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The health and safety magazine with a European view

HesaMag is a twice-yearly journal published by the European Trade Union Institute (ETUI).

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Editorial

The urgent need to regulate heat at work

Marian Schaapman
ETUI

Last year, I wrote an editorial for HesaMag[1] in which I described the many different consequences of the climate crisis for occupational health and safety (OSH). The special report of this current issue explores in more detail the multi-faceted nature of the problem I touched upon, demonstrating that it is not only climate change that entails direct and indirect OSH risks for workers, but also the green transition. We should continue to analyse and map these risks in order to raise awareness of the necessity to include OSH concerns in any green transition process from the outset.

However, the need to obtain a more complete picture should not prevent us from taking direct action on those climate-related risks whose impact on workers' health and safety is already crystal clear. First amongst these, without a doubt, is heat stress.

We know the stakes. Not only was 2023 the hottest year ever recorded worldwide, there have also been some alarming developments that concern Europe in particular. In 2022, the World Meteorological Organization (WMO) warned that 'Europe is the fastest-warming of all the WMO regions, warming twice as much as the global average since the 1980s.'[2] In the same year, the European Environment Agency (EEA) stated: 'Heatwaves [...] are responsible for 86-91% of fatalities caused by weather- and climate-related extreme events in EEA member countries.'[3] More recently, in a 2023 report, the Intergovernmental Panel on Climate Change listed the key climate risks for Europe. Number one was defined as: 'Risks of Human Mortality and Heat Stress, and of Ecosystem Disruptions Due to Heat Extremes and Increases in Average Temperatures.'[4]

What's more, the many deaths attributed to heat (16,000 in 2022) are only the reported fatalities – the picture would be even more devastating if figures on heat-related occupational diseases were also taken into account, but they are not reported on at all. These are illnesses directly caused by heat, such as heat exhaustion and heat stroke, the latter being a very serious and potentially life-threatening condition.

1. Schaapman M. (2022) Towards an OSH agenda on climate change and the green transition, HesaMag#26, 2-3.
2. WMO (2022) The state of the climate in Europe.
3. EEA (2022) Climate change as a threat to health and well-being in Europe, p. 21.
4. IPCC (2023) Climate Change 2022: impacts, adaptation and vulnerability, Contribution of Working Group II, p. 1875.

However, it is not only illness caused by direct impact that must be considered. Heat can also be the indirect cause of a wide variety of cardiovascular, respiratory and other illnesses, and it has a proven effect on male and female fertility, pregnancy duration, foetal development and lactation.[5] So heat at work is an issue that urgently needs to be tackled. And although 'prevention at source' may not be possible (we are currently not able to mitigate the power of the sun) the OSH prevention principles as formulated in the OSH Framework Directive are perfectly fit for application here.

Heat exposure at work is in fact relatively simple to regulate. How? First of all through the establishment of 'action limit values' – which indicate when the level of heat, in relation to the intensity of the work, necessitates the implementation of protective measures – and 'exposure limit values' – which indicate at which level of heat the work needs to be stopped entirely. However, setting occupational action/exposure limit values is more complicated than just taking into account air temperature. In this regard, the Wet Bulb Globe Temperature (WBGT) index has proved to be an efficacious indicator of thermal stress, as beside air temperature it also takes into account wind speed, humidity, and/or solar radiation.[6]

Secondly, a system of necessary measures to be taken in the case of these limit values being reached must be put in place. These may include the adaptation of working hours (scheduling and/or shortening), the introduction of more frequent and longer breaks, giving employees greater agency in deciding when they need to take breaks, and the provision of shade, water, and body-cooling equipment or clothing.

However, this protective system cannot be left to the discretion of individual companies. And while several Member States do have regulation on heat in place (and these systems can be taken as a point of departure), a general EU legislative framework specifically dedicated to the regulation of heat, applicable to all workers in Europe, is the most appropriate way to regulate occupational heat exposure. The OSH Framework Directive is not enough to guarantee workers' protection against heat, for it lacks the technical details needed to implement the necessary measures, as well as the limit values to base those measures on. Doing a risk assessment without considering the scientifically recommended limit values, and making an action plan without a clear list of minimum requirements, would be acting in the dark. It would not only lead to inadequate protection for workers but also to unacceptable differences in protection between sectors and Member States.

The Workplace Directive on minimum requirements for workplaces is equally inadequate for such a task, unless its coverage were to be extended to all workers, which is currently not the case. This directive in fact excludes certain categories of workers who are heavily exposed to heat, such as agricultural and construction workers. Therefore, in order to guarantee a 'horizontal' coverage across all sectors, a dedicated Directive would be the best option for providing a general legislative framework. This is something for the EU Advisory Committee on Safety and Health to take into consideration when setting up its Working Party on OSH and Climate Change in 2024. The good news is that the issue of heat as an occupational risk has already been formulated as a first priority for the Committee to tackle by the end of the year. Let's hope it comes up with robust solutions.

5. Narocki C. (2021) Heatwaves as an occupational hazard: the impact of heat and heatwaves on workers' health, safety and wellbeing and on social inequalities, Report 2021.06, ETUI, p. 9-10.

6. Gourzoulidis G.A. et al. (2023) Developing a feasible integrated framework for occupational heat stress protection: a step towards safer working environments, La Medicina del Lavoro, 114 (5), e2023043.

Europe

Could the metaverse be the future of remote working?

Pierre Bérastégui
ETUI

Strengthening teamwork, stimulating creativity and combatting feelings of isolation are just some of the virtues being attributed to the metaverse. But what's the reality behind the hype? Can people work safely in new environments straddling the real and virtual worlds? And what are the short- and long-term risks to workers' health? Recent years have seen research starting to address these questions, with some concerning findings.

In October 2021, Mark Zuckerberg announced he was changing the name of the parent company of the social networking site Facebook. 'Meta' comes from the ancient Greek for 'beyond' and symbolises that there is 'always more to build', as its founder put it. In our contemporary context, it is primarily a reference to the metaverse, a virtual universe that can be accessed through a virtual reality (VR) headset. This is a genuine change of course for the American giant rather than just a rebranding exercise. Zuckerberg announced 10,000 new jobs in Europe to develop his metaverse, which he has christened *Horizon Worlds*. According to its 'Founder's Letter', it promises to be an immersive environment where 'you'll be able to do almost anything you can imagine – get together with friends and family, work, learn, play, shop, create'.

Although the announcement made huge waves, Zuckerberg is not the first person to venture into these waters. The term 'metaverse' first emerged in 1992. In his dystopic novel *Snow Crash*, American author Neal Stephenson describes the metaverse as a virtual way out of a gloomy world plagued by the mafia. Some 10 years later, the platform *Second Life* was released – a digital society with its own economy and currency where residents can purchase land or build property. Other virtual worlds were to see the day in the 2010s, including *Decentraland* and *The Sandbox* to mention just two of them. But interest in the platforms was low until GAFAM [Google (Alphabet), Apple, Facebook (Meta), Amazon and Microsoft] picked them up.

The tech giants invested colossal sums, fearing that they'd be left behind by the competition. Meta was first to dip its toe in the water, then in June 2023 it was Apple's turn to unveil *Vision Pro*, while Amazon and Google have been rumoured to be working on their own VR headsets. The media machine went into a frenzy over unlikely financial transactions such as the purchase of virtual land for more than 2 million dollars in *Decentraland* by the finance firm Token.com, or of another piece of digital real estate for more than 4.3 million dollars in *The Sandbox,* of the company Republic Realm. In her 2022 State of the Union Address, the President of the European Commission, Ursula von der Leyen, described the metaverse as a 'new digital opportunity' that Europe should seize.

Just a passing fad?

Two years later and it's obvious that all is not well. Despite billions in investment, *Horizon Worlds* has attracted only 200,000 of the 500,000 users it had forecast by the end of 2022. More alarming still, the platform lost 100,000 users between February and October of that very year. The bad buzz kept coming, and the metaverse gradually became the laughing stock of social media. Only six surfers logged on for a virtual gala held by a European Commission department at the end of 2022. The event, which cost the Commission 387,000 euros, was supposed to promote the EU among younger Instagram and TikTok users. The French business grouping Carrefour also became the butt of surfers' jokes following the recruitment exercise it held on *The Sandbox*, where the graphics bore a resemblance to those used on *Second Life*... in 2003. The specialist press all talked of a huge fiasco to the extent that the competition edged away from the name 'metaverse', scarred as it was by Meta's failure. Microsoft, Google and Amazon seemed to be employing delaying tactics, and the CEO of Apple publicly stated that he had no faith in the metaverse, deeming it a vague, ill-defined concept.

But the metaverse is not really dead and buried. The difference is that it's no longer the buzzword for describing the new ecosystem. The emphasis is now on equipment, including the development of increasingly sophisticated headsets – and linked to this is a decidedly more work-oriented purpose. Full immersion in a parallel universe has given way to 'augmented' or 'mixed' reality where virtual elements are superimposed onto the real world, promising greater opportunities for the working environment. Apple's CEO is now positioning the company's headset as a productivity tool. Microsoft is also trying to find a place in this new niche with its app *Frame*, which enables a business to create its own metaverse in just a few clicks. Meanwhile, Mark Zuckerberg, counting on reviving interest in *Horizon Worlds*, is positioning it as a tool for professional development.

GAFAM are trying to reposition the metaverse as the next major evolution in the world of work. From teamwork to learning and development, via business culture, it will be the miracle solution to organising distance working. The metaverse will enable members of a hybrid team, whether working remotely or in the office, to move forward together in virtual premises. In the post-Covid era, it promises to re-establish the face-to-face engagement of a physical workplace and combine it with the flexibility of working remotely. While gushing over potential new levels of social connectivity, mobility and cooperation, GAFAM nonetheless remain tight-lipped about its risks.

GAFAM are trying to reposition the metaverse as the next major evolution in the world of work.

Not for everyone

Immersion in a virtual environment involves disparity between the information received by the vestibular and visual systems. The eyes sense movement, but the inner ear, which gives us our sense of balance, tells the brain that the body is still. This gap can trigger cyberkinetosis ('virtual reality sickness') which presents with symptoms similar to motion sickness, ranging from mild headache to repeated bouts of vomiting. Between 20% and 95% of users are thought to be affected, depending on the type of content, and simulations that involve more motion are more likely to induce it than static applications[1]. In some cases, symptoms last for several days after exposure and are felt as postural ataxia – a feeling of unsteadiness or drunkenness that is made worse by moving your head. It's an open secret in the industry that VR sickness could significantly restrict immersive environments from catching on and coming into general use.

Photosensitivity has also proved to be a major contraindication, despite the lack of studies into this area. Epileptics are usually excluded from VR experiments for fear of a photosensitive epileptic seizure being provoked. According to a recent report by ANSES (the French Agency for Food, Environmental and Occupational Health and Safety), this is because of the high rate of modulation in the light emitted by VR headsets, in a frequency range of 79-90 hertz. ANSES also identifies other categories of potentially sensitive people, such as pregnant women and those who experience migraines or anxiety attacks.

Even in 'non-sensitive' people, wearing a VR headset can cause eye strain manifesting as sensitivity to light, dry eyes and blurred vision. The discomfort, long known as 'computer vision syndrome', may be worse in immersive environments. The screen is only a few centimetres from the eyes and covers a large proportion of the field of vision, and it greatly increases exposure to light, especially blue light, compared to a traditional screen. A recent study showed that, to prevent these symptoms, a VR immersion session should last no longer than 55-70 minutes[2].

1. Stanney K.M., Lawson B.D. and McMaster Oman C. (eds.) (2021) Cybersickness in virtual reality versus augmented reality, Frontiers in Virtual Reality. https://www.frontiersin.org/research-topics/12692/cybersickness-in-virtual-reality-versus-augmented-reality

2. Virtual Reality Neuroscience Questionnaire. https://arxiv.org/ftp/arxiv/papers/2101/2101.08146.pdf

It's an open secret in the industry that VR sickness could significantly restrict immersive environments from catching on and coming into general use.

Poor ergonomics

VR headsets can be cumbersome and uncomfortable. Researchers have identified many potential ergonomic issues, but user studies are still in short supply. One of the challenges is that the actual tools used to analyse and design traditional office applications cannot be applied to immersive interfaces[3]. In fact, there are still no standards or guidelines either for developing immersive interfaces that meet user requirements or for evaluating the associated ergonomic risks. This applies not only to augmented and virtual reality but also to several emerging technologies with applications in the world of work such as exoskeletons or cooperative robotics. Although some bodies are trying to lay the foundations for standardising assessment procedures, the procedures themselves are sometimes unsuited to designers and even researchers, whose awareness of them is sometimes far too scant[4]. Moreover, standards are not always established in an inclusive manner and affected users may lack representation. Feedback is crucial, as it enables designers to identify problems and user requirements in order to develop better prototypes. This collective involvement is an essential prerequisite for building a normative consensus.

The top concern of researchers is neck strain caused by less than optimal weight distribution. The bulk of the weight in most headsets is borne by the brow and the nose, leading the user gradually to tilt the head forwards. Over time, this posture causes tension in the neck. Additionally, the narrow field of view in some headsets can result in more head movements. Prolonged use of a VR headset therefore poses a greater risk of musculoskeletal disorders of the neck and shoulders.

These concerns were heightened with the arrival of kinaesthetic 'haptic feedback', a technology that can create an experience of 'touching' objects in virtual environments. One example is the HaptGlove, which exerts pressure in real time on the fingertips to simulate an object's texture. Other devices rely on electrostimulation, or delivering an electric shock to make one or more muscles contract, simulating tactile feedback. Tomorrow's VR will therefore no longer be restricted to a visual and auditory experience but will allow people to touch and feel virtual objects. Yet research on the potential long-term effects of haptic technologies on users' health and safety is in extremely short supply.

A psychosocial minefield

The metaverse has also raised a host of psychosocial questions to which research has not yet provided all the answers. What are the potential mental health risks of prolonged immersion in a virtual work environment? What is its impact on work/life balance, social isolation and mental workload? The fear is that the metaverse will be added to the range of new tools used to strengthen managerial control. The sensor-covered headsets could increase the negative aspects of distance working, especially when it comes to the possibilities for monitoring and tracking workers' performance. The deployment of micromanagement practices of this kind often results in greater work intensity.

In 2022, a collaborative research project[5] carried out by several European universities compared the experience of participants who spent one 40-hour working week in VR and another in a traditional office environment. The study used a standard VR configuration available on the market today. The outcomes showed a 35% increase in perceived workload when work is performed in an immersive environment. Participants reported greater feelings of frustration (42%), anxiety (19%) and eye strain (48%). Two participants dropped out of the study on day one because of severe migraine, nausea and anxiety. Another significant finding was the cumulative nature of adverse impacts over the week, especially where workload and nausea are concerned. We are still a long way from the ideal of a metaverse as a productive environment, and there is still a great deal to be done to improve ergonomics and user immersion.

The development of increasingly realistic environments also poses risks, in particular with regard to unwanted contact. At the end of May 2022, the American NGO SumOfUs disclosed testimony from one of its female researchers who was the victim of inappropriate behaviour from another user who had simulated a sexual act on *Horizon Worlds*. Other users have reported similar experiences, forcing Meta to introduce

3. Domingues C., Otmane S. and Mallem M. (2010) 3DUI-EF: towards a framework for easy empirical evaluation of 3D user interfaces and interaction techniques, International Journal of Virtual Reality, 9 (1), 73–80. https://hal.science/hal-00450311v1/file/LAST_3DUIEF_21012010_corr_fred.pdf

4. Bastide S. (2021) Adaptation du mouvement humain à de nouvelles dynamiques gravito-inertielles induites par l'interaction avec un exosquelette de membre supérieur actionné, Biomécanique [physics.med-ph], Université Paris-Saclay. https://theses.hal.science/tel-03280380, p. 36.

5. Quantifying the effects of working in VR for one week. https://browse.arxiv.org/pdf/2206.03189.pdf

↑ **The metaverse: an entire universe accessed through a virtual reality headset.** Photo: © Belga

a minimum distance between all avatars. The NGO's report used the word 'rape' although there was no real physical interaction. However, haptic technology could make this a reality in the years to come, with virtual contact between two avatars triggering physical sensation. Platforms will most likely face a dilemma because introducing protective measures may reduce the immersiveness of the experience.

Innovation outpacing safety concerns

Digital technology continues to expand quickly and permeate deeply, transforming entire sectors of the economy. Distance working is a perfect example. Many businesses now have videoconferencing rooms and a veritable armada of collaborative software. Could the metaverse be the future of remote working? It's difficult to say. But this is the niche where the VR industry is positioning itself, accompanied by a fanfare of superlatives and revolutionary promises. Although it's far too early to assess the impact of the metaverse on the work environment, research is already sounding the alarm on the potential risks to occupational health and safety. Data on its long-term effects are in short supply, especially with regard to musculoskeletal disorders and the impact on the vestibular system. Usage is also a key issue and carries with it the danger of enhanced monitoring practices and remote micromanagement, which are vectors for psychosocial risks.

As ever, innovation is outpacing the consideration of health and safety questions. In the era of globalisation, organisations are struggling to remain competitive on the world stage and are investing massively in research and development. Innovations are labelled 'bold' or disruptive' because they toy with the limits of the law and existing regulations, turning workers into unwitting guinea pigs along the way. And as long as it manages to whet some businesses' appetites for managerial innovation in the new world of work, the metaverse will most likely be no exception to this rule. ●

Ukraine: work and war

Laurent Vogel
ETUI associate researcher

Working conditions in Ukraine have changed profoundly since the Russian army's full-scale invasion began. No war can be won on the battlefield alone. The mobilisation of Ukrainian society – and particularly of women workers – is the reason that the Russian lightning strike failed. The Ukrainian labour movement does not intend merely to repel the invasion; it also seeks to ensure a more egalitarian, socially responsible and democratic future[1].

On 24 February 2022, Ukraine awakes to all-out war. It comes as a shock to many. Columns of Russian tanks are heading towards Kyiv. Paratroopers are attacking close to the capital. The Russian army is engaging in hostilities on a front line extending more than 1,000 kilometres, from close to Chernobyl on the Belarussian border to the Black Sea. Across the world, Putin's allies and adversaries alike opine that Russia's overwhelmingly superior military might will win the war in a matter of weeks. The United States offers to exfiltrate President Zelenskiy from Kyiv so that he can go into exile.

Everyone in Ukraine that morning had to take a stand on the war. The long-established fissures that cut across society were remoulded. The first major failure in the Russian offensive was the mass refusal to collaborate with the invaders, triggering enormously violent reprisals against the civilian population once it became clear that the lightning strike had been unsuccessful. Nowhere were the occupiers welcomed as liberators. Hardly anyone in a position of power was willing to collaborate. While tens of thousands of volunteers rushed to military recruitment offices, others resisted using the means they had to hand, with great ingenuity. In Kyiv, thousands of young people converted their toy drones into very simple weapons that helped to stall the tanks' advance.

Workers have played a key role in the resistance, particularly in sectors where trade unions have had a presence. Tram conductor of 19 years Yelena Sabirova kept driving her tram through Kyiv even after the city had been half-deserted. Miners around the southern city of Kryvyi Rih divided themselves between different roles: some went to the front, others continued to mine iron ore. To this day, the unbroken link between the mine and the front is maintained by daily convoys bringing food and equipment to the combatants. As for railway workers, the war completely transformed their jobs. In just a few weeks, they had to transport almost one third of the population: eight million refugees left Ukraine completely, and five million were internally displaced. They also had to provide transport to the front for volunteers and conscripts as well as deliver food and other essential items. The main railway stations were organised to provide shelter and food to the massive number of refugees. The unions gave their support to a publicity campaign led by feminist organisations around the presence of criminal gangs aiming to capitalise on despair among women and girl refugees in order to traffic them. This work was sometimes carried out under shelling. On 8 April 2022, two Russian missiles hit a station in Kramatorsk that was sheltering more than 1,000 refugees awaiting evacuation. Fifty-seven people died, including five children.

The slogan 'Glory to Ukraine, glory to our heroes' is a popular one, but the reality of this war is that acts of heroism are commonplace by one and all. The greatest victory achieved by this grassroots resistance

1. This article owes much to Artem Tidva, Daria Saburova and Denys Gorbach. Artem is an organiser in the Ukrainian public services union affiliated to the Federation of Trade Unions of Ukraine (FPU), as well as for the European Federation of Public Service Unions (EPSU). Daria and Denys are Ukrainian researchers living in France who are involved in the work of the European Network for Solidarity with Ukraine.

The war has become a collective experience that strengthens working people's autonomy in relation to the state.

of so many people, many of them women away from the front line, was the failure of the Russian bombing campaign of winter 2022-2023. By systematically destroying the vital infrastructure involved in generating power, drinking water and heating, the Russian army endangered people's survival. The intention was to cow the country into capitulating and to threaten other European countries with a massive influx of refugees.

The winter battle was won because of a close-knit network of supportive communities where women from working-class backgrounds often played a leading role. That's what Daria Saburova, a researcher working with the European Network for Solidarity with Ukraine, noticed when she was staying in Kryvyi Rih between January and April 2023. In contrast to large NGOs led by the middle classes (usually with links to the church or liberal or nationalist parliamentary parties), who often operate with little direct contact with the population, small local support organisations have been doing two jobs. Away from the front, they provide help to refugees and people living in recently liberated areas. At the front, they keep in continuous contact with the soldiers. At first, such contact was vital because of logistical shortcomings. Today, the volunteers are motivated by the strong link between the army and the people. Many women take food to the front, telling themselves that the help they bring to soldiers they don't know will also be brought to their sons or husbands in other places by other women. The war has become a collective experience that strengthens working people's autonomy in relation to the state.

A complicated picture in the eastern regions

The Russian army attacked regions of Ukraine where a significant share of the population is categorised as 'Russian-speaking'. The reality is in fact more complicated. The chief characteristic of these regions is described by linguists as 'diglossia'. People switch between Russian and Ukrainian with ease depending on whom they're talking to and the type of conversation. A single discussion will often involve more than one language. Some working people speak *Surzhyk*, a linguistic mixture of Russian and Ukrainian that is regarded as 'impure' by nationalists in both countries. Russian nationalists presumed the people there were part of the 'Russian world' and would welcome the invasion as a liberation. The places in question were often regions where the majority of people had been anti-Maidan, in part because they thought membership of the European Union would have a negative impact on employment.

The invasion of 24 February changed the situation completely. News of its extreme brutality spread rapidly through contact between individuals, friends or relatives in the occupied territories. Personal interactions were regarded as more reliable than official information, whether from Russian or Ukrainian sources. The people became aware that the Russian army was striking out at the civilian population, banning trade unions in all occupied towns, setting up 'filtration camps' where people were often tortured and sometimes executed. In some cases, a mere tattoo could be a liability if it displayed nationalist or political allegiances. There was also pillaging as a result of the failure of Russian logistics to feed their own army.

The experience of eight years of occupation in the Donbas also contributed to the shift in opinion. In 2014, some of the urban population in the region had supported separatists who promised a process involving little warfare and a rapid improvement in living standards. In contrast to what had happened in Crimea, however, the secession of the Donbas involved huge bloodshed and culminated in mafia-type gangs taking power. Industries belonging to Ukrainian oligarchs were confiscated and then redistributed between these gangs before being nationalised and broken up. Most factories ceased operations, and any equipment of value was transferred to Russia. For men of working age, the network of militias administering the region became the leading employer.

The result was an exodus of the working population to Ukraine, Russia or other parts of the world. Only pensioners benefitted, in so far as they continued to receive their Ukrainian pension and were able to draw a Russian pension provided that they agreed to have a Russian passport. In 2022, even the sectors of the population that had been most anti-Maidan shied away from following the Donbas example. In the occupied territories, the majority of people sitting in the administrations set up by the Russians were members of separatist militias or outsiders who were originally from Russia.

Ukrainian women workers are massively involved in voluntary activities that they organise independently.

The women holding the healthcare sector together

The healthcare sector is essential in war and in peace. The vast majority of health workers are women; the sector is poorly paid and has been weakened by privatisation policies. It has never been regarded as a priority by the various governments that have come into office since independence in 1991. Between 1991 and 2017, the number of nurses fell from 670,000 to 360,000, according to Nina Kozlovska, founder of the nurses' union movement 'Be like Nina'[2]. The total number of healthcare staff fell by close to another 140,000 between 2017 and 2022. The Ministry of Health is a bureaucratic body and has been slow to adjust to a profound change in circumstances and needs. Its very inefficiency is one of the reasons for the growing reliance on private delivery of services.

Since the start of the full-scale invasion, nurses have not waited for instructions from management. They divide tasks between nurses based in hospitals or health centres and those who are off to reinforce services at the front line. Their hospitals are targets for Russian shells. After 15 months of war, the World Health Organization had recorded 1,004 Russian attacks on healthcare establishments. Dr Jarno Habicht, WHO Representative in Ukraine, was open in his admiration: 'The fact that the health system in Ukraine continues to operate amid such circumstances is a testament to the heroic dedication of healthcare workers. Despite the challenges posed first by the Covid-19 pandemic and now well over a year of war, Ukraine's healthcare workers remain amazingly strong, brave and patient, day after day, saving lives and providing care to those in need[3].'

This courage and dedication cannot be separated from a heightened awareness of women workers' collective interests. That's why, in various hospitals in the country, trade union groupings have united under the banner 'Be like Nina', both to enable them to do a good job and to improve staff working conditions. The nurses who are members criticise the fact that, despite the rocketing growth in healthcare needs because of the war, some hospitals are using martial law to sack staff, cut salaries and impose a lot of unpaid overtime. Sometimes they force staff to move from full-time to part-time work even while increasing overtime.

Additionally, Ukrainian women workers are massively involved in voluntary activities that they organise independently and, at the same time, refuse to agree to their paid work being devalued. They deplore wage cuts when hospitals are making a profit. The current minimum monthly salary for nurses is around 320 euros. In many hospitals, it has been cut or is paid after a significant delay. Hospitals are able to do this because of a 2023 Ukrainian government resolution[4] that authorises employers in healthcare establishments to make such cuts where wage costs (including social security contributions) exceed 85% of the funds received by way of subsidies. In other words, employers can unilaterally decide to cut wages based on the vagaries of their own management.

This particular fight is far removed from the impression of a society united by war. Although there is broad consensus around the need to repel the invasion, there is open hostility to social projects that clash with the realities of daily life, both at work and away from it. A 2022 law on the punishment of collaborators, for example, drafted under the influence of nationalist forces, extends the concept of collaboration beyond activities performed directly in the service of the occupier. It thus constitutes a threat to working-class people who have no savings and are forced to continue to work despite the occupation. One of the victories won through pressure exerted by women workers is that the state has given up on bringing criminal proceedings against healthcare staff who continued to work in occupied (and subsequently liberated) territories.

2. 'The pain of Ukrainian nurses in wartime', a report by the trade union 'Be like Nina', *Support for Resistant Ukraine*, No. 20, June 2023. https://ukraine-solidarity.eu/feminist-news-and-analysis/feminist-news-and-analysis-english-texts/the-pain-of-ukrainian-nurses-in-wartime
3. WHO media release of 30 May 2023, https://www.who.int/europe/en/news/item/30-05-2023-who-records-1-000th-attack-on-health-care-in-ukraine-over-the-past-15-months-of-full-scale-war
4. Resolution No. 28 of the Council of Ministers of 13 January 2023.

↴ **'After the war'**
Illustration: © Katya Gritsev

Fighting on two fronts

Since the outbreak of all-out war, the Ukrainian trade union movement has been fighting on two fronts. It is heavily involved in the battle to oust the Russian occupiers. There are many trade unionists fighting in the army and territorial defence forces, allowing for a daily contact with the unions, who provide them with ongoing material and psychological support. Additionally, in companies there is a daily struggle to defend social and trade union rights against governmental measures that are exploiting martial law to undermine collective agreements, facilitate layoffs and diminish union rights[5]. Martial law prohibits strikes and demonstrations, but this has not prevented trade unions from standing their ground and, in some cases, taking strike action.

Examples can be found in many sectors – take the miners in Novovolynsk (western Ukraine) who went on strike in September 2022 to protest against the appointment of a new, corrupt and authoritarian manager, or the young Bolt Food delivery drivers in Dnipro and in Kiev who mobilised in October 2023 against a deterioration in their working conditions. These labour movements show how widespread resistance is, whether on the front line fighting the occupiers or away from it fighting for a more equal and democratic society. Forms of self-management have even emerged in some small businesses[6]. For all essential activities such as health, education or transport, labour collectives have had to be creative in coming up with emergency solutions that are more efficient than those proposed by management.

In this respect, Ukraine is very much like the rest of Europe. Not because of its geographical location but because grassroots resistance there shares the same objectives as European progressive forces. Far from being a charitable act, solidarity is about establishing a reciprocal relationship between the trade unions of Ukraine and the trade unions in Europe and across the world. Whatever form union support takes, whether it's an invitation for trade unionists in Ukraine to make visits abroad or the publication of information and analyses by unions or other progressive forces in Ukrainian society, the longer the conflict goes on, the more important it is to put this solidarity into action. ●

London-on-Dnieper

An unusual scene took place in London on Friday 29 September 2023. Outside the headquarters of utilities company Veolia, the Labour Member of Parliament John McDonnell shared a platform with Yuliya Yurchenko, an activist from the Ukrainian left-wing organisation Sotsyalnyi Rukh under the flags of the General and Municipal Boilermakers Union (GMB). The GMB is a leading British trade union and has over 560,000 members, mainly in industrial sectors.

The GMB had decided to hold a week-long strike for higher wages at refuse recycling plants in Nottinghamshire, beginning on Monday 25 September. The facilities process refuse collected from more than 250,000 homes under contract between Veolia and Nottinghamshire County Council. Mick Coppin, GMB Organiser, said, 'Veolia Nottinghamshire are raking in vast sums of money from local council tax payers. In return, they're expecting local workers to do dangerous, difficult, and smelly work for the minimum wage. [...] Our members can no longer afford to heat their homes and pay their bills; they're being driven to the breadline by a multi-million pound company.'

The Ukraine Solidarity Campaign, which has significant trade union backing, stated that Veolia, which is refusing to negotiate with the GMB, continues to hold discussions on business operations with the Russian regime.

Since the all-out invasion, Ukraine has called on businesses that are still doing business in Russia to take immediate measures to cut their ties and exit responsibly. Veolia has refused this act of solidarity. The group is one of the 23 French multinationals that have not made any changes to their activities in Russia since February 2022, as shown on the database on multinational businesses in Russia compiled by Yale University in the United States.*

The GMB has furnished humanitarian aid and assistance to members of Ukrainian trade unions fighting on the front line. GMB members working for Veolia in London have already held demonstrations of support for Ukraine. They had Ukrainian flags on their picket lines as a sign of solidarity with the Ukrainian people. The GMB moved a motion for a resolution at the recent TUC congress (Trades Union Congress – the confederation of British trade unions). The resolution, carried on 12 September 2023,** is evidence of a firm commitment by the British trade unions to multiple activities demonstrating 'grassroots to grassroots' solidarity in order to establish direct links between union members in both countries.

* https://som.yale.edu/story/2022/over-1000-companies-have-curtailed-operations-russia-some-remain

** The resolution can be consulted at: https://congress.tuc.org.uk/c21-solidarity-with-ukraine/#sthash.xripFRsw.dpbs

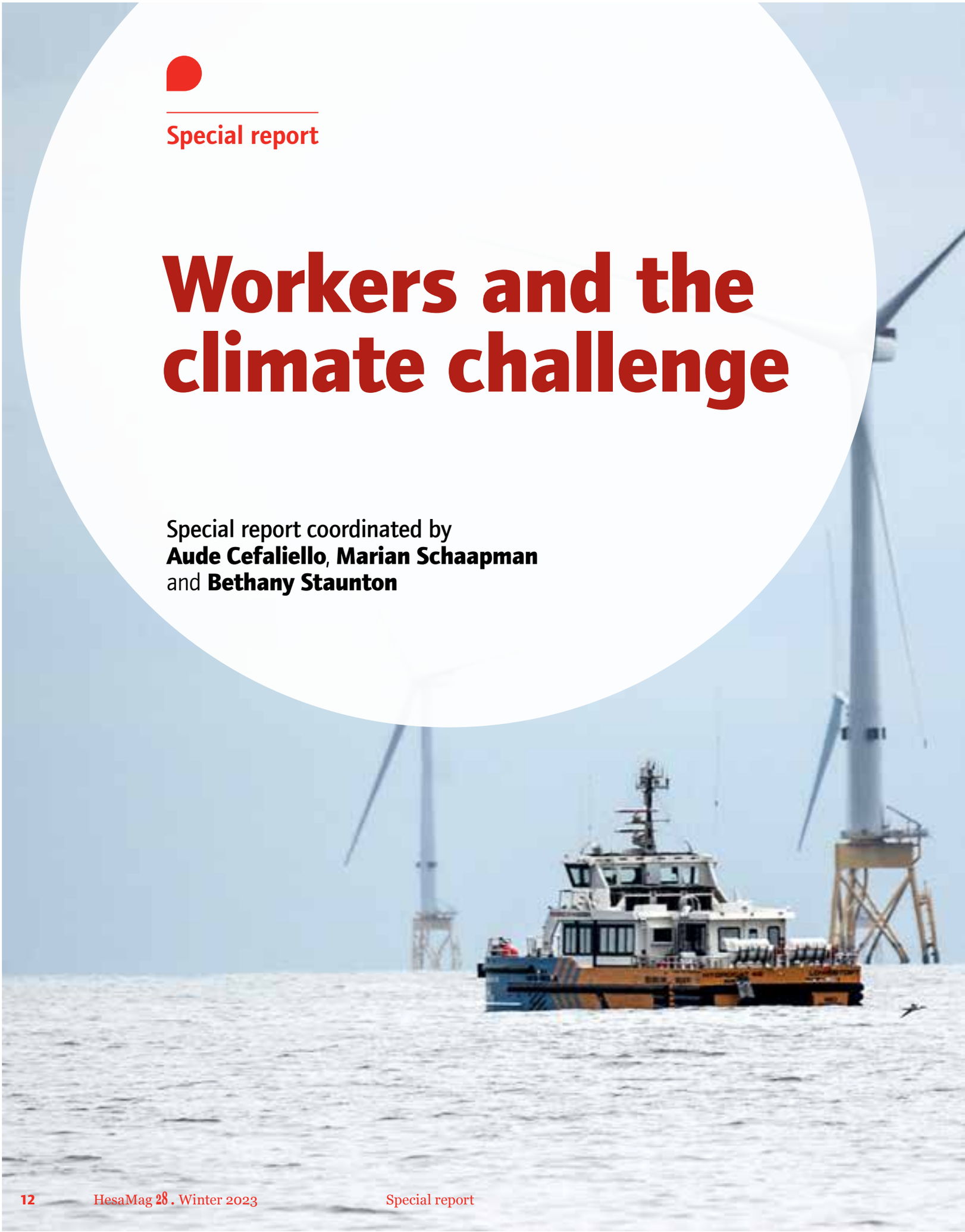
In companies there is a daily struggle to defend social and trade union rights against governmental measures that are exploiting martial law.

5. See Alexandre Kitral's excellent article: *Swimming Upstream: Stories of people who challenged employer tyranny in Ukraine*. https://www.europe-solidaire.org/spip.php?article66554
6. Ukraine: *'The practice of self-management is widespread'*, https://www.europe-solidaire.org/spip.php?article64403

Special report

Workers and the climate challenge

Special report coordinated by
Aude Cefaliello, **Marian Schaapman**
and **Bethany Staunton**



For countless workers across Europe, there are two sides to the ‘climate challenge’. This special report examines both in parallel.

The first is climate change itself, and all the dangers it poses to workers’ health. Aude Cefaliello tackles the hot topic of heat stress at work and the need for an EU-wide minimum protective threshold. Théophile Simon visits the south of France, where farmers are struggling with persistent drought, to the detriment of their financial security and their mental health. And over the border in Spain, Berta Chulvi talks to the wildland firefighters at the literal frontline of global warming.

The other side of the coin is the transition that our societies and economies must undertake to mitigate climate change – a monumental shift with its own distinct impacts on working conditions. Bethany Staunton interviews industriAll Acting Joint General Secretary Judith Kirton-Darling on the need for a ‘just transition’ that brings workers along with it. Arthur Neslen investigates the potential health costs of the EU’s drive towards critical raw material extraction. Mick Lynch takes a hard look at the dangerous culture of subcontracting and deregulation in today’s offshore energy industries – including renewables. Vera Weghmann follows this with a critique of the EU’s circular economy plan, and Angelo Ferracuti closes the dossier with a hopeful tale of the possible path ahead: a collective of Italian factory workers who took the green transition into their own hands.

↰ Photo: © Belga

Heat stress at work: not just a hot topic but a political emergency

Climate change is creating new risks to which workers are exposed in unequal fashion. The first sectors to feel the impact of extreme temperatures, such as agriculture or construction, are also those with extremely precarious workforces. This impact will be complex, adversely affecting physical and mental health in both direct and indirect ways. Applying the general principles of prevention to heat stress is possible but it will require a thorough overhaul of how work is organised and the adoption of European legislation that lays down a minimum protective threshold for all workers in Europe.

Aude Cefaliello
ETUI

↳ **36% of agricultural workers in the EU are exposed to high temperatures for at least a quarter of their working hours.** Photo: © Belga

In 2022, 62,000 deaths in Europe were attributed to the summer heat. This figure, likely an underestimate, is only one among the many examples illustrating a growing challenge that we must address, namely the significant consequences of climate change for public health and the world of work. Year after year, we have 'record temperatures', pushing us to the realisation that the 'historic' heatwaves of 20 years past have now become the new normal. The European Environment Agency forecasts a steady rise in average temperatures as well as increasingly frequent and intense heatwaves. Each summer, workers die because of the intense heat, but they are also at risk from other aspects of climate change and ever more extreme weather conditions (flooding, storms, wildfires, etc.). The time for 'crisis management' is over; we must rethink how work is organised to ensure that workers do not lose their lives while they earn their living.

The change in our means of production and organisation is all the more important and urgent because climate change will not impact workers equally. If we do nothing, then the working conditions in sectors where workers are already exposed to physical danger, such as agriculture, construction or the emergency services, will deteriorate further. According to Eurofound, 23% of workers in the European Union are exposed to high temperatures for at least a quarter of their working hours; that proportion climbs to 36% in agriculture and industry, and to 38% in construction. These sectors are also known for having precarious working conditions and recruiting more vulnerable workers (temporary work and employment of foreign nationals). If (legal) safeguards are not sufficiently robust, these workers are likely to be the next victims of the heatwaves which, in the words of Eric Klinenberg, are 'silent, invisible killers of silent, invisible people'.

The time for 'crisis management' is over; we must rethink how work is organised to ensure that workers do not lose their lives while they earn their living.

The multi-faceted impact of global warming on workers' health

Climate change will affect all workers in all sectors in all countries, but its impact will not necessarily be the same or have the same intensity across the board. First, there are key differences in people's working environments.

The European Agency for Safety and Health at Work (EU-OSHA) stresses that outside workers are most vulnerable to climate change, although its repercussions will extend to all sectors, in particular the emergency services, water supply, energy, transport and construction. The frequency and nature of climate risks will also not be the same for everyone. Outside workers (including those working in construction, agriculture or maintenance of public spaces) are most exposed to extreme climate conditions (intense heat, but also UV radiation), whereas those working in the emergency, rescue and cleaning/maintenance services often find themselves in high-risk situations because of climate crises such as floods, landslides, storms, droughts and wildfires. Here, a lack of structural resources could aggravate the situation given that climate emergencies will increase the need for this kind of assistance.

When it comes to heat, indoor workers whose jobs require physical effort (e.g. in warehouses or on production lines) will also be affected. Rises in temperature and humidity increase the risks involved in these kinds of jobs. The impact on health can be immediate, ranging from cramp and oedema to loss of consciousness and even death. However, studies also point to the long-term risk of exposure to intense heat and its potential to cause heart, kidney or liver damage. The negative consequences of heat exposure may also have more long-term effects in the form of chronic tiredness, sleep disturbances and temporary infertility (especially for men).

Where workers' mental health is concerned, the INRS (the French National Scientific Research Institute) and ANSES (the French Agency for Food, Environmental and Occupational Health and Safety) note the greater psychosocial risks associated with global warming. The mere fact that heat is tiring and poses an additional cognitive strain (that can cause irritability or even violence) is a risk to workers (tension and conflict) when interacting with colleagues and non-colleagues alike. Cognitive fatigue also increases the risk of accidents at work, especially because it reduces concentration and can lead to woolly decision-making in the work environment (posing extreme danger when driving or operating machinery).

As EU-OSHA has stressed in its guidance on heat stress, published in 2023, heat has not only direct (short-term and long-term) but also indirect effects on workers, through the exacerbation of existing risks such as air pollution, self-heating materials, the occurrence of biological agents, and exposure to chemical substances[1]. Heat can also affect the application of certain OSH prevention measures, most notably the wearing of PPE, potentially even turning it into a risk itself.

1. https://osha.europa.eu/en/publications/heat-work-guidance-workplaces

OSH principles applied to heat stress prevention

Incorporating climate hazards into occupational risk assessments is emerging as a key issue in workers' safety in Europe. The need to adopt sector-appropriate preventive measures, which acknowledge that the impact of climate conditions depends on the type of work concerned, underlines the importance social partner involvement in this issue. Where heat-related risks are concerned, EU-OSHA's recent guide shows that it is perfectly possible to implement a collective system of technical and organisational preventive measures within an individual organisation.

The principles already set down in the 1989 Framework Directive (Directive 89/391/EEC) on health and safety at work can also be applied to heat stress, for example the obligation of the employer to evaluate all workplace risks and to adopt (first collective then individual) preventive measures following an information and consultation process with the workers and/or their representatives. Employers should evaluate the risks created by climate change, taking various factors into account, including a worker's protective clothing, age and health. For heat exposure, biological differences should also be taken into account, given that some studies note that women may be less heat-tolerant than men.

According to EU-OSHA, the application of the existing obligation to develop a comprehensive, consistent policy to prevent heat stress should lead to the implementation of heat action plans, an early warning system and the implementation of safe working practices. Risk assessment should be followed by the introduction of a hierarchy of controls, perhaps including emergency procedures and a 'buddy' system. Working in isolation poses a considerable risk in itself given that it is very difficult for someone to assess their own heat tolerance and that, if an incident occurs, assistance from a third party is vital for administering first aid and raising the alarm with the emergency medical services.

Additionally, the information that workers should receive on the dangers of heat stress should include descriptions to help them recognise the symptoms of heat-related injuries and illnesses, measures to reduce the risk, acclimatisation procedures and procedures to follow in the event of heat-related illness. However, in the absence of specific legislation on heat stress, there is no guarantee that employers will abide by the recommendations.

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A legislative void

The other issue is that the measures recommended by EU-OSHA require the option for workers to adjust their time schedules and a needs-based reduction in labour intensity, regardless of economic pressures, which may require a larger workforce. Currently, and especially in sectors with a vulnerable workforce, the reality of power differentials is obviously unlikely to lead workers to behave in a way that prioritises their health.

Consequently, in France, the sociologist Annie Thébaud-Mony, a specialist in occupational health, is advocating express reference to heat-related risks in the Labour Code, including changes to working schedules during periods of high temperatures. Nonetheless, no express provisions have yet been adopted, despite evidence of many heat-related health risks.

Despite this, some countries, such as Spain, have taken measures to reorganise work schedules during intense heat. In Greece, the guards working in the Acropolis have secured an adjustment to their time schedules that avoids their working in the afternoon during heatwaves. This flexibility is vital to protect workers' health but should apply across the board so that all sectors can benefit.

Legislation varies considerably from one country to another in Europe. In Spain, measures based on weather alerts are in place to prohibit outdoor working in periods of extreme heat. In Portugal, the temperature of a workplace must by law be between 18 and 22 degrees Celsius and have a specific humidity management system. In the Belgian 'law on thermal environmental factors', targeted at both heat and cold, action is mandatory when the legal occupational exposure temperature limit is exceeded (according to the Wet Bulb Globe Temperature index, which strictly speaking considers not just temperature but also other elements like humidity and wind). Although there are recommendations in Germany, there is no legal occupational exposure limit value on heat stress. The problem is that today's Berlin is tomorrow's Madrid. Legislation needs to be harmonised to provide a minimum protective threshold for all workers in Europe.

In this 'legislative void', national case law has begun to provide some answers regarding ad hoc protection for workers. In 2015 in France, roofers exercised their 'right to withdraw' in the event of serious, imminent heat-related danger and stopped working during a heatwave. In Italy, a 2015 ruling found that where working conditions were unsafe or temperatures were 'prohibitive', workers have the right to stop working with no loss of earnings or danger of dismissal.

True worker protection requires a paradigm shift

Today, we face a political emergency. From a European legislative standpoint, there is a genuine difference between indoor jobs and outside jobs, with outdoor workers excluded from the protective scope of some directives. The sectors most affected are also those where precariousness is highest; we are once again in danger of sweeping the risks these workers face under the carpet. We must resist the discourse and fatalistic narrative that says, in effect, that nothing can be done, that it's an 'occupational hazard', or all part of the job. The fact that conditions will become increasingly extreme is unfortunately a reality for the coming years, but we have a choice as to how we are going to respond collectively and how we decide to protect (or let down) the workers concerned.

But ensuring that workers are genuinely protected means revising economic needs and objectives downwards. We must restore human beings to the heart of how work is organised. The current neoliberal momentum means that we cannot maintain production and also ensure workers' health. In other words, workplaces must see either an increase in available resources or a reduction in the pressures of work. All the recommendations point in one direction: the best preventive measures require workers to be able to regulate their own hours and tasks so that they can alternate rest periods with work. This means giving some autonomy back to workers; but that autonomy will only be genuine if it is exercised in an environment where economic pressures and power are controlled and attenuated. It would be naive to assume that workers will behave in a way that prioritises their own health and their colleagues' if doing so puts their jobs at risk. In view of climate change, we need to adopt measures that will enable workers to be heard, empowered, recognised and protected. ●

↴ **In Greece, the Acropolis guards have secured an adjustment to their time schedules that avoids their working in the afternoon during heatwaves.** Photo: © Belga

Repeated droughts put French farmers under pressure

Théophile Simon
Journalist

Agriculture is one of the sectors most vulnerable to global warming. In the French *département* of Pyrénées-Orientales, at the Spanish border, climate change has already arrived: more and more years pass without adequate rainfall, rivers and streams are drying up, and orchards are dying where they stand. This catastrophe is leaving hundreds of farmers penniless and adrift in its wake.

↴ **Jules, a farm worker from Rivesaltes, harvesting apricots.**
Photo: © Théophile Simon

'People who manage to get a bit of water onto their land may survive. Everyone else is just heading for bankruptcy.'

Denis Basserie stares silently over his vineyard at Baixas, a small village in the Agly Valley, not far from Perpignan in the south of France. It is mid-July, and the plants stand in soil that is cracking under the relentless sun. Some of his vines are totally dead at the roots, while scrawny bunches of grapes barely survive at the ends of many others, among underdeveloped leaves. 'There hasn't been any rain for more than a year. The rain and snow we usually get in winter never arrived, and so there's been nothing to refill the irrigation channels. The result is that most of my vines are dead, and a good third of my land will have to be grubbed up. It's catastrophic.' He has been growing wine for some 30 years: his eyes mist over as he speaks.

Beside him, pen and notebook in hand, is Maïté Sordelet, a young agronomist employed by the Baixas wine growers' cooperative, who has been documenting the neighbouring landholdings. She displays a handful of shrivelled grapes, and her forecast is dismal. 'There hasn't been a drought like this in living memory. The vines are like bonsai trees. The grape harvests are going to be disastrous.' A few weeks and another heatwave later, the facts bear her out: with a reported yield of less than 130,000 hectolitres (as against 200,000 hectolitres the previous year), the 2023 Vals d'Agly wine vintage will, according to the local wine producers' union, be the worst for nearly a century.

'The climate is changing'

Rising in the Corbières Massif and flowing down to empty into the azure blue Mediterranean, the Agly is one of three main rivers in the French *département* of Pyrénées-Orientales. Its waters irrigate the plain of Roussillon, one of the country's major fruit- and wine-growing regions, supporting several hundred farmers famed for their apricots, peaches, figs, grapes and almonds. Spreading out around old Catalan villages, watched over by venerable Romanesque red stone churches, this vast orchard has long brought prosperity to its inhabitants. But now it is disappearing, under attack from global warming. According to the Pyrenean Climate Change Observatory, a scientific joint venture between France and Spain, the Pyrenees experienced a 'significant' reduction in snow cover during the 20th century, and the region is now seeing fewer days with rainfall and an increase in the intensity of extreme weather phenomena and in the length of dry spells.

'The climate is changing, that's for sure. Droughts are much more frequent than they were at the start of my career,' grumbles Olivier Banyuls, a 60-year-old fruit grower from the village of Espira-sur-Agly. 'I've been able to harvest just half the amount of apricots as when the weather is normal – and my brother, who has the land adjoining mine, has lost two thirds of his usual yield.' As the first rays of the sun light up the surrounding hills, he supervises a dozen agricultural workers, busy among his rows of apricot trees. For his last harvest, in July 2022, he had a team twice the size.

Jules, a 19-year-old temporary worker, carrying a crate of wizened apricots, is subdued. 'Farms in the Agly Valley are closing down one after another, so it's getting more and more difficult to find work here in the summer.' The bushes around him are pitiful to see: dried-up leaves, fruit that is too small left to rot on the ground, sickly-looking trunks all rooted in dusty soil. A small pipe with little taps runs the length of the orchard: water has to be fed to each tree, one drop at a time, from spring onwards. 'I've just about been able to keep my trees alive by drawing water from my bore hole into the subsoil' says Olivier. 'If I hadn't been able to count on the shared pumping station, I would have gone bust!'

The battle for water

The Espira-sur-Agly pumping station, barely 30 metres away, overlooks an empty riverbed. The Agly has disappeared, leaving piles of rocks dried out by the sun. 'A few days ago, local farmers got the *département* authorities to agree to the upstream dam on the Agly releasing a little bit of water. But this was useless – the amounts were simply not enough. The water seeped into cracks in the riverbed and failed to reach us,' explains Olivier's cousin, Guy Banyuls, who is also a fruit grower and has come to inspect the banks of the Agly in the hope of finding a little bit of water returning there.

Convincing the authorities to open the dam gates had not been easy. Seven municipalities in the surrounding area draw their drinking water from the reservoir, and its level was already critically low. Across the *département* as a whole, four municipalities have already lost access to drinking water and around 20 others are in danger of doing so. As a result, an increasing number of fruit and wine growers are drawing water directly from the water table through illicit pumps. The *département* estimates that there are nearly 20,000 of these bore holes, most of them undeclared.

'People who manage to get a bit of water onto their land may survive. Everyone else is just heading for bankruptcy,' Guy adds

↴ **Olivier Banyuls (bottom right) and his farmhands harvest apricots in Espira-sur-Agly.**
Photo: © Théophile Simon

↴ **Denis Basserie and Maïté Sordelet visit a vineyard near Baixas.**
Photo: © Théophile Simon

wearily. To demonstrate what he is talking about, this 40-year-old farmer heads towards his fields, which lie a few hundred metres from the banks of the Agly. Unlike his cousin's orchards, here there is absolutely nothing growing any more. Dozens of tree trunks with lopped branches are simply standing under a cloudless sky. 'Because there is no water, the trees are dying before we can harvest anything. They had to be cut back. I've lost 90% of my apricot crop. I hope the state is going to compensate us.'

A new insurance scheme, set up by the French government, came into force on 1 January 2013. It aims for fairer distribution of climate risk between the state, farmers and insurers: in particular, it provides for better coverage in the event of exceptional weather hazards. But very few small farmers in Roussillon are able to benefit from it. 'I'm not insured because the policy is still too costly,' says Guy. 'The vast majority of my colleagues are in the same situation. If this drought is not recognised as a farming disaster, giving us entitlement to exceptional assistance payments, many of us will not recover from it.'

Mental health pressures

Scenes of devastated orchards are spreading along the whole length of the Agly Valley. 'An apricot tree takes nearly seven years to reach fruiting maturity, so its death represents the loss of a major economic asset. And we have lost a third of ours,' lament Domitille Zazzi and Fabrice Haon, a couple who grow fruit in Rivesaltes, another village in the Agly Valley. Rows of dead trees stand in front of them, waiting to be turned into firewood. 'We've told our neighbours to come and cut down our trees and use them for whatever they want. That'll cost us less than bringing in a specialist firm. It's really tough to see all our years of hard work end this way' – Domitille is emotional as she looks at her orchard for the last time.

Fabrice, equally upset by the desolate scene, goes over and dredges down to the bottom of the orchard well. Nothing comes out. Just as at Espira-sur-Agly, further upstream, the dam releases have never reached as far as the pumping station here. 'To see all our shrivelled apricots going into the bin is just desperate. But we are still young, we're going to fight on,' protests Domitille. 'However, not all farmers in the Agly Valley have kept up their morale. This is particularly true for the oldest, who don't have enough years ahead of them to bounce back. There's a good chance many will

↴ **Guy Banyuls, a fruit grower from Espira-sur-Agly, in front of the dry bed of the Agly.**
Photo: © Théophile Simon

throw in the towel. I feel there is confusion and anger. The way people relate to one another here is not the same as it used to be.'

The psychological pressure of all this sometimes becomes intolerable. Earlier this summer, a fruit grower in the Agly Valley tried to shoot himself. Although seriously wounded, the man – aged about 40 – survived his injuries. However, the episode dealt a further blow to the morale of the region's farmers. 'Given the catastrophe that has hit our region, we are all only too aware that any one of us could reach the same point of no return. Yet it's very difficult to spot the people who are about to go over the edge,' explains Denis Basserie. 'These difficulties make people shut themselves away, become reclusive. Some turn to alcohol, while others find that these work troubles create problems in their marriage. There are a lot of different ways that drought can destroy lives, not all of them always easy to identify. That's particularly true for older farmers, whose farms form a big part of the capital to provide for their retirement. Yet, because of the drop in yields, the price of agricultural land is in freefall. It's really tough for them to see their livelihood and their retirement savings literally dying at the roots because there is no rain.'

Suicide watch

To tackle the increasing number of mental health problems in Pyrénées-Orientales, in the past two years the Mutuelle sociale agricole (MSA) – the agricultural workers' health fund – has trained 83 volunteers in the *département* to recognise people who are likely to be at risk. This 'mental health watch' is a network made up largely of farmers and their families and friends, envisioned as part of the French government's 2021 Suicide Prevention Plan. The aim is to train 5,000 volunteers across France by the end of 2023, to try and prevent vulnerable farmers from sinking into isolation – one of the principal factors leading to suicide. A hotline called *Agri'écoute* ('listening to farmers') is available round the clock to answer calls from people in distress. In the opinion of Anne-Marie Soubielle, Deputy National Coordinator of the Interministerial Plan for the prevention of mental health problems and suicide risk in the agricultural sector: 'When it comes to mental health problems among farmers, France has brought in reforms that focus, above all, on prevention. There is a real political will to get to grips with the issue, especially now we are facing a rise in risks associated with climate change.'

The situation is urgent: even before the impact of extreme climate events, there were 43% more suicides among French farmers than in the rest of the population – one of the highest rates in Europe. According to the latest MSA figures, in 2016, 529 of the 1.6 million people covered by the agricultural scheme took their own lives. *Agri'écoute* cites economic pressure – which may or may not result from climate events – as the leading reason for calls to its helpline. This means that psychological support must be underpinned by adequate funding.

'In the Agly Valley, the MSA has released an emergency aid package to partially cover the social security contributions of farmers, to the tune of two million euros,' explains Frédérique Jacquet, who steers the MSA's National Programme for the prevention of mental health problems. 'We are also setting up support groups where farmers can talk about and exchange working methods, funding a respite scheme so that farmers suffering from burnout can get someone to replace them and take a few days' holiday, and helping their children take part in out-of-school activities. Sometimes it just takes something small to get you back on track.'

Growing tensions

Occasional rainfall, suicide watch or help with paying their social security contributions may not be enough to start farmers in the Agly Valley moving forward again. According to the 2020 agricultural census, in less than a decade, almost 200 have already simply given up, abandoning some 2,400 hectares of agricultural land. In the face of climate disruption, both infrastructure and economic models need to be reassessed. In particular, younger

'There are a lot of different ways that drought can destroy lives, not all of them always easy to identify.'

↳ **Domitille Zazzi and Fabrice Haon, a fruit-grower couple from Rivesaltes, in front of their apricot trees destroyed by drought.**
Photo: © Théophile Simon

farmers want to be able to look to the future. In the wine-growing sector, some people are thinking of planting drought-resistant grape varieties that originate from Southern Europe. Others are preparing to change career while they still can. But most are expecting the state to take strong measures to guarantee sufficient irrigation.

'These preventive measures to try and tackle psychosocial risks are very useful in the short term, but they don't solve the structural problem of water shortage,' insists Pierre Hylari, Chair of the Young Farmers' Trade Union in Pyrénées-Orientales. 'What's needed is to embark on major work to bring water from elsewhere. There are several technical solutions: redirecting water flow from high-altitude dams, creating hill reservoirs, installing desalination plants, using treated wastewater, or even revising environmental flow requirements in order to allow storage dams to refill.'

'These preventive measures to try and tackle psychosocial risks are very useful in the short term, but they don't solve the structural problem of water shortage,' insists Pierre Hylari, Chair of the Young Farmers' Trade Union in Pyrénées-Orientales. 'What's needed is to embark on major work to bring water from elsewhere. There are several technical solutions: redirecting water flow from high-altitude dams, creating hill reservoirs, installing desalination plants, using treated wastewater, or even revising environmental flow requirements [the minimum flow of water in a river or stream that will maintain biodiversity] in order to allow storage dams to refill.'

However, some of these solutions would almost certainly raise a storm of protest from environmentalists. In recent months, farmers in Roussillon have become embroiled in court proceedings with the France Nature Environnement (FNE) association over environmental flow requirements for the Têt, a river lying to the south of the Agly and running through Perpignan. The mood has become tense. In January 2023, farmers delivered a coffin to the *département* authorities in Perpignan, bearing a sign reading 'FNE – digging a grave for rural life'. The chair of the FNE in Languedoc-Roussillon has even expressed concern about the safety of its members, who have been bombarded with abusive emails. Violent clashes in March 2023 around the construction site of a giant reservoir project, the Sainte-Soline megabasin, are also at the front of everyone's mind.

'More and more people are saying that climate change means farmers should give up the way they do things now and change to new, less thirsty production models,' says fruit-grower Domitille Zazzi angrily. 'This is very frustrating, because pivoting that way is a very difficult process. You can't just make it happen in a flash – and that's particularly true for fruit or wine growing, where the crops are perennials with a life span of more than a decade. We are still going to need large quantities of water for many years to come.'

This feeling that they are being rejected by a part of society, shared by many farmers in the Agly Valley, is another psychosocial factor that can lead to isolation. 'Global warming is creating existential distress for many farmers. Not only are their working conditions deteriorating, but they are questioning the meaning of what they are doing, even wondering whether it is contributing to the destruction of living things,' says Jean-François Naton, Vice-President representing the CGT (General Confederation of Labour) on France's Economic, Social and Environmental Council (ESEC) and rapporteur for an own-initiative opinion on the impact of climate change on working conditions. 'One thing is certain: whether we are talking about preventing psychosocial risks or adapting economic models, agriculture is going to need long-term support. The work is only just beginning.' ●

'Global warming is creating existential distress for many farmers. Not only are their working conditions deteriorating, but they are questioning the meaning of what they are doing.'

↴ **The completely dry riverbed of the Agly, at Rivesaltes in July 2023.**
Photo: © Théophile Simon

Interview

Judith Kirton-Darling

A just transition: giving workers a stake in the story

Interview by
Bethany Staunton
ETUI

The European Commission claims that the European Green Deal 'will transform the EU into a modern, resource-efficient and competitive economy'. But does this vision include real support for the workers who will make this transformation happen? The trade union federation of industrial workers industriAll Europe has been one of the loudest voices for a 'just transition', launching a manifesto in 2022 under the slogan 'Nothing about us without us!'. Representing 7 million workers in the manufacturing, mining and energy sectors, the federation's membership is at the frontline of the transition's employment impacts.

HesaMag spoke to Acting Joint General Secretary Judith Kirton-Darling about the urgent need for a transition framework that prevents the exacerbation of regional and social inequalities.

↰ **Judith Kirton-Darling at the industriAll offices in Brussels.**
Photo: © Aymone Lamborelle, ETUI

Let's start with the concept of 'just transition': where does it come from and what does it mean to industriAll?

Judith Kirton-Darling – So the first thing to say is that 'just transition' comes from industrial workers. The concept itself came out of the US chemical sector in the eighties. It kind of rumbled about a bit for a time, and then as the UNFCCC (United Nations Framework Convention on Climate Change) process was building up you started to have discussions around just transition at international level in the trade union movement. But for many years it was viewed as a delaying tactic, as a way for workers who didn't want to take climate action to say 'we need lots and lots of time, like centuries, to make the transition'. That's not actually how it ever was. But there was a perception created that just transition was basically coal workers defending the future of coal.

It's never been a topic which has been 'conflictless' because the transition that we're talking about is absolutely colossal, with loads of trade-offs involved, and it has massive implications for people's jobs, for their regions, for their communities. And so it's been a very long process to get to the point where we are today. Now it's a central demand of the whole trade union movement.

IndustriAll Europe represents many sectors. You've stated that 25 million jobs will move, transform or disappear. Could you break down that figure a bit?

25 million jobs is the industrial workforce in the EU: manufacturing, energy and mining. All of our industries are impacted by the transition but to different extents and in different ways. What we wanted to demonstrate was the scale of the transformation which is underway. 25 million jobs will change. Quite a large number will disappear. And there'll be new jobs created, but it's very difficult to actually put a figure on what will be created because it depends on the policy framework, the industrial strategies that you have, the investment decisions by companies, and how many jobs come out the other end of the pipeline.

And the challenge we have is that none of that is analysed at European level, so we don't have granular mapping on what it actually means. The Green Deal impact assessment has very broad econometric estimates of the impacts on jobs and different sectors, and has come out with this statement that there will be a net employment benefit. But what we actually need for just transition planning is real breakdowns of where the workers are today, where the regional industrial policies are, and where the jobs of tomorrow will be, to then be able to negotiate proper transition pathways for individuals. For example, workers in the hydrogen sector told us that what their colleagues are doing in the chemical industry is very similar to their own work. So you see some very common skills where you wouldn't necessarily think they would be. Whereas in the car industry, building a combustion engine car or an electric car is actually completely different in terms of skills. The workers have to go through a complete retraining. So you need this mapping of skills.

In some ways our demands are quite boring because they're really such bread-and-butter basics. These are the basics of economic planning and social management of change that we're asking for. And it's sometimes mind-boggling that that is a 'revolutionary demand' and isn't just automatically part of the package.

Besides the need for a rigorous mapping of the situation, what are the key elements that are required for a truly just transition?

The first thing, which is really critical, is having an industrial relations framework. If you look at where it works well, it's in countries which have strong, stable industrial relations. But in several central and eastern

'It's been a very long process to get to the point where we are today. Now just transition is a central demand of the whole trade union movement.'

European countries, for example, you have really weakened social dialogue. You don't have any sectoral structures where there is collective bargaining, it's at the level of the plant. And then it's very difficult to negotiate and to have a framework for things like job-to-job transitions or skills upgrading.

On the other hand, a really good example would be Northvolt, the battery site in northern Sweden, where the company negotiated the collective agreement before a single worker was employed. And then the union was in at the first induction session, already organising in a site which is recruiting completely new workers. Fundamentally it's about having a good jobs strategy. For Sweden, this green transition is a massive opportunity. And when you talk to the Swedes, you see that they're completely relaxed about it because they know what is coming.

What is the EU currently doing to respond to concerns about an 'unjust' transition, and where do you feel it is falling short?

We currently have a very fragmented picture. In energy-intensive industries and the coal sector, you have the Just Transition Fund, which has meant regional transition plans for coal regions and carbon-intensive regions. And those plans are meant to be a kind of regional diversification of economic planning and transition for the workers in those industries, meaning upskilling, relocation plans and job-to-job transitions. But they haven't internalised the worker participation dimension because the just transition plans have been developed by DG REGIO [European Commission department responsible for regional and urban policy] and they are coming at it from an old-school regional development perspective, which is quite different from a just transition perspective, in which the workers are at the table right at the beginning and part of the decision-making process.

Then you've got the many 'pacts for skills' [European skills alliances in specific sectors organised by DG Employment], which are very time-intensive. But the actual reality on the ground that they're bringing in terms of numbers of workers who are upskilled or reskilled is drops in the ocean compared to the numbers that we need to see. And then you have the European Pillar of Social Rights in which you have this 'right to training', but it's perceived in policy terms as completely separate from the Green Deal and not connected to the strategy of the just transition.

The whole European framework is a patchwork of individual silos that often don't talk to each other. So we as a trade union spend a ridiculous amount of our time having the same conversations with different parts of the Commission who are working on exactly the same things, but without talking to each other. One of the things we've been arguing for is what we call a 'just transition observatory', which would bring together anybody who's working on just transition questions within the Commission to have a frame to see how these pieces of the jigsaw fit together.

The frustrating thing is that we're running up against a clock because the [European] Climate Law says we have to be carbon neutral by 2050 and we know that in order to get there, all of the strategic investments in our sectors have to happen in the next decade. So a silo approach is undermining the Green Deal achieving its aims, but also undermining any opportunity to ensure that it's done in a socially fair way.

Is this also about attracting new workers into industrial jobs?

All of the industries that we represent have an ageing workforce. If you look across the vehicle-manufacturing sector, for example, a quarter to a third of the workforce is going to retire in the next ten years. In basic metals, the average age is 50 minimum. But these sectors are actually still the bedrock of our economy in Europe, despite all of the rhetoric around a 'service-led economy'. The economies which are the most balanced have a solid manufacturing base. It's important for tax revenue, it's important for trade balance. And it's essential for the green transition, because all of these industries are the industries that you need for the energy transition, for mobility, for smart cities… Whichever part of the transition you look at, technology and manufacturing has to be a part of it.

So we need an agenda which is about bringing people into industry, and attracting a lot of young people, partly through apprenticeships and making STEM courses attractive at school. But the job-to-job transition story in regions is also about saying to the female worker in another sector: 'Have you thought about working in industry?' Labour market diversity is critical for the survival of the manufacturing industry. So there's an equalities dimension to the transition which is often lost.

Are there any concerns about the quality of jobs and conditions in new and emerging parts of 'green' industry?

One of the big anxieties in this whole transition is that most of the jobs which are under threat are good-quality jobs in well-organised industries, and many of the jobs which are forecast to be created are in new industries without established industrial relations and where job quality is a real concern. So in order to create the kind of confidence that the Swedish workers have, you need to have some guarantees on quality.

Too often, what we're seeing is a rise in very exploitative situations. Take the renewables sector. The [UK trade unions] RMT, Unite and Prospect did research which showed that the people who were building the Beatrice Wind Farm, which is one of the biggest in the North Sea, were workers from the Asian subcontinent, living on army boats in international waters and paid slave wages. What's happening in the North Sea is another transition story. You've got an extremely regulated oil and gas industry, especially since Piper Alpha[1], with an extremely regulated health and safety culture, and cooperation with the trade unions all around the North Sea. And then in the

1. A 1988 oil rig explosion in the North Sea that killed 167 people.

same territory, you've got the development of the wind industry where there's a little bit of cowboy operating going on: union busting and all kinds of dodgy employment practices. And governments are not paying attention to it – the danger is that they only get it when something goes horribly wrong.

We're going to have floating turbines in the North Sea, in extremely deep waters – you have to do this in a safe environment. The people building them and operating them have to be properly trained. And there's an opportunity to do job-to-job transitions from the existing oil and gas industry into renewables. There's a workforce who are desperate to make the transition. But what they're being told is that they have to reskill and upskill to be able to go from the offshore oil and gas industry to offshore renewables. In the case of the UK, that can be 6,000 pounds per worker, and workers are being told they have to pay for that[2]. It's a massive barrier to an existing workforce in a situation where we have a big skills gap.

One of the blockages is a private company that has got the agreement of the big offshore wind companies to accredit workers with their certification. So their economic interest is to not recognise oil and gas workers' skills because then they can't charge a price for the reskilling programmes that they're offering.

'The whole European framework is a patchwork of individual silos that often don't talk to each other.'

In many cases, the green transition is taking us into new terrain in terms of occupational health and safety (OSH) risks. Are you seeing a serious anticipation of these risks in the relevant industries?

It's a very mixed picture. Many industries are moving from mechanical to electrical and chemical combinations, and the safety culture has to move with it. Battery electric vehicles, for example, obviously have different health and safety risks to combustion vehicles. A fire in a battery-powered lorry or light vehicle has to be dealt with differently. And we've had situations in bus depots and elsewhere where fires have taken hold. One of the big OSH challenges – for the direct workforce but also for firefighters – is understanding the respiratory impacts of new materials which are included in new vehicles.

Then in the shipbuilding sector, you've got completely new propulsion technologies. The idea is to turn hydrogen into ammonia to use it to power ships rather than bunker fuel, which is very polluting. But an ammonia leak is potentially devastating for seafarers and for the natural environment. So there are OSH risks, but also environmental protection risks.

The reports that we get back from Hungary, which is the country that today has the biggest functioning battery industry, is that it's not just the health and safety risks for the workforce in the site, but that there's also a basic disregard for the environment. The government have turned these battery sites into free economic trade zones so that they're not covered by the same regulatory oversight by local councils as other industrial sites. So the local population doesn't have democratic scrutiny of what's going on in there, which is really worrying.

The EU has a role to play on OSH. The challenge is how to keep up with the introduction of new substances like lead and cobalt. There is a whole range of substances that now the EU has to look at and to see how to deal with them because there are potentially new risks. But there's a lot of time pressure.

Are the EU institutions being rigorous enough in this task?

There's a very big deregulatory push inside the Green Deal Industrial Plan. This was Europe's response to the US Build Back Better, the Chips Act, the Infrastructure Investment and Jobs Act, and the Inflation Reduction Act. That is a comprehensive industrial policy strategy, with big bucks behind it. But what the Commission has put on the table is essentially old wine in old bottles. It's deregulation, it's state aid, it's more trade – and a word about skills, but not training. So you have quite a regressive agenda in response to what is an incredibly proactive, progressive agenda on the other side of the Atlantic.

It's possible to do this transition in a way which is responsible and has a safety culture at its heart. But to do that, you have to have the workers involved right from the beginning. You have to build an OSH culture in industries that are emerging, and the state has to play a role in doing that because in new sectors you don't have the necessary industrial relations infrastructure to start from.

If you have a negotiated approach, you build social acceptance. People have been told: 'You've got a 'brown' job. You're yesterday's person and you haven't got a stake in this story of the future'. And that obviously creates a backlash because if you tell me that I've got no place in the future, then why am I going to engage in it? I would much prefer to believe that the science is wrong and to listen to the far-right politician who says an easy answer. So if we want to take climate change seriously – and we have to because it's the single biggest challenge to our species – then we must realise that you have to give people a stake in the story. ●

'It's possible to do this transition in a way which is responsible and has a safety culture at its heart.'

2. See the article by Mick Lynch in this issue, p. 31.

Going critical: the raw cost of rare materials

European industry is ramping up its operations in the extraction and processing of 'critical raw materials', deemed so for their economic importance and supply risk, particularly in the context of the energy transition. At the same time, however, the European Commission is signalling a retreat from chemicals regulation. By leaving lithium battery workers in countries such as Hungary vulnerable to industrial poisoning, is the bloc also putting the promises of the Green Deal at risk?

Arthur Neslen
Journalist

Anton[1] was overjoyed when he got a job as an operator at the SK Innovations (SKI) car battery plant in Komárom, Hungary, in 2020. 'I was happy because the money was good, especially for that region.' The gigafactory had just opened and, at the height of the Covid pandemic, the work was light. Within six months though, Anton had left the company after a urine test showed that he had levels of nickel three times above the safety limits. Nickel accumulation has been linked to lung fibrosis, kidney and cardiovascular diseases, and cancer of the respiratory tract. There is also a high incidence of nasal and lung cancer among workers exposed to the material. 'I have kids and I want to raise those kids,' explains Anton.

As the continent ramps up its critical raw materials (CRM) industry in the face of a climate crisis nearing existential proportions, Anton's experience could soon be replicated across Europe. CRMs such as lithium, nickel, cobalt and graphite are crucial for the clean energy technologies needed to stave off climate breakdown – from wind turbines to electric car batteries. But their supply chains are currently limited and scarcities are expected in the next decade. As a result, new EU legislation in the form of the Critical Raw Materials Act proposes that by 2030, 10% of Europe's CRM extraction, 40% of its processing and 15% of its recycling be done domestically – to ease dependence on third countries, many of which have poor human rights and environmental records.

Hungary will benefit more than most from this. By 2031, it is expected to be the second biggest producer of car batteries – and the single biggest producer of 'tier 1' batteries, which can be used in Europe – according to Benchmark Mineral Intelligence (BMI), a market analyst. BMI has stated that this is partly because Hungary offers cheaper labour and land costs than western Europe.

Meanwhile, the health costs of the electric car revolution are yet to be calculated. According to the European Environment Agency, Europe has 23% of the world's new cancer cases, despite only making up 6% of the world's population, in part because of 'chronic exposure to some pharmaceuticals, pollutants and other occupational and environmental carcinogens'[2]. And yet according to recent reports, under industry pressure the European Commission appears to be retreating from plans to ban hazardous chemicals. Plans to more strictly regulate substances such as lithium could be the next under review.

Dust to dust

The critical raw materials that Anton was working with – nickel, cobalt and manganese – accumulated into 'a thick layer of dust' that settled all over the factory. 'Everyone in the plant knew that there was a dust problem because they had to clean it all the time and use vacuum cleaners on the electronic devices,' he says. 'But we were

The health costs of the electric car revolution are yet to be calculated.

1. Not his real name.
2. European Environment Agency, *Beating cancer – the role of Europe's environment* https://www.eea.europa.eu/publications/environmental-burden-of-cancer

only given Covid medical masks and rubber gloves for protection. I knew someone whose nickel levels were five times higher than normal, but in the Hungarian system – which is corrupt – no one cares about a few dead workers. The whole system is structured in favour of these companies.'

In fact, according to BMI, the Hungarian government gave SKI a 209 million euro subsidy to build another battery plant in Iváncsa. There, 300 workers who had been denied protective equipment went on strike in June after an outbreak of vomiting, diarrhoea and rashes, according to some reports of the wildcat action. According to others, the issue of unpaid wages was a deciding factor. Many trade unions say that it is not always possible to identify illnesses caused by cocktails of CRMs with chemicals, and that a lack of regulatory vigilance has added to the problem.

'No occupational exposure limit [value] for lithium has been established, beyond existing safe work practices,' says Glen Mpufane, the mining director for the industriAll Global Union. 'The same goes for cobalt and it may well be that, given the latent exposure of workers to their toxicity and cancer risks, somewhere down the line, workers will face the consequences, as they did with silicosis and black lung cancer in coal mines.'

In Hungary, where unions expect employment in the CRM sector to rocket from around 7,000 now to as many as 40,000 within a decade, the setup has been exacerbated by a lack of regulatory enforcement. Unions say that it would take 160 years for the current health and safety inspectorate to visit every company. Balazs Babel, the vice president of Hungary's metalworkers union Vasas says: 'We need better protection for workers. That's for sure. This a very, very dangerous field of work. Where there is a suspicion of exposure to dangerous materials, then workers should be provided with ventilation and all the protective gear they need.'

During SKI's safety training session in Komárom, Anton says that he asked the company's health representative about the safety of one of the chemicals he was working with: N-Methyl-2-Pyrrolidone (NMP). 'They said: "It's not dangerous at all. You can even drink it and you wouldn't have any problem",' he remembers. However, NMP, which is suspected of being reprotoxic, had been added to the EU's restricted substances list two years before. SKI did not respond to a request for comment.

Battery plants boom

Europe's expansion of a domestic CRM industry will not be limited to Hungary. For the world to hit net zero targets by 2050, cobalt and neodymium demand may rise by 150%, copper and nickel by 50-70%, and graphite and lithium by 600-700%, according to the International Energy Agency. Where electric batteries are concerned, Germany is expected to become Europe's largest producer, followed by Hungary, Poland, France and Sweden.

'No occupational exposure limit [value] for lithium has been established, beyond existing safe work practices. The same goes for cobalt.'

Peter Froven, an official for Sweden's IF Metall union, said that while his country's gigafactories only employed a few thousand workers at present, they were 'popping up like mushrooms' and by 2030 their workforce could multiply by a factor of ten. 'We have fears that they're building so fast that they're basically burning out the workforce,' he says. 'I mean, you've got production one day, you're stopping the next, and you're also learning how to do the new processes safely while you're doing it.'

'Building a battery requires the cleanest area you can find. It has to be completely dust-free. And if you're simultaneously constructing the building around this area, then of course you'll have problems with missed deadlines because there's leakage of dust into the batteries. There's also a very fast pace, which means mistakes are easier to make. We've had chemical leaks, quite bad cuts, chemical skin burns, things like that.' After workers at one plant were sprayed with chemical slurry used to fill up batteries, IF Metall faced the inevitable problem of trying to identify which substances had been in it. 'It's like the Coca Cola recipe,' Froven jokes.

Such incidents have stoked calls for the European Commission to tighten regulatory oversight of substances used in the CRM sector. Occupational exposure limits for hazardous materials are set at EU level and transposed by EU members, but national implementation often leaves much to be desired. Sophie Grenade, an adviser to industriAll, says that social partner agreements such as Nepsi – which was established between unions and employers to counter silica exposure – were helping to improve the situation on the ground. Partly funded by the EU, Nepsi is considered complementary to binding occupational exposure limits.

↴ **Protest at the opening of a Chinese battery site in Debrecen, Hungary, February 2023.**
Photo: © Belga

However, campaigners such as Friend of the Earth Europe say that an industry that spends 21 million euros a year on lobbying in Europe, and has held on average two meetings a week with EU policymakers since 2014, creates its own gravity, dragging down legal protections for workers and the public alike[3].

Lithium labelling

The European Chemicals Agency (ECHA) has recommended a 'reprotoxic' classification for lithium, obliging greater regulatory protections for workers. But it is unclear whether the Commission will over-ride this for the greater good of a smooth and profitable roll-out of electric vehicles. The Commission has asked ECHA to launch another public consultation on the question and will not give any information about timing nor on the grounds it could use to over-rule ECHA.

Responding to a request for comment, an EU official who declined to be identified told *HesaMag*: 'The Commission is committed to better protect[ing] human health and the environment, as part of an ambitious approach to tackle pollution from all sources and move to a toxic-free environment. In this sense, the Critical Raw Materials Act takes these concerns very seriously and puts in place a framework that will ensure that such environmental concerns are well assessed.' Other substances such as nickel and cobalt have been labelled by ECHA as suspected reprotoxins and carcinogens, but as Vasas vice president Babel puts it: 'It's not enough that we have laws, we need enforcement of these laws.' This is reaffirmed by industriAll's Grenade: 'We need regulation and strong standards that are absolutely binding and not just "narrative".'

Buried treasure?

The issue goes deeper than new battery plants. Europe's CRM Act will speed up the permitting process for mining, processing, refining and recycling infrastructure, which may be assigned an 'over-riding public interest,' according to the proposed legislation. Environmentalists often point out that the health costs of coal mining eclipse those from substances like lithium by an order of magnitude, but there is a caveat: there is a vast difference between the scale of these sectors, and their available data. The continent has some noteworthy reserves of CRMs, albeit far less than its coal. While Europe has an estimated 79 billion metric tonnes of coal reserves, it has only around 1.3 million tonnes of cobalt reserves, mostly in the Balkans and Turkey, and is thought to contain around 7% of the world's 98 million tonnes of lithium reserves, in countries such as Portugal, Czechia and Germany. The continent also has significant graphite deposits in Scandinavia, and mined 243,000 tonnes of nickel in 2021.

Extracting these resources can be done in various ways. Lithium, for example, can be mined in open pits or pumped up from underground geothermal reserves in a briny liquid that must be treated to remove it. Sophie Grenade points out that whether it is coal, nickel or some other material being mined, despite industry's efforts mining 'remains one of the world's most hazardous occupations. This is one of the industries with the most extreme accidents, lots of chronic disease, and illness. These things still happen in Europe. We know that the extraction of lithium and cobalt may cause problems. When it comes to sustainable mining or the responsible use of raw materials, lithium is very corrosive, so there are risks there for explosions. Cobalt is reprotoxic and may cause cancer so we absolutely need strong safeguards for workers, collective rights and occupational exposure limits in line with scientific data.' Grenade wants to see these written into the EU's Critical Raw Materials Act to ensure that 'the clean tech race does not lead to deregulation.'

Community protests

Where the dissent of communities and workers is ignored, the results can be explosive. A 2.2 billion euro lithium mine in Serbia planned by Rio Tinto was cancelled in 2022 after mass protests by local people concerned about environmental pollution and water contamination, even though the mine could reportedly have provided 90% of Europe's lithium needs. Community demonstrations in Portugal – including a new protest camp launched in August 2023 against what would be Europe's largest open-pit lithium mine in Boticas – underline the obstacles facing any expansion of Europe's CRM industry. According to Cecilia Mattea, the batteries and supply chain policy manager for Transport and Environment, a campaigning NGO and think tank, the EU's mining laws are inadequate and in need of reform: 'The EU's mining laws are so outdated that in Spain for example, mine tailings are allowed to sit much closer to the local community than in China or Brazil. It's simply not acceptable. We should review the EU's mining laws.'

Some policymakers fear that even raising these sorts of issues is likely to stir a backlash against electric vehicles which are, after all, powered by the renewable energy the planet needs to avoid catastrophe. But trade unions have countered that ignoring the needs of workers creates the constituency for a backlash by leaving left-behind communities with a sense of grievance that is vulnerable to manipulation. Asked whether workers were still supporting the clean energy transition, Babel answers honestly: 'I'm not sure if workers really care that much.'

'Every time you attack workers' rights, support for the Green Deal in particular – and climate policies in general – goes down,' says Left Party MEP Marc Botenga. 'Where workers have real health and safety concerns and communities have real concerns about their drinking water it will obviously and very clearly weaken support for climate policies.' His colleague, the Left Party MEP Cornelia Ernst, adds: 'The Green Deal needs social majorities and these come about when people's living and working conditions improve. A green deal without the workers is not possible.' ●

3. Friends of the Earth Europe (2023/07) *Mining the depths of influence. How industry is forging the EU Critical Raw Materials Act*, https://friendsoftheearth.eu

Offshore wind: turning hot air into good and safe employment

We need to make an ambitious and rapid transition to clean energy. However, a culture of subcontracting, exploitative employment practices and deregulation of safety protection pervades our offshore energy industries – including the renewables sector. For the offshore workers at the frontline of this transition, their livelihoods are hanging in the balance – and in the gravest cases, even their lives.

Mick Lynch
General Secretary of the UK National Union of Rail, Maritime and Transport Workers (RMT)

Trade unionists across Europe and beyond are acutely aware of the grave dangers posed to workers by climate change. As well as the direct effects of catastrophic weather events that threaten physical and social infrastructure, workers and trade unions are often faced with employers and governments that talk a great game on green job creation but do not provide the structure or detail of how we can achieve this for the workers of today and the future.

As a trade union organising over 80,000 transport, maritime and offshore energy workers, our members are at the forefront of this transition. Since 2010, successive UK governments led by the Conservative Party have increasingly used the renewable energy sector to talk up their industrial and employment credentials whilst placing no requirements at all on employers to reach sectoral agreements with trade unions to guarantee decent pay, good terms and conditions, or coherent safety standards. It will come as no surprise to anyone that the biggest culprit in this regard was arch fantasist Boris Johnson, whose 'green industrial revolution' has evaporated on contact with an energy industry dominated by private multinational interests.

For trade unions, just transition is a serious matter of social and economic justice and of safety, which must be the foundation of green industries. Unfortunately, these industries have deep supply chains with an in-built culture of subcontracting. The RMT's experiences of safety and training standards in the offshore wind industry should serve as a warning with regard to the development of other green technologies, particularly floating wind (wind turbines on moored floating structures rather than fixed to the seabed) and hydrogen and carbon capture and storage, which are not proven at scale and yet are central to hitting government targets across Europe to cut emissions to net zero.

The UK's poor record on worker safety in offshore wind

The UK has the second biggest offshore wind market after China. Despite this relatively mature status, the RMT regularly receives news of safety incidents and near misses affecting our members and their colleagues who are working to deliver offshore wind energy for the rest of us. These incidents range from carbon monoxide releases on crew transfer vessels – such as at the Walney array of wind turbines in the Irish Sea owned by Danish energy multinational Ørsted – to the release of the highly polluting sulphur hexafluoride (SF6 – one of the six main greenhouse gases listed in

The RMT's experiences of safety and training standards in the offshore wind industry should serve as a warning with regard to the development of other green technologies.

↑ **There are a vast range of workers in the offshore wind supply chain, in need of a coherent employment, safety and training regime.** Photo: © Belga

the Kyoto Protocol) which has blighted the construction of Total-SSE Renewables' 1.1 gigawatt (GW) Seagreen offshore wind project off the eastern coast of Scotland.

The latest safety incident report from G+, the international safety body for the offshore wind industry, puts the UK at the top of the number of recordable safety incidents, with nearly 350 in 2022 alone. That is perhaps not surprising because of the UK's 13GW of installed capacity for offshore wind power in UK waters and the fact that G+ does not include data from China, the biggest offshore wind sector in the world. However, the G+ figures do include data from the other major offshore wind nations in Europe: France, Germany, Denmark, and the Netherlands. Out of the total 868 incidents reported, 37% occurred on vessels (the largest single category), while the most serious incidents also occurred on vessels as well as on the turbines themselves.

To deliver an offshore wind farm, developers contract with a vast range of shipowners to provide for a vast range of activities and transport needs, from sea-bed survey, heavy lift, jack-up installation and cable laying, to crew transfer vessels, diving vessels, fast rescue crafts, guard vessels, service operation vessels, and accommodation ships and tugs. This illustrates that there are also a vast range of workers in the offshore wind supply chain, including seafarers, divers, crane operators, caterers and project crew – not just turbine technicians. Therefore, workers need a coherent employment, safety and training regime – but in the UK at least, the signs are not good.

First of all, the national minimum wage does not even apply as a wage floor for seafarers on offshore wind projects outside territorial waters. Secondly, there are only four Health and Safety Executive (HSE) inspectors covering the entire UK offshore wind sector, which the government has targeted for 37GW growth by 2030. A UK minister recently claimed that the HSE has a programme of targeted inspections in the sector, but this merely served to further illustrate the dangerous gap between rhetoric and reality.

Exploitative practices along a global supply chain

Despite a global 38% increase in the hours worked in offshore wind since 2021, the G+ report fortunately does not record any fatalities. It is also fair to say that the level of risk varies at different stages, particularly between installation, construction, operation and maintenance, and decommissioning. Nevertheless, we are very concerned by a recent incident in the offshore oil and gas sector which did, tragically, result in the death of a worker in early 2023. In January, the Liberian-registered Valaris 121 drilling rig was being towed back to Dundee when crane operator Jason Thomas was lost overboard in water 90 miles off the eastern coast of Scotland. An investigation is ongoing but it looks likely that a missing piece of floor grating is to blame, judging from the HSE's recent safety alerts.

This incident highlights a regulatory lacuna on vessels that carry out contracts in the oil and gas sectors, but also in offshore wind (fixed and floating) and the wider renewable sectors of the offshore energy industry. These safety loopholes are essentially caused by the interaction between vessels and mobile installations registered under flags of convenience[1] and the limits of domestic safety and employment law beyond the 12 nautical-mile territorial water limit. Ultimately, this may require action at UN level to correct anomalies in the UN Convention on the Law of the Sea in order to prevent employers from continuing to exploit the rather loose concept of 'innocent passage' in establishing offshore energy and carbon capture and storage sites beyond the territorial water limit but within a country's exclusive economic zone.

It is important to underline the significance of the shipping supply chain to delivering the offshore wind farms which will play a major part in restructuring our economies to mitigate the effects of climate change. The national and international demand for offshore wind will stimulate a massive increase in the demand for seafarers to work on the diverse range of vessels required at every stage of development, operation and decommissioning of wind turbines, which have an operational life of over 25 years.

As a seafarer union, this is a major issue for us. The rise of flags of convenience and exploitative P&O-style employment practices[2] over the last 50 years has led not only to low pay, unsafe roster patterns and 'voyage only' contracts, but also the use of crewing agents based in tax havens like Cyprus

1. A business practice in which a ship flies the flag of a country other than the country of ownership.
2. In 2022, shipping company P&O Ferries summarily dismissed almost 800 members of its staff.

and Malta to supply seafarers from what are cynically described as 'lower cost' economies: the Philippines, India, Indonesia, and even Russia and Ukraine. UK residents only supply 15% of the 114,000 seafarer jobs in the UK shipping industry, and other maritime nations across Europe are facing similar problems. This is a complex picture but it is one affecting every nation with a growing and diversifying offshore energy sector. RMT is working with UK regulators, including the HSE, to tackle these loopholes but it will also require international action to improve the health and safety protections for workers in rapidly expanding sectors like offshore wind.

Workers bearing the costs of the energy transition

Through the International Labour Organisation (ILO), the international trade union movement defined 'just transition' in 2015 as: 'greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind'. Work continues at ILO level and in the COP process through the International Trade Union Confederation to put more industrial detail into that definition and to protect the safety of workers, as well as their pay and conditions. This is vital work for all workers at risk from governments and employers seeking to use green policies as cover to cut jobs, pay, and terms and conditions.

This includes RMT's offshore oil and gas members, who are the engineers, technicians, scaffolders, caterers and other grades with the transferrable skills that offshore wind and other net zero industries need. These workers have been correctly identified as those with the most to gain from a transition to clean energy, but also the most to lose from one that is unjust and unsafe. These are the workers with the transferrable (and increasingly scarce) skills that will benefit the companies developing the 97GW of capacity in the UK's offshore wind pipeline.

And once again, the reality is not particularly just. We know of a number of cases where workers have paid thousands of pounds out of their own pocket to re-train for work in offshore wind, with very mixed outcomes. The 'Our Power' report published in March this year by allies in environmental groups and supported by RMT and other trade unions backs this up. The report is based on a survey of over 1,000 offshore oil and gas workers (including RMT members) which found that 69% had spent over 2,000 pounds of their own money on safety training. This included some re-training for offshore wind jobs, with no guarantee of work. In some cases, workers have spent 7,000 pounds of their own money, with few results in terms of paid work in offshore wind.

There is an understandable insecurity amongst offshore oil and gas workers, who are largely (over 70%) self-employed and so effectively left to fend for themselves, with the contracting companies who provide the work under no obligation to assist in a just transition. A recent survey of the RMT offshore membership revealed that pay and conditions, safety and job security are their primary concerns at work today.

A fast transition must not jeopardise safety

Trade unions have been calling on employers and government to sort out this situation for the last five years, as offshore wind is still a gamble for workers – particularly in the context of an enduring cost-of-living crisis. However, the only commitment workers have received in the UK government's North Sea Transition Deal is for a digital offshore training passport, which is intended to align the skills needed from workers in offshore oil and gas and in offshore wind. That is awaiting roll-out at the time of writing, but the trade unions remain deeply concerned that this passport will not align key qualifications between the oil and gas and wind industries. The Global Wind Organisation (GWO), a training body, has been particularly hostile to full alignment. In particular, qualifications in sea survival, fire fighting and first aid could see duplication, at a financial and skills cost to both workers and employers. This heaping of costs onto individual workers is exacerbated by the fact that the GWO requires refresher training every two years, compared to the four years that the offshore oil and gas industry requires for a refreshing of basic safety training.

We are running out of time to make this transition, and the three weeks of collective action that the RMT and Unite unions' offshore oil and gas members have taken in 2023 (at North Sea contracting companies) over pay and conditions shows that industrial relations are deteriorating amongst the section of the workforce most at risk from an unjust transition to clean energy. Earlier this year, I wrote to the major developers and owners of offshore wind farms in the UK, including SSE, RWE, EDF, Ørsted and Scottish Power Renewables, to ask about their policies on the training qualifications required of offshore wind technicians, seafarers, divers and project crew to work on their turbines. Where we have had answers, they have been evasive and have not provided any detail of these key supply chain safety policies.

The UK government has not provided any financial support to re-train oil and gas workers. The digital passport previously mentioned was developed using a 5 million-pound grant to the global energy industry skills body OPITO from the Scottish government's Just Transition Fund. If we are to accept the need for a rapid transition to clean energy, then we must accept an increase in the pace of change. Under the current de-regulated industrial landscape, this brings serious risks. The G+ figures show the urgent need to get this right for all offshore energy workers. RMT strongly believes that this is achievable through good sectoral collective bargaining agreements, not just with hostile developers such as Ørsted and Iberdrola but with employers at every tier of the supply chain.

Public ownership also has a central role to play in this. As with the railways, the next UK government must roll back the years of failure under a privatised energy industry, in areas from offshore production and electricity grid connections to domestic retailing. Next year's UK general election cannot come soon enough and we will be supporting interventions along the lines of the Green Deal Industrial Plan in the EU and President Biden's Inflation Reduction Act in the US.

We know that trade union workplaces are safer workplaces. This principle, along with sectoral collective bargaining and public ownership, must be at the forefront of trade unions' demands for a just transition for all of our members. We look forward to working with our colleagues across the European trade union movement to achieve this for our members and for society. ●

There are only four Health and Safety Executive (HSE) inspectors covering the entire UK offshore wind sector.

Wildfires aren't put out by water but by workers

Climate change and migration from rural areas are at the heart of the repeated major fires ravaging Europe. The stand-out feature of the situation is the vulnerability of the people who quite literally walk into them. Water from aircraft or fire engines can reduce a fire's intensity, but only boots on the ground can stop it spreading. In Spain, which has seen a notable increase in wildfires, wildland firefighters are working in conditions that are not only dangerous but also precarious.

Berta Chulvi
Journalist

Tania Castro
Photographer

↴ **Benito Serrano, firefighter and forestry technician of the Valencia Fire Brigade Consortium in Requena.**
Photo: © Tania Castro

'Wildfires are very atypical, they're completely unlike other types of fires. Wildland firefighters are top professionals working in very dangerous conditions.'

By the end of August 2023, even before the ill-named 'fire season' was over, the number of hectares lost to fire in Spain had already outstripped in just eight months the average annual figure for the period between 2006 and 2022. There had been 17 major fires, so called because they each burned more than 500 hectares, while the average between 2013 and 2021 was five major blazes annually. The year 2022 saw 52 major fires, a hellish number. The fires are not only burning more quickly, affecting a larger number of hectares, but are also no longer confined to their customary time frame. There is no longer a 'fire season' because fires now happen all year round.

When there's a major fire, the TV screen shows images of helicopters dousing the scene with water, but every wildfire expert knows that fires are extinguished by specialists on the ground. The invisible figures inside the fire are the wildland firefighters. But the very workers who try to contain, dampen and ultimately extinguish these dangerous fires in fact face an unacceptable level of precarity. They also experience the most serious workplace accidents: around 60% of the 156 fatal accidents among wildland firefighters between 1991 and 2022 were a result of being trapped by fire or, in one case, dying in an air accident that killed an entire crew of wildland firefighters who were being transported to the scene of a blaze by helicopter.

One sergeant firefighter who wishes to remain anonymous, says, 'When we are dealing with a wildfire and there's a wildland firefighter under me, then I'll be the one listening to him, even though I'm the officer in command. Wildfires are very atypical, they're completely unlike other types of fires. Wildland firefighters are top professionals working in very dangerous conditions.' A highly experienced, retired forestry agent, Jesús Izquierdo, also spoke to us about wildland firefighters and the importance of this most singular of rural jobs: 'A fire in the Mediterranean is completely unlike a fire in Galicia, the material that's burning is totally different. We can't just use a standard method and apply it in every area. A window of opportunity can open where it's possible to stop a fire. Every firefight is a push to extend that window. That's where practices like "planned ignition", based on using fire to fight fire, come from. You have to understand the fire. Try to work out what it will do and get one step ahead. It's very different from putting out a fire in a car.'

Demanding serious recognition for dangerous work

The Wildfire Backup Forces (BRIFs) are an arm of the Ministry of the Environment that goes into action when it receives a request for help from one of Spain's Autonomous Communities – and the men and women who work for them put their lives on the line to stop fire from spreading. The BRIFs are known for their professionalism but also for the strike and march they held in 2015 that brought the wildland firefighters' grievances about working conditions to the attention of the general public. Although the BRIFs were set up in 1992, it was not until 2019 that they succeeded in persuading the Ministry of the Environment of the need to move away from having them on a temporary footing to working year-round on extinguishing and preventing fire. Before then, they had worked for only a few months a year.

It is impossible to ascertain how many wildland firefighters there are in Spain because competence in environmental and civil protection matters lies with the regional governments: the whole picture is a very complex jigsaw puzzle where each piece is a different set of circumstances. The bulk of wildland firefighters work for publicly or privately owned businesses that have agreements with the authorities; only a few of them are staff or officials employed by the autonomous community itself. Official statistics provide little help in determining the size of this particular workforce because many of its members are not even recruited as wildland firefighters, but as forestry assistants, drivers or even gardeners. For example, the firefighters in the BRIFs recruited by the publicly owned company TRAGSA, an arm of central government, described them in their contracts as 'forestry auxiliaries' until 2019. However, they are one of the elite bodies in wildland firefighting.

Most wildland firefighters earn low wages and have no recognised right to early retirement, while some are not even in work

⮥ Forestry agents clearing up the remains of a fire in the area of Villanueva de Viver, Castellón, which burned 4,700 hectares of forest in March 2023.
Photos: © Tania Castro

⮥ **A team from the BRIF, the Ministry's Wildfire Backup Forces, during a work drill in the area of Uña, Cuenca.** Photo: © Tania Castro

'For this group, there is no recognition of the occupational illnesses that are recognised for firefighters working for the state in other emergency response services.'

all year round. The dangers they face as a group are explained well by Carlos Martín, a wildland firefighter and CCOO trade union representative at the BRIF base in Serranía de Cuenca: 'There are forest fires all year, yet the main feature of this job is its precariousness and insecurity. In summer, we estimate that there are around 20,000 wildland firefighters working in the various state response services and that around 10,000 of them will be unemployed in October.

'These are people working for between four and ten months of the year for wages of between 1,100 and 1,300 euros who face significant occupational risks as a result of their involvement in emergency situations: exposure to high temperatures, inhalation of carcinogenic fumes, maintaining of awkward positions in stressful situations, etc. For this group, there is no recognition of the occupational illnesses that are recognised for firefighters working for the state in other emergency response services. And there's no corrective coefficient for them that allows them to retire at a younger age, nor are there any arrangements for them to move into another job when they are unable to pass the physical.' Martín concludes: 'A decent retirement is very difficult in this job.'

The group's invisibility and vulnerability are such that, in March, a push from the trade unions and heightened awareness at the Ministry of the Environment led to the tabling of a proposal for a law at the Congress of Deputies to approve a Basic Statute for Wildland Firefighters governing the rights and duties of wildland firefighters, the resources they must have, and the measures that should be put in place to ensure safety and coordination in their work. Mariano Sanz, Occupational Health and Environment Secretary of CCOO, explains: 'For the moment, the law providing for the creation of the Statute for Wildland Firefighters is stalled in the Congress of Deputies because of the early election, but it is absolutely vital and a matter of urgency for it to be approved so that a start can be made on providing this group of workers with decent working conditions.'

Progress is being made thanks to union action. For example, at the publicly owned Environmental Management Company of the Regional Government of Castile-La Mancha (CLM), the CCOO-Geacam union has opened up a hopeful-looking administrative route allowing wildland firefighters in CLM to take early retirement without loss of pension. However, the variation in circumstances is huge, so Mariano Sanz insists that approval of the Statute is essential to achieve harmonised working conditions, safety protocols, professional pathways and retirement conditions. 'We can't have first-, second- or third-class firefighters because they're all doing the same job,' Sanz concludes.

The traps of urban thinking about rural living

For most experts, the root causes behind the increase in wildfires lie in the disastrous interplay between climate change and rural emigration. Neither extensive livestock farming nor agriculture is profitable, so high temperatures and drought meet a combustible landscape. When fire meets unbroken, dry countryside, its speed rises fourfold, and its power is devastating. The statistics from the Spanish State Meteorological Agency (AEMET) leave no room for doubt where rising temperatures are concerned. In 2022, the entire Peninsula was 1.7°C warmer than the average for the benchmark period (1981-2010). Meanwhile, the average precipitation in 2022 was 16% lower than during the benchmark period.

Benito Serrano, a firefighter and forestry technician from the Consortium of Firefighters of Valencia in Requena explains: 'There will be more fires because we're not adopting any woodland management policies. The lack of intervention is generating huge amounts of fuel. The city-dweller approach to rural management isn't working. They are tying themselves to historical landscape practices to keep things as they are.' Vicente, a shepherd in Buenache de la Sierra (Cuenca province) describes the situation with surprising tact, given the impact it has on his life: 'Brussels is legislating for an enormous area that it doesn't know much about.'

Wildfire fumes are carcinogenic

The trade unions CCOO, UGT and CSIC have recently won a significant victory at the Andalusia Environment and Water Agency (AMAYA) on the recognition of wildland firefighters' exposure to carcinogens. The three unions lodged a report with the Labour Inspectorate requesting the inclusion of exposure to carcinogenic agents in smoke in the risk assessment for the 3,000 wildland firefighters working for AMAYA, leading the Inspectorate to establish the need for a study. A public body for risk prevention measured the presence of chemicals in controlled burns in 2021 in a rural area in Córdoba province. At least 11 chemicals classed as carcinogens, mutagens and/or reprotoxins were identified. Raúl Mena, a CCOO firefighter says, 'The smoke samples were found to contain Benzene, Toluene, Benzo[e]pyrene, p-Xylene and a further seven toxic products that unquestionably require action implementing new personal protection measures and health surveillance protocols to detect potential harms caused by these agents.'

As the company failed to take any measures, the unions had to lodge another report with the Labour Inspectorate, which found there was a requirement to act. Workers are currently waiting for the company to present the risk assessment for exposure to chemical risk and the health protection and surveillance measures. 'We've already rejected the risk assessment twice because it was incorrect,' Mena explains. 'Third time round, we hope the company will comply with the law and protect the workers, whether they are currently working for them or have already retired, because the illnesses we are talking about can emerge many years down the line.'

↻ **Wildland firefighters work drill in the area of Uña, Cuenca.**

↴ **Livestock in the mountain area around Cuenca.**
Photos: © Tania Castro

↴ **Jesús Izquierdo, retired forestry officer, Barracas, Valencia.**
Photo: © Tania Castro

Climate change has heightened the difficulties of a very complex issue, and many rural workers are of the opinion that the solutions proposed ignore the particularities of the terrain. 'Governments seem unable to understand that agricultural and livestock farm improvements are a key part of fire prevention,' explains José, a forester who is earning just over 1,000 euros for removing the trees that were burned down in the recent fire in Villanueva de Viver (Castellón province). 'The few rural inhabitants who have not left the countryside encounter umpteen pieces of red tape that come from a protectionist mentality which views the countryside as mere scenery. If you find a species that's protected under the Natura 2000 network[1], you can't make any land improvements, or if you have more than 35 trees on your plot, you have to have a project designed by a forester for anything you do. People can't afford it, lose heart and leave.'

José's circumstances make him vulnerable on two fronts: he spends just a few months 'cleaning up' the countryside while the subsidy the company receives is in place, and then he must take on any other work that crops up in his free time because he doesn't know how long his current employment will last. The physical working conditions are extremely harsh under the August sun. The day he speaks to us, the windscreen of the van taking them to the countryside had broken when a severed branch fell on it. His colleague saw the incident as a very serious failing on his own part rather than as an understandable oversight in a working environment with temperatures of more than 30 degrees.

We also speak in person to a number of the firefighters in the Serranía de Cuenca BRIFs. The working day has ended, and they sit down with us to share stories of their difficult working lives, telling us what it is that makes them put up with such very harsh and poorly paid working conditions. We are left with the clear impression that what keeps them going is the feeling that their work is truly meaningful, because saving the natural world is beyond price. One of the major positives is the profound sense of teamwork that comes from all 16 of them gambling their lives together: 'When we get that call, it doesn't matter if things are good or bad; we are all one family. It'll be 43 degrees, and the moment will come when the water runs out, and our camaraderie will be the thing that saves our lives.' They don't talk about the mental health dangers, but they do mention the psychological pressure they face each day: 'You go to work without knowing whether you'll go home to bed. Once we get that call, you never know what might happen. You know you're off to a place where people die.' ●

1. A network of natural areas protected by EU legislation.

Waste not, want not: the problem with the EU's 'circular economy'

The business of waste management is riddled with substandard working conditions, toxic health hazards, and unsavoury bilateral deals on dumping. The 'circular economy' vision promises a more sustainable process of product recycling, but there remains a substantial gap between ideals and reality in the EU's current programme.

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The shift to a circular economy is one of the flagship policies of the European Union's Green Deal, promoting a move away from a linear throw-away culture *(extract, make, dispose)* to a circular sustainable economy *(recycle, reuse, remake, share)* – meaning that waste should become a resource rather than something to get rid of.

In theory, the circular economy is based on the 'waste hierarchy', in which the priority is waste avoidance. As such the aim is to keep materials and resources in the product cycle for as long as possible. The logic is simple: the more that is re-used the less that is discarded, and the fewer raw materials that need to be extracted. In practice, however, the EU's Circular Economy Action Plan (CEAP) is based on a green growth agenda, which facilitates the generation of more and more waste. The CEAP focuses on recycling rather than re-use and repair, and most strikingly it offers nothing concrete on waste avoidance. It is therefore no surprise that the quantity of waste in Europe keeps increasing.

Too often the discourse around the circular economy is all about recycling, with political and public attention focusing in particular on the recycling of household waste. However, this waste counts for just over 8% of the total waste generated in Europe; more than half of Europe's waste is in fact mineral waste, meaning waste coming from mining and quarrying as well as from construction and demolition. The EU has set a target of recycling 55% of municipal (household) waste by 2025, and most EU countries are not on track to meet this. Even if they were, however, a closer look behind the numbers reveals how far away we are from a recycled economy, especially when it comes to plastic waste. The fact is that recycling rates are based on the amounts of plastic waste that are separated and collected for recycling, not the amount that is actually recycled. Most of Europe's plastic waste is still burned, usually in the growing number of waste-to-energy incinerators. This is not only an environmental issue but a social one, with the treatment of vast amounts of waste incurring health costs to workers and communities.

Workers in recycling are exposed to long hours, few breaks and monotonous tasks in a noisy, smelly and confined environment.

1. See Further reading, p. 45.
2. Llorente-González L.J. and Vence X. (2020) How labour-intensive is the circular economy? A policy-orientated structural analysis of the repair, reuse and recycling activities in the European Union. Resources, Conservation and Recycling, 162, 1-11.
3. Eurostat (2020) Türkiye: main destination for EU's waste.
4. Confederation of European Waste-to-Energy Plants (CEWEP) (2020), CEWEP statement on so called "lock-in" effect and Waste-to-Energy capacity planning in the Circular Economy.

Who is dealing with all this waste?

When workers have been considered in discussions around the circular economy it has mostly been in relation to the job creation potential of the projected transition. This assumption is based on the simple calculation that circular economy activities (namely recycling and repair) are labour intensive, so job losses resulting from the move away from the linear economy should be offset by overall gains (a debatable argument). What there has been less discussion of, however, is the nature of this work. In previous studies that I wrote for EPSU[1] I showed that the circular economy agenda has largely ignored the working conditions of employees in the sector.

While there is unfortunately still not a large body of research into working conditions in the circular economy, the few studies that are available reveal a grim picture. Workers in recycling are exposed to long hours, few breaks and monotonous tasks in a noisy, smelly and confined environment. Research also indicates that most of the workers in recycling plants are migrants, and typically paid the minimum wage (or even illegally below that). When it comes to the re-use and repair sector the research gap on working conditions is even more severe. One recent study[2] has nevertheless shown that unpaid and low-paid work has increased significantly in this sector, particularly in the repair of machinery and metal products. This study also highlighted the fact that in the repair sector 'many of the independent repairers are, in practice, outsourced employees of the original manufacturers, which implies a covert precarious labour relationship'. It would seem that the circular economy in fact exacerbates existing labour market inequalities.

Another important point is that the EU's circular economy is export dependent. In 2021, the EU exported around 33 million tonnes of waste, most of it going to poorer, less developed countries with weaker environmental standards and less protection for workers' rights. According to Eurostat[3], exports of waste from the EU to non-EU countries increased by 66% between 2004 and 2018. Until 2018 almost all of it went to China, until China banned imports that did not meet new purity standards. This waste burden was soon picked up by others: 2019 saw a threefold increase from 2004 in EU waste going to Turkey (around 11.4 million tonnes), while India and Indonesia are also receiving a large portion. Paradoxically, European countries that are supposedly leading in terms of recycling, such as Germany, are sending their waste to countries that are already overwhelmed with their own waste and have very low recycling rates and no proper recycling infrastructure.

In theory, only waste that is recyclable and already sorted is allowed to be exported. However, our waste is already contaminated when it starts its journey, and shipping it across the globe only increases the contamination as storage conditions are generally optimal for the growth of harmful bacteria. This not only reduces the recyclability of the waste, it also leads to increased risks for the workers that are exposed to these dangerous substances. Countries with weaker environmental and precarious labour standards thus become a 'dumping ground', while waste trade is used to displace an environmental and social issue by the countries in the Global North – an aspect of circularity seldom discussed.

Is 'waste-to-energy' the answer?

The generation of energy from the treatment of waste (waste-to-energy, WtE) may sound like a good idea for addressing two environmental problems at the same time: too much waste and too little clean energy. Yet in reality it neither contributes significantly to energy production nor is it environmentally friendly. In 2018 WtE contributed around 2.4% of the energy in Europe, according to Eurostat. Almost all of it came from municipal waste. Due to its low energy productivity even the Confederation of European Waste-to-Energy Plants (CEWEP), admitted that WtE doesn't make sense as an energy source alone[4].

Figure 1 — The waste hierarchy
Source: adapted from Weghmann (2020) Safe jobs ..., EPSU (UNEP).

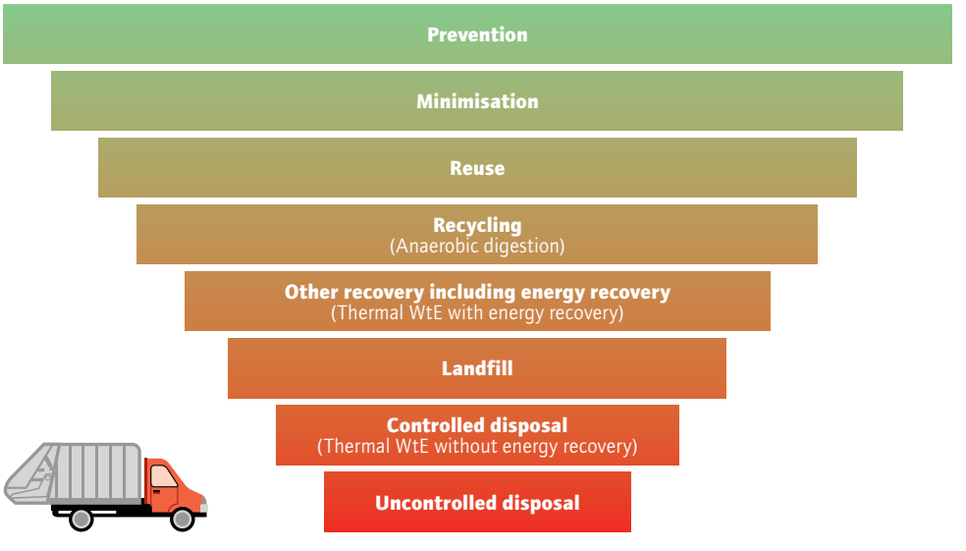
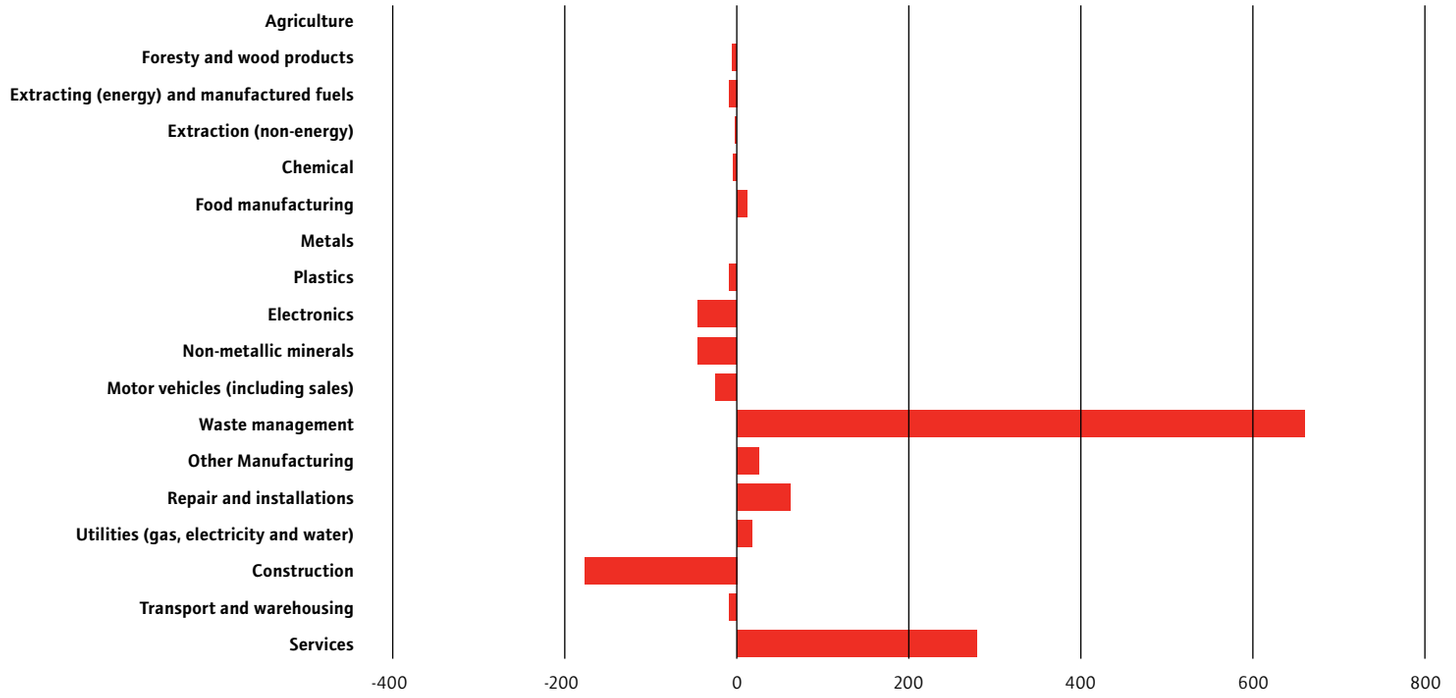


Figure 2 — Expected circular economy job impacts across the EU28 sectors by 2030
Source: adapted from Weghmann (2020) Safe jobs ..., EPSU (E3ME, Cambridge Econometrics).



Incinerators are three times more likely to be located in the poorest and most racially mixed areas than in the wealthiest, whitest ones.

WtE is in fact at odds with the circular economy. First of all, WtE plants burn mostly recyclable or compostable waste. Secondly, WtE plants require a minimum amount of waste in order to be able to operate. Largescale incinerators need to be fed about 100,000 tonnes of municipal solid waste a year. As such, WtE creates a dependency on waste which contradicts the principle of waste avoidance. The United Nations Development Programme (UNDP) has warned of a 'lock-in effect' in which the need to fill WtE incinerators hampers efforts to reduce, reuse and recycle. This risk is enhanced when WtE is privatised. Incinerators are expensive to build, so in order to recover their investment costs and make a profit, companies often demand very long-term contracts with municipalities stretching over decades (20-50 years). These contracts usually bind municipalities to delivering a minimum quantity of waste or to paying compensation fees if they fail to deliver.

Globally but also within Europe, we are seeing a rise in new WtE plants, with many countries needing to import waste in order to fill their incinerators, effectively creating a scramble for incinerable waste. However, WtE has negative environmental and social consequences. In 2019, WtE incineration emitted 52 million tonnes of carbon dioxide, which is more than the annual greenhouse gas emissions of Portugal[5]. The health of residents living nearby is in particular negatively affected, and a recent study by Greenpeace[6] showed that incinerators are three times more likely to be located in the poorest and most racially mixed areas than in the wealthiest, whitest ones. As such, WtE incinerators risk deepening the health inequalities already existing in Europe.

5. Hockenos P. (2021) EU climate ambitions spell trouble for electricity from burning waste. https://www.cleanenergywire.org/news/eu-climate-ambitions-spell-trouble-electricity-burning-waste
6. Roy I. (2020) UK waste incinerators three times more likely to be in poorer areas. https://unearthed.greenpeace.org/2020/07/31/waste-incinerators-deprivation-map-recycling/

OSH risks for waste workers

- **Waste collection workers** face higher risks of accidents than the general working population, such as being struck by moving vehicles and musculoskeletal injuries.
- **Sanitation workers** face a particularly high exposure to dangerous biological agents; this was amplified by the Covid-19 pandemic.
- Studies have found that **incinerator workers** have heavy metals and other toxins in their blood and urine. Even new waste incineration facilities generate emissions and ash that contain heavy metals and other hazardous substances.
- **Repair and recycling of electronic products** exposes workers to toxic and radioactive materials contained in electronic waste. Research has shown that children of metal or battery recycling workers have elevated blood lead levels from dust carried home on their parents' clothing.
- **Recycling and re-use of plastics** involves high levels of water usage and it generates harmful air pollutants and waste residues.
- **Glass recyclers** have reported increased nasal and chest symptoms from presumed exposure to harmful particles.
- **Textile recycling** is associated with high exposure to cotton dust and endotoxin.
- **Workers in composting** are particularly exposed to risks when the waste is sorted and shredded – studies have showed that Salmonella and Escherichia coli can be caused by biomass.
- In **wood recycling** factories there is a risk of excessive exposure to dust as well as airborne micro-organisms, particularly fungi and bacterial endotoxins, potentially leading to irritant-induced asthma.

Adapted from the report 'Safe jobs in the circular economy. Health and safety in waste and wastewater management', Weghmann, EPSU, 2020.

Circular economy efforts need to make waste prevention the priority – in actions and not just on paper.

A public issue that needs public solutions

First and foremost, circular economy efforts need to make waste prevention the priority – in actions and not just on paper. The city of Ljubljana has demonstrated that a circular economy waste management system that prioritises waste prevention is possible. Not long ago Slovenia had one of the highest landfilling rates in Europe. Now Ljubljana is a one of the continent's leading zero-waste cities. One of its pioneering initiatives is packaging-free vending machines for basic household items that provide re-fill opportunities all over the city. It also modernised its publicly owned and operated waste management system. The Regional Centre for Waste Management (RCERO) treatment plant, funded by the EU Cohesion Fund as well as national and municipal investments, began operations in 2015 and strictly follows the waste hierarchy. Only around 5% of the waste treated in the RCERO is landfilled, the rest is recycled through mechanical treatments, with the unrecyclable materials being processed into fuel, and bio-waste into compost.

Next, in order to achieve higher recycling rates – meaning waste actually recycled and not just collected – Europe needs to substantially improve its local recycling capacity. The long duration between collection and recycling, especially due to long shipment periods, decreases the recyclability of the waste and makes it more hazardous for workers to treat it. By localising recycling Europe will decrease its dependency on waste exports, thereby taking responsibility for its own waste and not displacing the problem to countries that usually have weaker environmental and labour standards.

Finally, it is evident that the workers on which the circular economy relies are currently ignored in the principles that guide the EU's Sustainable Product Initiative, among others. Yet some of the health and safety risks for these workers could already be taken into consideration in the design and production stages of the goods that will end up as waste: for example, making it mandatory to clearly mark hazardous material in a product and integrating systems for safe dismantling into the product design. As such, the EU's circular economy proposals need to not only advocate for eco-design – a commitment in the CEAP which is to be welcomed – but also 'fair-design'.

In order to produce and consume within the means of our planet, production and consumption (and thus waste) must quite simply be reduced. In short, sustainable growth is an oxymoron; to truly achieve a circular economy and a healthy planet, waste avoidance needs to be put at the centre of policymaking. ●

FURTHER READING

Weghmann V. (2023) Waste management in Europe, EPSU.

Weghmann V. (2020) Safe jobs in the circular economy. Health and safety in waste and wastewater management, EPSU.

Insorgiamo! The Florentine factory workers who rose up

Angelo Ferracuti
Writer

This is the story of the longest sit-in protest in the history of the Italian labour movement. A group of workers at the former GKN auto parts factory in Campi Bisenzio, on the outskirts of Florence, came together to form their own cooperative and eventually devote their energies to new forms of sustainable and eco-friendly production. Writer Angelo Ferracuti pays a visit to find out more about the collective's vision as well as the rich connections it has formed with many literary figures.

In March 2023, I took part in the first ever Working-Class Literature Festival at the 'factory collective' of the old GKN factory, located in a suburb surrounded by shopping centres. For my reading in the morning, where factory lines and machinery had once stood, 400 people showed up. In the evening, more than 2,000 people convened for a dialogue between three of the leading lights of the English literary scene: Anthony Cartwright, Cash Carraway and D. Hunter. But now, on a quiet day months later, I look upon a partially deserted scene. Banners are festooned across the gates of the factory, and there is an air of desuetude and abandon.

Inside, however, a dozen or so workers from the collective hold the fort day and night, keeping watch over the entrances and exits from their vantage point in the porter's lodge. The factory used to produce axle shafts for the Fiat Ducato on behalf of the Stellantis corporation. But on the evening of 8 July 2021, its 500 workers received an email from the British hedge fund Melrose Industries Plc informing them that they were being let go. Although production was going well, the company owner was intent on boosting profits and relocating the plant, likely to a country where staff numbers could be cut back and labour costs kept to a minimum. The workers immediately joined together to convene a permanent assembly and form a barricade to protect the machinery. The municipality of Campi Bisenzio issued an order to prevent the trucks from being taken away from the site, and in late 2021 an employment tribunal ruled in favour of the Italian Metalworkers and General Confederation of Labour Unions (FIOM-CGIL), finding that the company had discriminated against the workers and that the mass redundancies should be overturned.

With the Ministry of Economic Development and the Region of Tuscany acting as mediators, Melrose Industries sold the factory to the financier Francesco Borgomeo, who was tasked with implementing a reindustrialisation plan. However, in July 2023, following months of stasis and exasperation, some 30 or so former GKN workers climbed to the top of San Niccolò tower in Florence to stage a protest. This struggle is detailed in a memo written by their union representative: 'We didn't start here – this is where we've ended up after a two-year struggle and eight months without pay. People within the system claim that they are powerless to do anything, but in reality, they are just disguising their own complicity. But we will continue to organise our struggle in different ways, putting forward our ideas for the plant and demanding that our fundamental rights are respected.'

'We didn't start here – this is where we've ended up after a two-year struggle and eight months without pay.'

A green vision for the future

Late in the afternoon, Dario Salvetti arrives from Florence on a motorbike. Bespectacled and bald, with a carefully trimmed goatee and moustache, Salvetti is a spokesperson for the collective: 'In December 2021, the redundancies were overturned. And yet, despite this victory, we didn't go back to work – because there was none. What we returned to find was a factory that had vanished into thin air, an empty box of a building. A shut factory is a violation of its very essence – after that, you are nothing, you are nobody. So we kept up the permanent assembly and devised our first idea to regenerate the factory from the bottom up'. The initial project was about using state intervention to build a sustainable mobility hub to manufacture public transport vehicles. 'Soon after, the public sector comes in, buys the factory and starts working on some bogus plan to reindustrialise the site,' he says. 'They empty the factory and promise to bring in new machinery. But while you're waiting for the new factory to materialise, you're left in limbo and the old one disappears.'

The following year, in autumn 2022, the workers set up a joint scientific and technical committee involving all the people they'd liaised with since their struggle began. They started work on a new industrial plan, and two ideas emerged. Salvetti explains: 'One, a start-up that specialises in renewable technology for solar panels and batteries without the use of rare materials, and two: a sustainable mobility project involving the production of cargo bikes, which would give us autonomy over our production.' Meanwhile, a support network was established for the workers' cooperative, including environmental movements with a wide range of stakeholders from the energy community, along with university researchers and diverse associations.

The ambition is to create Italy's first socially integrated and sustainable factory, and one of the most advanced production and social experiments in Europe: a new industrial park with green projects, following the sustainable development plans outlined by international organisations such as the Intergovernmental Panel on Climate Change and the International Energy Agency. The first part of the plan is to transform the old activity of auto parts production into the generation and storage of 'clean' energy, developing electrolysers for the production of hydrogen with the help of collaborative robots and sensors. Such projects are consistent with plans in Italy's National Recovery and Resilience Plan (NRRP) to access funding for energy conversion, as well as being in line with the European hydrogen strategy, in which the share of hydrogen in the EU's energy mix is projected to grow from 2% to 13-14% by 2050. The factory collective's second form of radical conversion to clean energy production is the production of components for photovoltaic systems.

Salvetti explains: 'We formed a cooperative, the GFF, which also includes our after-work mutual support society: *Insorgiamo* ('we rise up'). We launched a crowdfunding initiative entitled "ex-GKN FOR FUTURE", which has now raised 173,640 euros – far in excess of the 75,000 euros we had hoped to raise. The aim is to create a popular shareholding structure that includes everyone who helped to support the factory.' Salvetti notes, with satisfaction, that 'the first prototypes for the cargo bikes have already hit the streets of Florence. Once the capitalisation is complete, we can order the machinery and roll out production by the end of the year.' Although there are manifold unknowns, the idea is to engineer a successful political litmus test: a template for similar industrial realities which, through their struggle, manage to avoid being wound up.

↳ **Collective member Simone Cagnolini and novelist and CGIL activist Simona Baldanzi in the Dopolavoro bar.**
Photo: © Angelo Ferracuti

The ambition is to create Italy's first socially integrated and sustainable factory.

↴ **Outside the old GKN automotive factory, on the outskirts of Florence.**
Photo: © Angelo Ferracuti

In the words of the collective: 'This resistance has become a project. It has given birth to a reindustrialisation plan from below, with the aims of bringing back lost jobs to the region, creating a socially integrated factory at the service of the community that has defended it, and restarting production in an ecological manner, with a cooperative and socially advanced decision-making structure. This plan does not fall from the sky, but comes out of two years of postponement and inaction from private capital.'

A festival inside a factory

Marco Jacobelli is 29. Curly-haired, garrulous and fast-talking, he moved from Naples in 2015 to begin work at the factory. He had no prior experience of political struggles: 'Initially, despair gave way to anger,' he tells me from a table at the bar of the afterwork club. 'The local institutions simply do not have the tools to defend us. What we're crying out for is a law against offshoring. We drafted one with magistrates and legal experts and submitted it to parliament. After Melrose took over the factory back in 2018, the owners' sole objective was to optimise costs and maximise their profits. But what they didn't reckon with was just how well organised we were. We've had trade union representation since 2009. 80% of our workers are union members, with representatives in every department. We got together and got organised. We had a WhatsApp group. All it took for us to band together that morning was one message.'

As the collective mobilised, it also began to link its struggle to a broader context of culture and communication and the struggles of other crisis-ridden institutions. So powerful were their endeavours that they managed to subvert firmly established notions. With a single rallying-cry – *We rise up* – they shed light on a world of work that had been carefully expunged by neoliberal rhetoric. Jacobelli continues, 'Right from the start, we deliberately set out to avoid what had already been done before. We sought to explore new fields of action, even changing the language we used – especially the language.'

Writer Alberto Prunetti, a tall, corpulent man with a bushy beard, is the creative director of the Working-Class Literature Festival. His literary debut was the reportage novel *Amianto* ('Asbestos', published by Alegre in 2014 and Feltrinelli in 2023), which tells the story of his father Renato, a journeyman welder who died of mesothelioma, a form of lung cancer. Alongside Simona Baldanzi and Stefano Valenti, he is in the vanguard of new working-class literature in Italy. Prunetti explains: 'I came to the GKN fight as an activist, when after the mass redundancies I received a message inviting me to attend the rally on Piazza Santa Croce in Florence. But I'd already met a few of the workers. I knew that it was one of the strongest and most unionised factories in the area.'

The workers started talking about a 'cultural convergence', and some of them involved in cultural events started to organise a few meetings. Prunetti goes on: 'After attending the Working-Class Writers Festival in Bristol, I returned to Italy with the intention of doing something similar here. I discussed it with Alegre, the publishers, but we failed to gain traction in the world of publishing and the project foundered. However, a year later, we decided to go ahead and started a crowdfunding initiative. Straight away, the response we got was remarkable, but it was all very difficult. The clash between the world of the working class and the cultural sphere was ruffling a few feathers. It was clear from the newspapers that there were possible threats of legal action.' For Prunetti, professional development is not only about being productive, or 'the kind of training that you have to undergo to get the most out of you; workers must also have the right to learn about the poetry of Eugenio Montale or opera.' The festival was unlike anything people might have expected: 'For many people, it was unsettling. There were plenty of teachers and ordinary folk who were dying to understand what was going on inside that factory. There was this vibrant, collective energy,' Prunetti goes on, getting a little emotional now.

'The working classes are writing their own story'

In *Non è un pranzo di gala* ('It's not a gala dinner', published by Minimum Fax in 2023), Prunetti describes literature's attempts to reconstruct an image of the working class following the occupation: 'After two months or so, everyone is talking about the working class, and primary school children in Florence sing the GKN anthem by heart. [...] They worked together as labours, collectively, while us writers, even when describing the working classes, often ended up working as the bourgeoisie, that is to say individually.' But it was nevertheless from the relationship between the factory collective, former activists on the radical left and writers such as Prunetti and Simona Baldanzi, together with the publishing house Edizioni Alegre, that the festival in Campi Bisenzio arose.

While liquidators were threatening to get the police involved and take draconian legal action, staging a literary festival in an occupied factory was a hugely symbolic act and quite unprecedented in Europe. Inside the plant, political militants, trade unionists and ordinary people sought a new social

connection, a collective existence and a greater sense of meaning. In the newspapers and on TV, people simply had no choice but to talk about the factory and the plans for regeneration, with headlines such as 'The working classes are writing their own story', 'The working classes take on literature' and 'The working classes are reading'.

Simona Baldanzi is a novelist and long-serving activist in the General Confederation of Labour Unions (CGIL). She argues when we meet that the workers at Campi Bisenzio derive their strength from being in a collective, and talks about their flash publication *Insorgiamo* ('We rise up', published by Alegre): 'Here, there was an exchange of experiences, memories, actions; there is no real leader as such. This concept of the collective has been reshaped via the narrative and numerous discussions on social media. It was about humility and being able to recognise one's own limits. The festival arose out of the book.' Baldanzi goes on to describe how, having been notably absent from the region over the past few years, a sense of pride in the workers has returned: 'Feelings of a democratic Florence, a left-wing Florence, have been rekindled. There's a renewed sense of mutualism, of give-and-take.'

But why did it happen here exactly? Serving his comrades from behind the counter of the bar is Simone Cangiolini, a slim and slender-faced man with his hair tied back in a ponytail. He offers an explanation: 'Many of us come from the social centres, while others have experience of the political battles that were fought in Florence and the wider region. When the time came for our own struggle, we felt a surge of pride. We felt that *now was the time to rise up, this time we can't let it go.* There was a general sense of determination that was infectious. The social exploitation to which we had been subjected felt acutely personal, and triggered a remarkable impulse: a desire for redemption through a social collective.' ●

↑ **Collective spokesperson Dario Salvetti.**
Photo: © Angelo Ferracuti

While liquidators were threatening to get the police involved and take draconian legal action, staging a literary festival in an occupied factory was a hugely symbolic act.

The hidden cost of our morning brew

Every morning, millions of cups of tea are brewed, sipped and enjoyed worldwide. The global tea trade is vast, with tea second only to water as the most consumed beverage globally, and it is an industry that has always been heavily dependent on manual labour. Kenya is one of the biggest suppliers of tea leaves, employing more than a million tea farmers and pluckers. However, stuck at the sharp end of volatile supply chains, many of these workers are struggling to stay above the poverty line.

Valerie Hirschhauser
Founder of Frank about tea

Many workers, predominantly women, are working hard but remain trapped in poverty.

On an early August morning in 2021, the mist still lingering above the tea bushes gracing the slopes of Mount Kenya, I walked into one of the many tea leaf collection centres in Kangaita, Kenya, where a training session was taking place. It was dead silent apart from the teacher, whose voice held the attention of the 25-plus attendants. I slipped unnoticed into one of the few remaining chairs in the makeshift school building. This was a 'Farmer Field School' (FFS), a 12-month training programme sponsored by the social enterprise that I had co-founded, for groups of up to 30 tea farmers. Farmers select their own training topics, which range from climate-change mitigation to tea-pruning techniques to growing your own food garden. This session was focused on income diversification away from tea growing. Despite the majority of farmers in the area being male, more than 70% of the school attendants were female. I remember that the hunger for learning was palpable in the room.

The phenomenon of in-work poverty

Kenya is the largest exporter of tea globally, with an estimated 1 million small-scale tea farmers, of which more than 60% are managed by the Kenya Tea Development Agency (KTDA), a private Kenyan company supporting smallholder farmers in producing, processing and marketing their tea through their management services. These smallholder farmers comprise the majority of Kenyans working in tea, while 30-40% are employed on tea estates (large plantations).

The distinction between smallholder farmers and tea estate workers lies in ownership and autonomy. Farmers own land and diversify their income sources, while estate workers are employed, receive fixed wages, and according to the Employment Act of 2007 should be provided access to adequate housing and services by their employers. Despite these legal obligations, conditions have been found to vary between estates.

Smallholder farmers face challenges in the tea industry for different reasons. The beginning of 2023 saw some apparently positive developments: record 'high' tea prices at the Mombasa tea auction and increased green leaf prices of up to 21 Kenyan shilling per kilogram (13 cents), as well as unprecedented legislation establishing a minimum price per kilogram of tea[1]. Yet despite these moves within the industry to enhance tea farmers' income, monthly earnings remain far below the estimated living income level for rural Kenya (19,372 Kenyan shillings, or 123.50 euros)[2]. With an average 2,700 kilograms of green leaves produced per year per average farmer with 0.5 acres of land under tea cultivation, this amounts to less than 5,000 Kenyan shillings (31.90 euros) monthly earnings on average (excluding potential bonuses). Most farmers only barely scrape it past the rural poverty line.

Many workers, predominantly women, are working hard but remain trapped in poverty. This phenomenon is particularly concerning in profitable supply chains, where large corporations or entities might be making significant profits, but the workers at the base of these chains, who are integral to the production process, are not seeing the benefits in terms of fair income. Grace Gathoni, one of the 94 female farmers attending one of the five Farmer Field Schools running in Kangaita in 2021, described the situation to me: 'The work is very hard on the body. We can maybe earn enough for food, but there is no savings, and no money left for other things to improve our life'.

While income might cover basic survival needs, investments in improved living conditions or children's education remain outside the realm of possibility for most small-scale tea farmers. This lack of upward mobility means farmers are trapped in their economic status, with little hope of improvement. The problem is systemic and perpetuated by global market dynamics. So who is to blame?

1. Cowling N. (2023) Tea industry in Kenya – statistics and facts, https://www.statista.com/topics/8363/tea-industry-in-kenya/#topicOverview

2. Living wage for rural Kericho, Kenya, https://globallivingwage.org/living-wage-benchmarks/living-wage-for-rural-kericho-kenya/

↴ **'The work is very hard on the body.' Female farmers plucking leaves, Kenya.**
Photo: © Frank about tea

↑ **Tea farmer outside her home in Kenya.**
Photo: © Frank about tea

Slavery is thankfully no longer a major issue in today's tea industry; however, structurally low prices are.

At the mercy of the tea auction system

Tea prices are and always have been at the mercy of corporations and brokers buying up large quantities of tea through the tea auction. The tea auction system, originating in colonial times, began with London's first auction in 1679. As tea production grew in British colonies in India, Sri Lanka and Africa, regional auction houses emerged. This system was both a commercial innovation and a colonial control tool. Tea producers (i.e. local factories) send their tea to auction centres where buyers, representing various companies, bid for the tea. The highest bidder wins the lot. Today's major centres include Mombasa, Colombo, Kolkata, Guwahati and Chittagong.

The auction system is considered transparent as it allows for price discovery based on real-time demand and supply. However, large corporations tend to have significant buying power at these auctions. Their demand can single-handedly influence the price of tea and therefore the livelihood of the millions of small-scale tea farmers dependent on it. Ekaterra Tea Kenya (so renamed following the sale by Anglo-Dutch conglomerate Unilever of its tea division), is not only the world's largest private buyer of Kenyan smallholder tea, but also Kenya's largest producer, making them, with 20,000 employees, the biggest private sector employer in the country. This dual role enables companies like Ekaterra to control the full spectrum of the supply chain, from production and distribution to the purchase of tea at auctions. This is highly problematic for both workers' rights and the bargaining power of other supply chain actors.

It is evident that the legacy of the colonial trading systems, both in terms of power dynamics and labour practices, continues to influence the global tea industry today. Visiting the tea auction in Mombasa a few years back, I was surprised by both its efficiency and its anonymity. Lot numbers and prices determine the fate of tea farmers like Grace, letting one easily forget the many human hands that have touched the leaves that are up for auction. The auction is an instrument that makes trade on a global scale possible, but it largely ignores the interests of farmers, and the echoes of oppression still resound through its chambers.

From slavery to structurally low prices

Slavery is thankfully no longer a major issue in today's tea industry; however, structurally low prices are. Unlike indentured labour that was common among tea plantation employees in the past, small-scale tea farmers are landowners and technically have the autonomy to choose whether to stay in the tea trade or abandon it for other, more profitable crops. The main reason most small-scale tea farmers keep their tea bushes is simple: they cannot afford to replace them. Tea means cash in hand every month, even when the costs often exceed the earnings made. Growing a new crop, like coffee, will take up to four years before the bushes generate any money. That is a decision far too risky and expensive to take for farmers already living on the edge of subsistence.

Grace and her Farmer Field School classmates chose the topic of income diversification for a reason. Without the power to influence the price paid for their green leaves, nor the means to substitute tea with more profitable crops on their one acre of land, the only remaining option to improve their income is to substitute it with other activities that don't take up valuable farmland, such as goat rearing or honey production. Often farmers form their own cooperatives to pool their already limited resources in order to afford the start-up costs of income-diversifying activities.

While the inventiveness of these farmers is impressive, and their determination to bring food to their family tables relentless, the fact is that tea as an industry is broken if it does not enable all its stakeholders to afford a decent livelihood. Meanwhile, downstream in the supply chain, corporations like Unilever and Tata add value to the bulk tea bought at the auction through branding, packaging, blending and marketing. This value addition significantly increases the retail price of tea but it does not trickle down to farmers like Grace.

These systemic faults are not limited to Kenya's industry. In Sri Lanka, another major player in the global tea market, the situation isn't much brighter for the tea estate workers that form the majority of the industry workforce there. Despite their crucial role in producing the famed Ceylon tea, many face low wages and limited access to essential services. The government set a daily wage rate for tea estate workers through the Minimum Wage Board in 2021, which comprises a basic pay rate of 900 Sri Lankan rupees and a cost-of-living allowance of 100 Sri Lankan rupees. Yet this amount is less than half the suggested living wage standard for the tea estate sector. While a handful of tea estates do offer adequate in-kind benefits, most fail in their attempt to provide workers with adequate housing, sanitation and healthcare.

Can demand for ethical teas change the system?

In recent years, Europe has witnessed a surge in fair trade and ethically certified teas, a trend that ostensibly bodes well for the countless tea farmers across the globe. Kenya, as one of the world's leading tea producers, has been at the forefront of this movement, with numerous tea estates and smallholder farms obtaining fair trade certification. This certification ensures that Kenyan tea farmers receive a minimum price for their produce along with an additional premium to invest in community development projects.

However, beneath the surface lies a more complex reality. While the underlying intention is noble, certifications have not been very successful in alleviating poverty among the communities they aim to support. A closer examination reveals some structural challenges. Many of the requirements set by fair trade certifications – such as transparency and accountability standards, as well as audits by paid external auditors – are out of reach for growers with limited resources. Smaller producers, often the most in need of support, often find themselves in a catch-22 situation. The fees associated with obtaining these certifications can be prohibitive, along with the additional costs associated with complying with fair trade criteria, such as training and infrastructure improvement. This effectively excludes these producers from the economic benefits the certification system promises. Finally, a large part of the premium that brands and buyers pay for fair trade certification gets absorbed by admin and overhead costs at both the certification organisation and the farmer cooperative.

As a result, the economic impact of the fair trade scheme on farmers and growers comes to less than 0.27 dollars per person per day[3]. How will this meagre amount alleviate structural poverty? Merely slapping on a fair trade label without changing the underlying structures won't upend deep-rooted power imbalances. Neither are fair trade labels always a guarantee of fair wages and working conditions: a May 2023 investigation by The Guardian revealed that workers on 10 Fairtrade- and Rainforest Alliance-certified tea estates in Sri Lanka reported squalid living conditions and wage shortages[4].

EU Directive: a beacon of hope?

In the corridors of the European Commission, a glimmer of hope has emerged for Grace and her peers. The draft of the Corporate Sustainability Due Diligence Directive (CSDDD) promises that companies will be held accountable for their actions on human rights and the environment, including along their global value chains. There is a fear, however, that the labyrinthine nature of the directive might inadvertently lead to small-scale farmers being disadvantaged, as companies, in their quest for simplicity, are likely to gravitate towards larger suppliers who can more easily comply with its rules. The true essence of the CSDDD will not be fully revealed until we see how the words on paper will translate into action on the part of corporations. It will also be up to farmers to seize the promise the directive holds.

Yet true change demands more. In order to cover the real costs of ethical and sustainable tea production, not only do retail prices need to increase significantly so that in absolute terms more money is available to trickle down to farmers, but value also needs to be distributed more evenly along the entire supply chain. ●

3. Calculated using the latest 2021-22 Fair Trade report https://files.fairtrade.net/publications/Fairtrade-International-Annual-Report-2021-2022.pdf

4. 'We give our blood so they live comfortably': Sri Lanka's tea pickers say they go hungry and live in squalor, *The Guardian*, https://www.theguardian.com/global-development/2023/may/23/we-give-our-blood-so-they-live-comfortably-sri-lankas-tea-pickers-say-they-go-hungry-and-live-in-squalor

Newsflash

Job Quality Index reveals deteriorating job quality in several countries

The update of the European Job Quality Index (JQI) reveals some worrying developments, with several well-performing countries noting a drop to the bottom of the country ranking of working conditions, such as Greece, Spain and France.

The JQI is built around six main dimensions: (1) income quality; (2) forms of employment and job security; (3) working time and work-life balance; (4) working conditions; (5) skills and career development; (6) collective interest representation. Since its creation by ETUI researchers 15 years ago, it has been considered as one of the most relevant tools for comparing the quality of jobs held by workers across EU countries and is capable of analysing trends in job quality over time.

Looking at changes in working conditions over time, three countries – the Netherlands, Estonia and Germany – emerge as relatively consistent champions, while Cyprus has repeatedly turned out a relatively poor performance. The biggest improvements over time are noted in Italy, Denmark and Austria, while Spain, France and Greece have all experienced a steady decline in the quality of working conditions.

'The growing recognition that the quality of jobs is central to tackling the rising social and economic challenges reinforces the need to put job quality firmly on the EU social policy agenda,' said Agnieszka Piasna, Senior Researcher at the European Trade Union Institute.

6
dimensions to the European Job Quality Index

ETUI study on mental health at work

A research project financed by the ETUI has been able, for the first time, to estimate in Europe (35 countries analysed), the number of cases of (and deaths from) depression and cardiovascular disease that can be directly attributed to psychosocial work exposure.

This new research confirms that exposure to psychosocial risks at work is at the root of certain pathologies, such as depression and coronary heart disease. The study focused on five psychosocial risks at work clearly identified in the scientific literature: job strain, effort-reward imbalance, job insecurity, long working hours, and bullying.

The attributable fractions (AFs) of depression were all significant in the EU28: job strain (16%), job insecurity (9%), bullying (9%), and effort-reward imbalance (6%). However, there are major differences from one country to another. For instance, in France, 19% of depression cases are attributable to workplace bullying, while in Spain, 21% of depression cases are attributable to job strain. Developed through international collaboration between a Canadian (ESG-UQAM) and a French (INSERM) team, the attributable fractions are based on the results of the 2015 European Working Conditions Survey (EWCS) carried out by EUROFOUND.

'These significant data reinforce the need for an EU directive on psychosocial risks at work,' stated ETUI researcher Pierre Bérastégui. 'All these new data show that it is more than an individual mental health issue.'

Migrant labourers worked in
42
degree heat

21%
of depression cases in Spain attributable to job strain

Deplorable conditions for workers renovating COP28 buildings

An investigation carried out by the British NGO FairSquare highlighted the deplorable working conditions of workers involved in renovating the COP28 buildings in Dubai.

The investigation showed that migrant labourers worked in 42°C and sweltering sunshine in early September to renovate the Expo City buildings in Dubai, United Arab Emirates – the premises that hosted the heads of state, representatives and media at COP28 from 30 November to 12 December.

Originally from Africa and South Asia, the 20 to 30 workers involved were carrying heavy loads in extreme heat and high humidity at hours when work is not legal in the Emirates. Since the adoption of a ministerial resolution in 2022, outdoor work has been forbidden from 12.30pm to 3pm from 15 June to 15 September, so extreme is the heat during the summer.

The violations were corroborated by testimonies gathered by the researchers, as well as visual evidence that was made available to *Le Monde*. The workers recount how, despite their suffering, they had to take such risks so that the facilities could be ready by the end of November. 'Last week, I thought I was going to die every second I was outside,' says one. 'But you have to earn a living.'

10%

accident increase corresponds to 0.12% productivity drop

Link established between workplace accidents and economic performance

A study by the French National Institute for Research and Safety (INRS) has established a link between a company's accident rate and its economic performance.

Based on a sample of 1.9 million French companies over a 15-year period, the aim of the study was to carry out a statistical assessment, across all sectors of activity, to answer the question: 'Can it be said that the more resources a company devotes to occupational risk prevention, the better its economic performance?'

And indeed, the study shows that a higher frequency of workplace accidents is associated with a drop in a company's economic performance. More precisely, a 10% increase in the frequency of occupational accidents reduces, on average, a company's productivity by 0.12% and its profit by 0.11% over the same year. This effect is even more marked in companies with fewer than 20 employees, with a 0.38% drop in productivity and a 0.24% drop in profit. These companies face more constraints, in terms of staffing and material requirements, when it comes to dealing quickly with the disruption caused by a workplace accident. Additional tests carried out on companies with more than 150 employees, which have greater resources to invest in prevention, show that the impact on profits extends over the two to three years following the accident.

The changing needs of organisations employing OSH professionals

New research highlights the changing needs of organisations employing graduates in occupational health and safety (OSH).

The study in question, a collaboration between the US universities of Murray, California and Indiana, looked at 101 job advertisements searching for candidates with an advanced degree in OSH, as well as 20 distance-learning OSH master's degree programmes. The goal was to assess the alignment between the current curriculum of OSH professionals and the job requirements of the OSH roles that organisations are recruiting for. The findings highlight the diversity of employers' expectations of OSH professionals, resulting in a number of identified requirements or preferences not found in curricula. Examples include biosafety, contractor safety management, electrical safety, laser safety, robotics, product stewardship, and technical writing.

Findings show that curricula tend to value and promote the typical OSH paradigm, while employers are disproportionately adopting an environmental, health and safety (EHS) paradigm. Environmental management addresses the development, implementation and monitoring of environmental strategies that promote sustainability and comply with ISO 14001 standards. Although OSH and environmental sciences represent two distinct disciplines, employers are increasingly expecting basic environmental competencies from OSH professionals.

Cancer risk exposure

1.3

times more likely in small workplaces

101

OSH job advertisements reviewed

First findings of the Workers' Exposure Survey on Cancer

The European Agency for Safety and Health at Work (EU-OSHA) has published the first findings of its Workers' Exposure Survey (WES).

The WES was developed to estimate probable exposure of workers to 24 known cancer risk factors, including industrial chemicals, process-generated substances and mixtures, and physical risk factors. It intends to fill an important information gap identified during the different reviews of the Carcinogens, Mutagens or Reprotoxic substances Directive (CMRD) by providing a comprehensive and accurate overview of cancer risk factors.

The first results of the WES identified solar ultraviolet radiation, diesel engine exhaust emissions, benzene, respirable crystalline silica, and formaldehyde as the most frequent probable occupational exposures among the 24 cancer risk factors analysed. Being exposed to more than one exposure is especially frequent in mining, quarrying and construction activities, as well as in more specific job categories such as welders and boilermakers, firefighters or plastic industry workers. Workers in a micro or small-sized workplace were 1.3 times more likely to be exposed to one or more cancer risk factor(s) than workers in medium-sized or large workplaces.

Carte blanche

The simplest of questions, so seldom asked

Laurent Vogel

"When you come to a sick Person", says Hippocrates, "it behoves you to ask what Uneasiness he is under, what was the Cause of it, how many Days he has been ill, how his Belly stands, and what Food he eats": To which I'll presume to add one Interrogation more, namely, what Trade he is of.' This is the very simple question asked by the Italian physician Bernardino Ramazzini (1633-1714) in the preface to his *De Morbis Artificum Diatriba* [*Diseases of Workers*], published in 1700[1].

Ramazzini's erudite treatise was acutely aware of the medical knowledge of Greeks and Romans before him, but it was also the work of an inquisitive individual who was attentive to his patients: a paragon of clinical intelligence in a still very rudimentary age.

Three quarters of a century later, in 1775, the English surgeon Percivall Pott published a detailed account of scrotal cancer among chimney sweeps in London. In a city replete with narrow chimneys, it was an occupation in which large numbers of children were employed. It would be another 65 years before it was outlawed for children under the age of 10.

This historical detour through the world of occupational health provides an important context to a contemporary scientific collective which, for 20 years, has been leading a research project into occupational cancers in hospitals in Seine-Saint-Denis, a working-class area in the northeast of Paris. The genesis of the project was serendipitous: a meeting between several doctors from the Department of Oncology at Avicenne Hospital in Bobigny and Annie Thébaud-Mony, a sociologist with longstanding experience in occupational health.

Drawing on expertise from a range of disciplines, the group, known as GISCOP 93[2], embarked upon a long-term study into patients with respiratory cancers. Employing a rather original method, it sought to retrace their entire careers to assess their exposure to carcinogens in the workplace, something of which many workers are simply unaware. By acquiring detailed accounts of their working lives and subjecting them to careful analysis by experts from different fields, their level of exposure was charted accordingly. The group also offers support to workers setting out on the arduous process of seeking recognition for an occupational disease. This two-pronged approach has produced a unique body of knowledge, which has also given rise to a number of scientific studies.

In October 2023, a symposium was held to mark the 20th anniversary of the project. One of the participants noted that 'GISCOP shouldn't really exist at all; this is the kind of work that cancer departments should be doing.' The unique nature of the project highlights the general shortcomings in public health systems. Efforts to combat occupational cancers are undermined by a pernicious ignorance. While occupational cancers account for half of all deaths linked to inadequate prevention in the workplace, public health policies often sidestep the issue. In that regard, Ramazzini's question bears repeating again and again: both individually, when it comes to medical diagnoses, and collectively, in the policies that we devise to combat the disease.

But the story of GISCOP 93 is also a precarious one, plagued by uncertainty around the level of financing from public authorities. The lack of stability has led to considerable staff turnover. Despite urologists offering to get involved and broaden the scope of the long-term study into cancers of the urinary tract, data collection activities had to be put on hold. Many of the team's former members have since gone on to work in other fields, looking at social inequalities linked to Covid-19, for example, or asbestos pollution in an industrial town in Colombia. Nevertheless, it is thanks to their experiences in Seine-Saint-Denis that they learned to combine scientific rigour with passionate endeavour.

The initiative has given rise to two further projects. In 2012, dockers' unions in Nantes and Saint-Nazaire set up ESCALES – a research project examining the chemical exposure of harbour workers with serious illnesses. In 2017, the GISCOP 84 project was set up in Avignon in an effort to examine the links between blood cancers and heavy pesticide use in agriculture.

The European Trade Union Institute (ETUI) has benefitted enormously from this work. The insights that we have gained have helped shape our analysis and recommendations for trade unions in the fight against cancer across Europe. What began locally as a research project in Seine-Saint-Denis has thus had a genuine impact on prevention measures in the European Union.

1. English translation from 'Bernardino Ramazzini and his treatise of the diseases of tradesmen', Article in *Irish Journal of Medical Science*, January 2000.
2. GISCOP is an acronym that stands for 'Scientific Interest Group on Occupational Cancers'. The number 93 refers to the French *département* of Seine-Saint-Denis.

FURTHER READING

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Book review

Bent out of shape: Shame, solidarity, and women's bodies at work
by Karen Messing

Between the Lines, 2021,
258 pages

Navigating the question of women's health at work

Kalina Arabadjieva
ETUI

Gender and sex matter when it comes to occupational health and safety (OSH). To better protect women's rights at work, we need to understand the particular risks to which they are exposed and take appropriate remedial measures. How exactly we go about this, however, can be a complex and sensitive question. It is the question at the heart of Karen Messing's *Bent Out of Shape*, a must-read for anyone interested in OSH, gender equality at work, and women's health.

Messing, a professor of biology specialising in genetics and ergonomics, has dedicated her career to improving women's occupational health, working together with trade unions both in her native Canada and elsewhere. In this book, she provides an engaging and accessible account of the challenges faced by women workers, drawing on case studies that she, her students and other researchers have conducted in a wide range of workplaces and jobs. It is both a scholarly rigorous and deeply personal and honest account – of successes and failures, of disappointment and frustration at the lack of action or even overt hostility regarding these questions, but also of solidarity and support between women, and of brilliant and dedicated researchers who want to see change.

Given Messing's background in biology, the book explores OSH risks primarily through the medium of the body. She is nevertheless intent on illuminating how this physical dimension relates to societal gender roles, to the pressures and emotional demands placed on women, to the psychological consequences of these demands, and more broadly to psychosocial risks. In this regard, the book highlights the distinction between *sex*, which refers to certain biological differences, and *gender*, which refers to a social construct linked to certain norms and expectations.

Messing shows, though numerous studies, how both sex and gender play a role in OSH. For instance, she explains that because women's bodies tend on average to be smaller, those in jobs traditionally occupied by men can be exposed to a risk of workplace injury or illness as a result of ill-fitting equipment designed for the average male body. An example might be a tool belt or medical mask that is too wide to fit properly. Women and men can also be subject to different physical demands and environmental factors in the same workplaces, and even when they technically occupy the same jobs. One example discussed is that of assembly lines divided along gender lines, with men working with big machines and heavy loads, and women manually wrapping individual items with repetitive movements – these different tasks entail different risks.

At the same time, the studies remind us that sexual harassment and violence, as well as gender stereotyping, remain serious workplace concerns for many women. Work-life balance issues also disproportionately put pressure on women, who continue to perform a greater share of unpaid care work on top of their paid job. Jobs and sectors traditionally considered female, such as care or cleaning, are often undervalued and underpaid, and workers are particularly exposed to repetitive movement and uncomfortable contorted positions, as well as emotional demands. But the requirements of these jobs are underestimated, and health and safety issues are often not taken seriously. This point comes up throughout the book: occupational health issues that particularly affect women are not only poorly studied, but often also not acted upon.

Three points are particularly striking in Messing's narrative. The first is women's silence about problems they face at the workplace *as women*, from violence and harassment, to inappropriate equipment and lower pay. Not infrequently, there is a denial that these issues are related to gender discrimination, as well as a perception (often leading to a sense of shame) that this is 'their own fault' and that 'nobody would believe them anyway.' Women workers often do not want to be perceived as having different abilities and needs from their male colleagues. Second, in most case studies described in the book, the findings of scientific analyses are met with denial, inaction or hostility. Mostly this has come from employers, but at times also from government agencies, fellow scientists or even trade unionists. Messing notes that, in general, mentioning gender explicitly has a tendency to create controversy, backlash from employers and at times even division among workers.

This brings us to the third point, which is the dilemma between explicitly pointing to gender/sex differences when it comes to occupational risks in order to better protect women's health, and the desire to avoid further gender stereotyping and disadvantages at the workplace, including employers' unwillingness to hire women. In a spirit of intellectual honesty, the author admits that framing her findings and recommendations in terms of gender has not always led to the best results for workers in practice, for all of the abovementioned reasons.

Messing's account of her experiences and those of other researchers and unions seeking to improve women's health at work shows how complex it is to navigate this field, in both technical and political terms. In her words, 'it is hard to take on gender issues at the workplace, and it makes us feel uncomfortable.' To move forward, she stresses that we need to acquire a better understanding of the ways in which gender and sex are relevant to occupational health in a particular job or workplace, including the role of any biological differences between the sexes as well as societal gender norms and expectations. At the same time, researchers need to think carefully about the best approach to take in order to help women without encouraging further stereotyping.

Perhaps the most important message is that little progress can be achieved if workers stand alone. Solidarity, mutual support and the collective voice of women workers – through women's committees within unions, amongst other ways – are essential. The book is thus also a call for women workers to come together and fight for gender equality and health at the workplace – a fight that, as the Covid-19 pandemic has shown us, is far from over.

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