems no reason why this technology cannot be shared and distributed.

SPECIFIC TEXTILES, GARMENTS and TANNING OPPORTUNITIES

There has been impressive research in developing new, advanced products – especially in the textiles sector. This sector has the potential to produce high-tech products of considerable added value that are going to be of great value to other sectors as well. The latest Airbus already consists of about 50% special textiles and the use of such will likely expand further in the future (i.e. automotive, energy). However, the economic growth of this sector will have to be sustainable – both socially and environmentally. This means that some significant changes need to be done to improve companies' impact on workers, their families and communities, as well as the environment. If companies take responsibility for their contractors and their workers' working conditions, this industry has the potential to be a growing, socially and environmentally sustainable sector. Especially since the corresponding research for more environmentally friendly and less health hazardous ways to treat textiles and methods of tanning already exists, companies must be required to use these new and improved technologies. Legislators need to promote the use and sanction companies still making their profit with workers paying the costs. Building union power is an important step to reach this goal, but corresponding policies also have to be put in place and their compliance has to be monitored by national authorities. Companies that care for their workers conditions will likely also care about their company's environmental impact and *vice versa*.

IndustriALL will urge the global textiles, garments and tanning industry to

1. Accept their social and environmental responsibility for the manufacturing of products also when contractors (especially in the developing world) are involved in the production
2. Engage in social dialogue with employers to promote the use of alternative textile, garment and leather treating methods that are less hazardous for human health and the environment (i.e. through Global Framework Agreements)
3. Make strong efforts to improve working conditions in the manufacturing of their products and engage workers, their trade unions and IndustriALL in these efforts.

IndustriALL will urge governments to

4. Promote the use of sustainable production methods, i.e. the use of less harmful chemicals in tanning and the production of garments and textiles and sanction companies still using old, potentially hazardous production methods for both human health and the environment
5. Put in place legislation to (further) protect workers, their families, communities and the environment and monitor the compliance to these laws where they are already in place.

CONCLUSION - TEXTILES and TANNING

The labour movement's priorities for this sector are the implementation of the social standards described at the beginning of this document. Where women and children are exploited and working conditions are very poor in both quantitative and qualitative terms, this has to be the primary goal in terms of reaching sustainability.

The Accord on Fire and Building Safety in Bangladesh represents an effort to leverage the power of garment brand-name owners and retailers to force positive changes in their supply chain: the manufacturers and producers that they contract with.

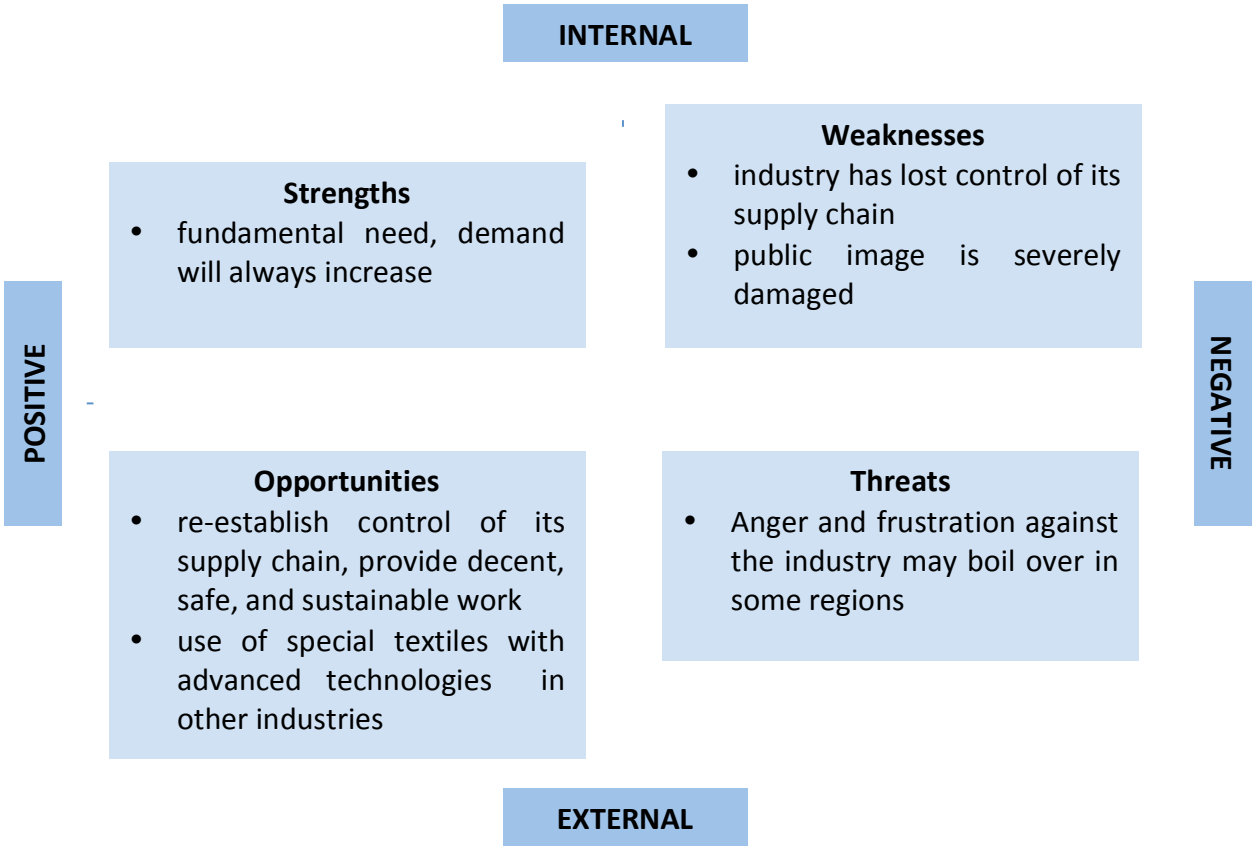
Globalization is not an end in itself, but a process. The challenge is to be able to impose this process in a socially responsible manner.

Overlying this process are others, including technological change, and the re-organization of processes of production However, as in the case of the other challenges mentioned, the social aspects need to be emphasized as the area where the industry must make progress over the next ten years.

The approach of many governments regarding respect for the law, including laws on labour and employment and other social standards, must change. We need enforcement of basic standards that in many cases already exist, and not just for multinationals but for enterprises of every size.

At the beginning of this new century, corporations like to talk about a new ethic of corporate social responsibility. Yet corporations are not their own creation, but are a creation of society. Societies - who grant them their charters of incorporation, and establish the conditions favourable to their growth (often at the request of these same corporations), surely have the right to expect something in return. Instead of corporate social responsibility, perhaps it is time to talk of corporate social accountability - i.e. what these companies owe to the outside world. This is real sustainability.

The impact of the 2015 Paris Agreement on this sector is limited to moderate. The main issue with this sector is energy consumption. The textiles sector is more likely to be affected by a digitization of the labor market than by the Paris Agreement. Even within the context of the climate agreement, violations of human and labour rights cannot be ignored.


INTERNAL
Strengths
• fundamental need, demand will always increase
Weaknesses
• industry has lost control of its supply chain
• public image is severely damaged
POSITIVE
NEGATIVE
Opportunities
• re-establish control of its supply chain, provide decent, safe, and sustainable work
• use of special textiles with advanced technologies in other industries
Threats
• Anger and frustration against the industry may boil over in some regions
EXTERNAL

CONCLUSIONS

A potential action plan for an IndustriALL Global Union Policy on Sustainable Development

IndustriALL, Global Union as an important stakeholder, stands ready to assist in the debate on how to build a sustainable future. Keeping in mind IndustriALL's five overriding strategic goals, an IndustriALL Policy on Sustainable Development should include the following in its action plan:

1. Build union power throughout the world
    - Encourage and help its affiliate unions to proactively organize at any existing or planned unorganized sites, and particularly wherever there are emerging new "sustainable" (or "green") jobs
2. Confront global capital
    - Seek better social dialogue with employers and governments where appropriate
    - Fight for appropriate, effective, and enforceable legislation, regulation, and standards. These must be drafted in a process of consultation with stakeholders and address sustainability in all of its dimensions
    - Demand sustainable development discussion for a in every jurisdiction, with seats at the table for trade unions
    - Seek to prevent social and environmental (and economic) "dumping" or "carbon leakage"
    - Press employers to meet or exceed regulations and standards in letter and spirit.
    - Re-examine the international principles of so-called "intellectual property"
    - Involve unions in monitoring and reporting of company behaviour: we are uniquely placed to interpret corporate social responsibility statements and determine whether they reflect actual practice.
3. Defend workers' rights
    - Demand that employers respect workers' rights, and integrate principles of social sustainability, into union-management agreements
    - Ensure high standards of health, safety, and environmental protection with global application
4. Fight precarious work
    - Pressure employers to adopt best labour and human rights practices
    - Expect all relevant international human rights and safety standards to be respected and that, in the transition, decent work is maintained and created
5. Ensure sustainable industrial employment
    - Proudly accept the fact that workers can contribute to excellence in environmental performance in their work. We have a duty to our members, their families, and the general public, to do so
    - Make specific sustainability proposals for each industry sector
    - Promote efficiency, productivity and safety of work through worker education

- Press governments to put in place sustainable industrial policies along with sustainable national and international industrial, financial and social strategies
- Demand sustainable (or "green") job creation and Just Transition programs
- Support the 2030 Sustainable Development Goals and make a re-commitment to ending global poverty
- Demand an international financial transactions tax (also called a Tobin Tax or a Robin Hood tax) to dampen currency speculation and provide a source of funds for sustainable development
- Recognize that human rights, human development, and peace are as essential to a sustainable future as environmental protection and economic stability
- Strongly support research, development, implementation and transfer of advanced environmental technologies (e.g. CCS, sustainable chemistry, environmental "best practices", non-wood fibres, silviculture, energy efficient materials, environmentally and social sustainable transport systems)
- Insist on full life-cycle analyses of e.g. energy systems, buildings, and mines, gas and oil fields, etc.

Appendix 1: Indicators for Social Sustainability

While all of the dimensions of sustainability are important – social, economic and environmental – a large number of indicators exist or are proposed for the economic and environmental dimensions. It is the social dimension that continues to lack the clarity of definition that the other two have achieved.

IndustriALL calls for better tools to analyze both the impacts and opportunities created within the social dimension of sustainability. Reference to the United Nations Universal Declaration on Human Rights, or the ILO Core Labour Standards, is necessary but not sufficient to define the social dimension.

An indicator is something that shows (often indirectly) the effectiveness of something else. For example, it can be difficult to directly "measure" an entire country's educational system but literacy levels might be an indicator of its overall effectiveness. Changes in the area of forest cover could be an indicator of sustainable forestry policy. Indicators can be quantitative (able to be measured and assigned a numeric value - often in monetary units); or qualitative (difficult to assign a numeric value to). Economic indicators are usually quantitative; environmental indicators can be quantitative or qualitative; and social indicators are quite often qualitative. Qualitative indicators are not less important than qualitative ones. While it is relatively easy to identify economic indicators, and even environmental indicators, choosing indicators of sustainability has proven to be a difficult exercise. A few examples follow, below.

Human Rights

Full respect and adherence to:

- the human rights provisions of the UN Charter
- the United Nations' Universal Declaration of Human Rights (UDHR)
- the International Labour Organization's Declaration on Fundamental Principles and Rights at Work

There are several other rights, and instruments, that derive from the above:

- the United Nations' International Covenant on Economic, Social and Cultural Rights
- the United Nations' International Covenant on Civil and Political Rights
- the United Nations' Guiding Principles on Business and Human Rights
- the United Nations' Declaration on the Rights of Indigenous Peoples
- the United Nations' International Convention on the Elimination of All Forms of Racial Discrimination
- the United Nations' Convention on the Rights of the Child
- the United Nations' convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment
- the United Nations' International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families
- the Organizations for Economic Cooperation and Development (OECD) Guidelines for

Multinational Enterprises
- the International Labour Organization's Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy
- the International Labour Organization and World Health Organization definition of Occupational Health as adopted by a Joint ILO/WHO Committee in 1950 (revised in 1995)

This is not an exhaustive list.

It should be noted that although the United Nations has not issued a specific Declaration on women's rights, all of the above instruments apply equally to men, women, boys, and girls.

Economic Disparity

Economic disparity (a negative indicator) can mean:
- Disparity of wealth and income between rich and poor (ratio of inequality): between nations and within nations; between regions, and within regions; between communities and within communities.
- Disparity between genders
- Disparity between ethnic groups

Economic activity is unsustainable if it creates unacceptable economic disparity.

Education

Education should produce informed, engaged citizens and the attainment of knowledge and skills necessary for productive, rewarding, and freely chosen employment. Thus, a sustainable society ensures:
- Universal access to quality education
- Minimum basic literacy levels for all citizens
- A high level of average educational achievement

Health of Population; and Health Care

Human health, both physical and psychological, lies somewhere near the boundary between the social and environmental dimensions of sustainability. A sustainable society should strive to:
- Maximize life expectancy
- Minimize infant mortality
- Minimize harmful drug use
- Minimize the suicide rate

- Provide adequate and equitable access to health care, both preventative and restorative

Justice and Rule of Law

Several articles of the Universal Declaration on Human Rights refer to the law enforcement system; from police enforcement through trial and sentencing procedures to punitive and correctional actions imposed by society. A sustainable society will have:

- Access to a fair justice process
- Low real crime rates
- Small prison populations
- Effective rehabilitation and reintegration schemes
- Low rates of re-offence
- a police and justice system that has earned and maintained the trust of those it protects

Equal Opportunity to Participate

A sustainable society engages, rather than excludes, the full participation of its citizens by:

- Eliminating all forms of discrimination (largely covered by the various instruments on human rights listed above)
- Ensuring the existence of free and healthy media sector that is not beholden to a narrow base of owners or interests

Environmental Justice

"Environmental Justice" is meant to describe fairness and equity in society, particularly in connection to decisions and actions taken or avoided to protect (or fail to protect) the environment. Therefore, a sustainable society is one in which:

- The costs and benefits of society are shared fairly between and within communities, regions, and nations
- Social dumping and runaway production are minimized
- Corporate decision-makers recognize that shareholders are not their only stakeholders
- Corporations and the wealthy make direct contributions to the social fabric
- Just Transition programs exist to protect those most adversely impacted by necessary environmental change (see IndustriALL explanatory chapter on Just Transition).

Appendix 2: Sustainable Jobs

IndustriALL notes that the phrases “greener jobs”, or “sustainable jobs”, are preferred to the terminology “green jobs”. “Green jobs”, the most widely used label, is problematic because it implies an absolute that can never be attained, and de-emphasizes the social and economic dimensions of sustainability. However, it is widely used and not easily

displaced.

There will be opportunities for the creation of decent work both in the transformation of existing jobs, and in the creation of new greener jobs.

In the public mind, sustainable jobs are very directly related to environmental protection, renewable energy, reforestation, and the like; however the social and economic dimensions are equally important. To the labour movement, crucially, they must also provide decent work as defined by the ILO (this includes adhering to human and labour rights, providing a secure living wage, and adequate social protections).

Sustainable, or greener, jobs are about both product and process. What is meant by this is that sustainable jobs are not only jobs in renewable energy or recycling. A greener job is any job that is part of an activity that creates a net benefit for the environment, or helps to drive society towards sustainability.

In addition to the new jobs the will be created in new, more environmentally friendly industries, many traditional jobs must, and will, evolve towards sustainable jobs. Utility workers delivering cleaner energy, chemical plant worker producing fertilizers or pesticides with fewer environmental side effects, or an energy worker in a coal plant that uses advanced carbon capture and sequestration technologies, could be considered sustainable jobs. Potentially, jobs in the hydro-electric, and even nuclear industries, could be considered sustainable. Although a greener, sustainable economy will create many jobs that are different from today's (for example, energy services and consulting), most sustainable jobs will involve workers using the same skills they use today, in support of production that is more environmentally friendly and sustainable. When the job impacts of an evolving sustainable economy are discussed, it is often the production, installation and maintenance occupations that come to mind; however there will also be an enormous impact on non-manual, or “white collar” jobs.

The economic crisis of 2008 clearly illustrated a failure of the deregulated "free" market. Business as usual has created an environmental crisis, and at the same time it has not even been particularly good at creating jobs in recent years. The areas of greatest economic growth: information technologies, financial services, retail and food services, for example, create relatively few jobs or relatively low-quality jobs in relation to the wealth they generate. It is not sustainable to try to re-inflate old economic bubbles. It is time for governments to consider public investments in the public interest, with an industrial strategy aimed at the creation of a sustainable economy.

If the economy up until now has failed to create large numbers of high-quality jobs and led to an ever increasing disparity between rich and poor, it cannot be considered sustainable. Instead, we should consider the economic crisis an opportunity to re-evaluate the underlying social contracts of society and plan a green industrial strategy that will create large numbers of high-quality unionized jobs.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global union