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# CLEC MAGAZINE

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**Green Transition  
and inflation**

**The ecological  
footprint made by  
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**Sustainable  
investments and  
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# Sustainable investments and ESG funds scandal

By Ludovica Apostolico

Nowadays more and more companies, institutions and entities are practicing greenwashing and exalting their activities as environmentally sustainable.

This phenomenon can be seen as a communication strategy through which they convey a commitment and attachment to environmental policies that, in reality, is often nonexistent. They do this to improve their image, to become environmentally positive, and to attract the eco-sensitive consumer who thus empathizes with the actually fake and nonexistent philosophy of these realities.

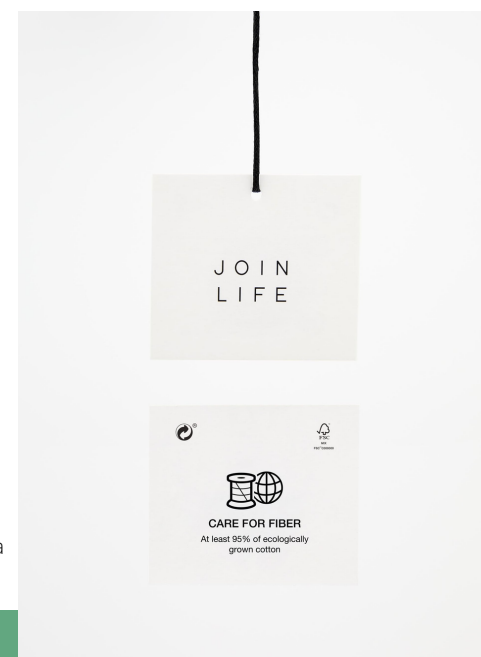
Among the many ways in which greenwashing can be done is the use of vague and approximate language that is certainly the first warning sign or, conversely, so slangy and technical as to be incomprehensible to the uninitiated. Similarly, the use of suggestive imagery, with a prevalence of shades of green or natural subjects that evoke some interest of the brand or product in environmental issues, can be misleading.

Many brands are behind this phenomenon. In Italy, among the best-known cases of greenwashing is the Ferrarelle's commercial that advertised its "zero impact" bottle by promising to offset the CO2 emitted by protecting new forests. The company was fined because the definition of "zero impact" implies that CO2 is fully offset and the well-known beverage brand failed to keep its promise. In 2010, San Benedetto was also fined for presenting its plastic bottle as "environmentally friendly" in several advertisements despite the fact that their bottle was not so environmentally friendly. Finally, Sant'Anna's bottle was also fined in 2012 because in the advertisements the bottle reported environmental merits that were higher than reality.

Another case is that of the brand Zara, owned by the giant Inditex. It analyzed the production of the "Join Life" collection, the brand's line that supports ideas of sustainability. What came out of this analysis is a production that is anything but sustainable. In fact, the results show workers stifled by the enormous price squeeze exerted by Inditex on its suppliers resulting in poverty wages, excessive working hours and precarious contracts, in the face of million-dollar profits for the brand. According to some estimates, the company earns twice as much per garment sold as all the people engaged in its production.

At the financial level, sustainability is also becoming increasingly relevant. In fact, ESG (Environmental, Social and Governance) funds are increasingly at the center of the sustainable investment landscape and offer the opportunity to invest in markets maintaining a focus on sustainability. They show a very high trend of a steady growth and for the past few years have reached the peak of their popularity to the point of deserving a dedicated index on the Milan Stock Exchange. Stocks and bonds, before being contained in the fund, must therefore pass very strict checks on the sustainability of the company with respect to ESG criteria.

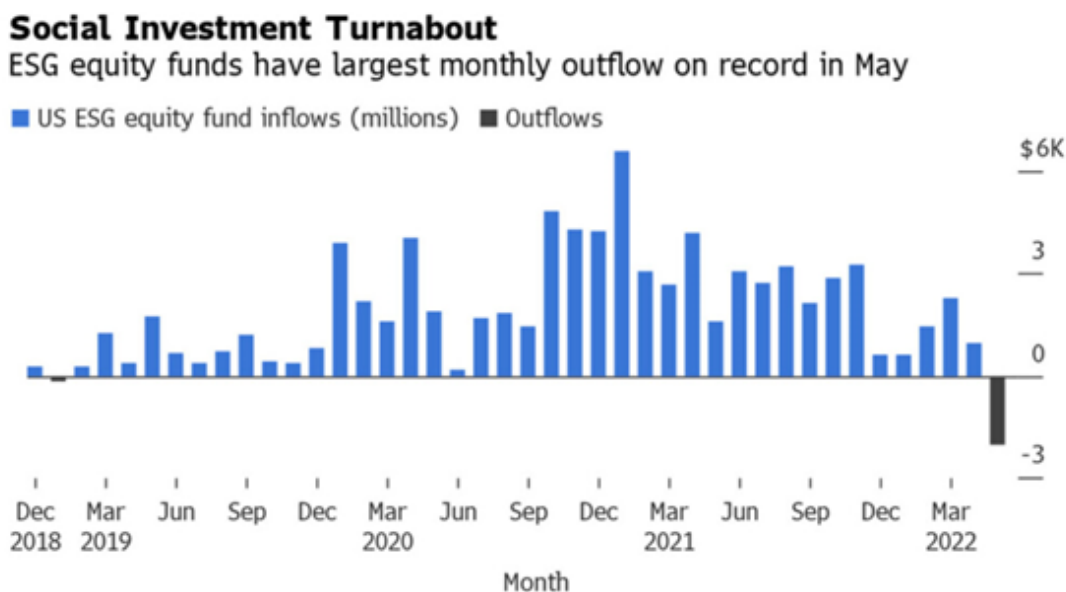
Etichetta collezione Join Life di Zara  
Source: Zara.com



Conversely, there are companies in the investment industry claiming to be ESG in order to have more clients and reach higher positions in the rankings, but in reality are not. These are scams identified under the term greenwashing. Some companies are lately under the eye of stock exchange regulators and law enforcement agencies in various countries. In the middle of the second quarter of 2022, investigations were launched into Deutsche Bank and its investment company, DWS, which was accused by German authorities of greenwashing. Moreover this is the first case in Europe in the financial sector in which the English term is openly mentioned. The process by which greenwashing took place is as follows: analysts select potential investments through purely financial analyses, which actually ignore ESG issues; then, at the conclusion of analysis they use the company's overall ESG performance as the final screening for risk reduction. In early June, the CEO of DWS resigned, the company's offices in Frankfurt were searched, and evidence was seized by police investigating.

Goldman Sachs, one of the world's largest investment banks, has also come under the eye of regulatory agencies, in the specific case of the Securities and Exchange Commission (SEC) regarding its ESG funds. The SEC has also disclosed their proposal to regulate green investments, namely to require sustainable fund managers to provide more information on the strategy and measurement of their goals with respect to the environmental, social and governance spheres.

All these scandals are fueling and raising new doubts about these funds, leading investors to believe that most ESG investments are the result of one of the biggest marketing ploys in recent years. It is no coincidence that in May, ESG equity funds recorded the largest monthly outflow ever recorded by Bloomberg, as can be seen in the figure above.



Source: Bloomberg Intelligence

# Life Cycle Assessment: cambiamenti nei processi aziendali

Di Alessio Tomba

Hai mai sentito parlare del “Life Cycle Assessment”? Se non conosci cosa queste parole vogliono indicare, in questo articolo troverai tutte le risposte che ti servono.

## Life Cycle Assessment: definizione teorica

Con l'espressione Life Cycle Assessment (LCA) si fa riferimento ad una metodologia strutturata e standardizzata, mediante la quale è possibile quantificare gli impatti che un bene o un determinato servizio hanno sull'ambiente e sulla salute umana. Si prende in considerazione:

- quanta energia è stata impiegata per la produzione, dalle materie prime ai trasporti e per lo smaltimento.
- le emissioni dei prodotti durante il loro funzionamento

L'obiettivo ultimo è incrementare il livello di sostenibilità ambientale dei beni e servizi offerti.

Quando si parla di LCA si fa riferimento ad un processo suddiviso in quattro fasi ovvero:



Life Cycle Assessment, valutare gli impatti ambientali di un prodotto

Fonte: <https://www.greenplanner.it/life-cycle-assessment/>

1. la definizione degli obiettivi che si intendono raggiungere e dell'ambito nel quale l'analisi deve essere effettuata;
2. analisi d'inventario;
3. la valutazione che i beni e/o servizi hanno sull'ambiente (Life Cycle Impact Assessment);
4. l'interpretazione dei risultati ottenuti.

Sebbene a livello accademico di sostenibilità ambientale se ne parli da sempre, il tema è diventato oggetto di discussione anche per l'opinione pubblica più recentemente quando gli effetti del cambiamento climatico sono diventati più evidenti agli occhi di tutti.

L'LCA può apparire come un processo complesso, ma i suoi vantaggi sono molto rilevanti. Con questo processo non solo si vuole tutelare l'ambiente e ridurre l'impatto ambientale ma anche integrare la sostenibilità nelle operazioni aziendali.

Inoltre, l'LCA viene regolata da due sistemi ISO:

- 14040:2006: in cui sono indicati i principi e il quadro di riferimento;
- 14044:2006: in cui sono presenti i requisiti e le linee guida che dovranno essere applicate.

Attraverso questa analisi, le aziende possono comprendere immediatamente dove intervenire per migliorare i processi e riprogettare i loro beni e servizi prodotti al fine di ottenere migliori risultati sia a livello economico che ambientale. L'LCA, per i motivi sopra descritti, viene definito quale importante strumento per la sostenibilità, grazie all'analisi del ciclo di vita dei beni e dei servizi è possibile sviluppare soluzioni sostenibili sia per l'ambiente che per la salute pubblica, due temi strettamente connessi fra loro.

# Sustainability in business

By Zhaniya Sovetkhanova

Nowadays everybody has embraced sustainability, be it firms, governments, or citizens; everyone is talking about sustainability buzz. In the context of business, sustainability is known under one of its many related terms such as Corporate Social Responsibility, Shared Value Creation, Inclusive Capitalism, Social Plat Enterprise, and so on. In essence, all these terms boil down to sustainable development. A term that was coined in 1987 by the United Nations Commission held by Brundtland, defining sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their own needs. In other words, you can have a share of the pie, but you should also leave enough for others so that they can have theirs as well. Sustainable development is sometimes misinterpreted as saving the planet. But the planet can easily outlive humanity. It is rather about saving us from ourselves by wisely managing natural resources. Sustainable development is also about social inclusion, making sure that marginalized actors will have equal access to job opportunities and will be elevated out of poverty. So, sustainable development has both an environmental and a social dimension.



At a higher level, this seems quite obvious or appealing, but what if we want to translate these principles into actual practices? According to the statistics provided by students of the Harvard Business school in 2018, it can be seen that it is really difficult to insert these principles into practical actions. In essence, such difficulty is a combination of three factors. Sustainable business is value-based or normative. Value-based ethics is ethics, which is based on people's beliefs. Whereas the normative definition considers standards and what is normal in a society. It is about what is good and what is bad; and who decides what is good and what is bad. Secondly, it is complex, because there is a multitude of interactions among and between actors and factors. Lastly, it is dynamic. It is a moving target that is really hard to catch. This combination of factors makes sustainability businesses hard to operationalize.

Let's consider the example of microcredit. Small loans are given to marginalized actors so that they can have access to credit and develop some businesses. At first sight, this can be an effective tool to pull marginalized actors out of their poverty cycle. However, the popularity of microcredit has led to a genuine proliferation of schemes and sometimes flooding markets such as Kenya and India. Flooding markets have significant drawbacks in all spheres of life ranging from deterioration of people's health to lowering of GDP per capita. In addition, in combination with the social pressure of local communities, who are jointly liable for individual micro-loans, this sometimes leads to desperate, defaulting micro-borrowers committing suicide. How sustainable is that?

Another example can be taken from the energy transition. We collectively understood that we need to move away from fossil fuels toward more renewable types of energy. In the domain of mobility, electric cars can give very a promising contribution to the energy transition.

There are though a few tiny problems with electric cars at the moment. In particular - batteries, which have some issues. The production of batteries is extremely energy intensive. Where does this energy come from? Does it come from renewable sources? What about recharging of batteries? Batteries contain all kinds of toxic materials. What about their sourcing and use? What about the risk of releasing these toxic chemicals as consequence of a car accident? What about their disposal after their lifetimes? Furthermore, these batteries contain cobalt and other rare earth minerals mined from conflict-ridden areas such as Sudan and Democratic Congo. Cobalt mining has a significant impact on the local armed conflicts. The mining itself, furthermore, literally, devastates local landscapes.

Fortunately, there are also better interpretations and examples. One is oddly enough in the domain of child labor. In an ideal world, there is no child labor. Kids should go to school, should play, and should relax. In most developing countries child labor is practiced. If you think most closely about this, what if you ban child labor and there are no better alternatives? What happens with the fate of these kids that might end up in worse outcomes such as prostitution? Their families might be further impoverished. That is why certain companies rather than washing their hands in innocence, have taken a bold step forward to address this problem head-on. IKEA, teamed up with UNICEF, is accepting child labor but also provides some structural solutions including schooling and access to credit facilities for their parents. The debts of parents, which in India are often the root cause of child labor, could thus be addressed, so kids would have prospects for a brighter future.

Ecological labels and social schemes are other effective ways to implement the sustainability concept. They signal that certain products have social and/or environmental benefits in compliance with sustainability standards. The American non-governmental organization "Human Rights Watch" reinforced alliance issues of such standards. The positive aspect of their work is that they have differentiated standards by region and by group of users. For example, they have different water management practices prescribed for dry land farming than for agriculture in tropical rainforests. They also have different standards for smallholder farmers than

for larger, more industrially operating farmers, because local needs and possibilities are different among regions and groups. By matching their prescriptions with these different needs and possibilities they come to more effective solutions.

What are the lessons can distill? What are key principles to set up more sustainable practices? Firstly, we need to see the big picture rather than focusing only on specific issues such as carbon footprint or direct farmer income. We need to see all the different issues combined and notice direct and indirect effects. We should think not only about short-run outcomes but also about long-run outcomes. The short-run effect of direct access to credit versus the risk of over-indebtedness should be considered. Secondly, we need to contextualize actions and move away from broad-brush universal one-size-fits-all solutions. Contextualized solutions will help us to fit the needs of local regions and local groups. If you contextualize actions on a case-by-case basis and search for the best practices, you can make bold steps forward. Thirdly, we need to align incentives. This means that we need to ensure that short-term incentives for individual producers and consumers become aligned with long-term collective interests that we all cherish. This means that we need to redesign the game structure.

Sustainable business will, to a certain extent, always remain contested, because we all have different values and interests, and we all have an imperfect understanding of reality. We can though surely make steps forward if we live up to these three principles. A sustainable business should not be about quarrels on the use of the right terminology, nor should it be about good intentions and bad practices. It should be about moving towards more effective solutions, both locally and globally.

# Green Transition and inflation – How accelerating Green Transition impacts inflation in Europe

By Domenico Cavicchia

The global energy market disruptions caused by the Russian invasion of Ukraine has further underlined the importance of transforming the European energy system. Tackling climate change and ending EU dependence on Russian fossil fuels will be essential to partially end price instability that has affected the Euro Area over the last months. 2022 was supposed to be the year of the economic turnaround after the COVID-19 pandemic and after a decade of economic uncertainties which led actual and expected inflation in Europe to historical lows between 2015 and 2016.

A month after the Russian invasion, all forecasts and expectations on European recovery had to be substantially revised. With inflation surging at a faster pace than expected by analysts and energy prices soaring, already up 44.7% in March 2022 compared to March 2021 (Euronews, 2022).

The latest statistics published by Eurostat in August reported a 9.8% inflation rate for the European Union (against 2.5% in July 2021) and 8.9% for the Euro Area (against 2.2% in July 2021), which is the highest inflation rate reported since 1997, when Eurostat started recording statistics. The highest contribution to annual Euro Area inflation rate came from energy and food, generating around 50% of overall inflation.

European Policy makers are facing growing concerns about increasing energy prices and particularly about the ability to have sufficient winter supplies of gas after the announcements of Gazprom of flow capacity reduction via Nord Stream Pipeline due to maintenance work. The latest shutdown from August 31st to September 2nd has put additional pressure on prices of natural gas, with the price of the Dutch TTF Gas Future per MWh reaching a peak of 318 EUR on Thursday 25th of August (ICE, 2022). The communication of maintenance work announced by Gazprom also increases the risk of rationing and recession for coming winter in Europe.

To cover the shortage supply-measures are not enough, indeed demand cuts are also needed. Therefore, the European Commission has proposed a solidarity-based plan in which EU member states agree to reduce gas demand by 15%. This would allow avoiding sudden reduction of energy supply during the winter and its impact on business activities and households' income. In fact, Germany for instance has raised its target to fill gas storage to 95% by the 1st of November, from a previous goal of 90 % (Bloomberg, 2022).

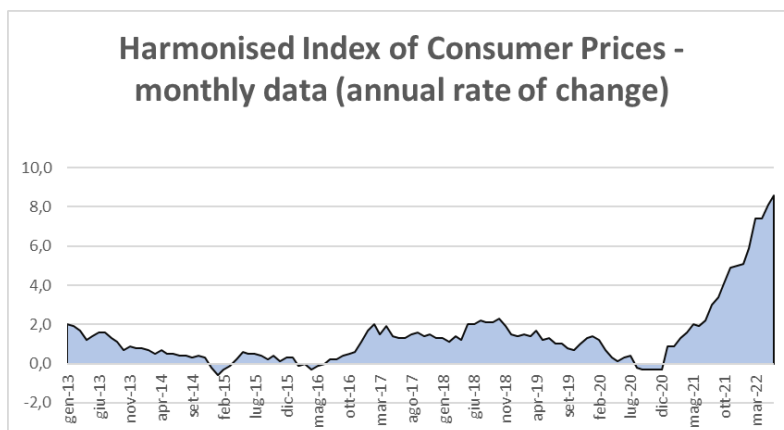


Figure 1

Source: Eurostat (2022)



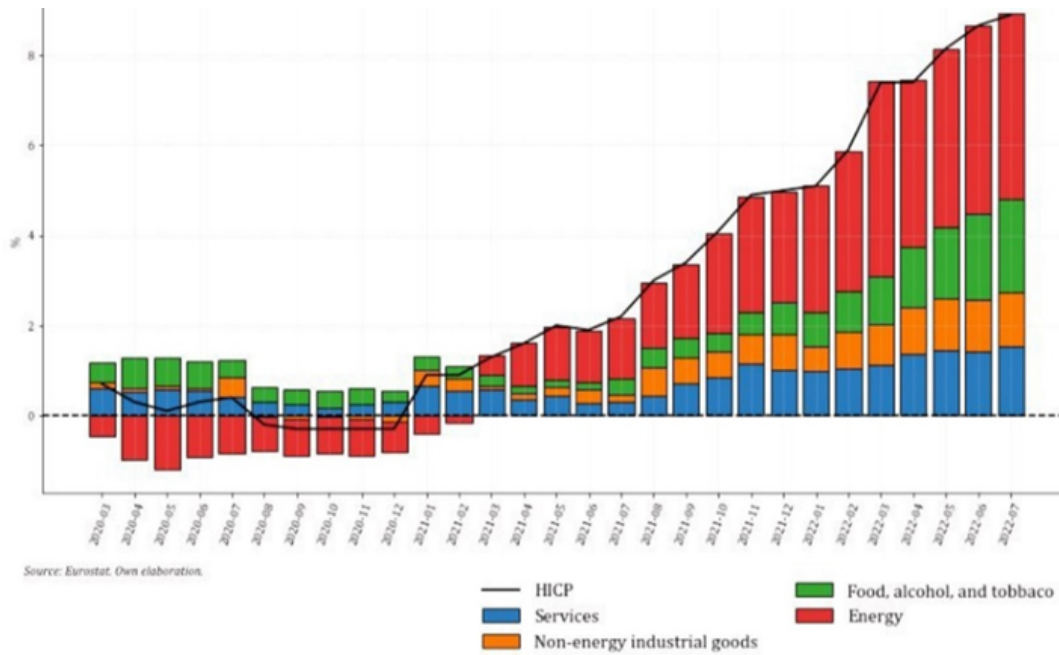


Figure 2 - Contributions to EA19 annual inflation

Source: PositiveMoney Europe, 2022

According to the European Central Bank (2022), about 30% of energy consumed in the Euro Area takes the form of final consumption, whilst 70% is used for production of non-energy goods and services. An unexpected cut of Russian gas supply during the coming winter would lead to a price and a rationing effect. In case costs can be passed on to final consumers, the price effect would directly impact households' purchasing power, otherwise the effect would be indirect via two different channels: either wage cuts or lower amounts of profits distributed (ECB, 2022).

The reduction of households purchasing power is an obvious consequence of the nature of the inelastic short-run demand curve for energy. This means that consumers will hardly be able to significantly reduce the amount of energy used in the short run period (the rationing effect will be less significant in the short run). The only ways through which an increase in energy prices could be absorbed by households in the short run are, first, by reducing the consumption of non-energy goods, second, by reducing savings, and third, by increasing income. The latter is rather unlikely as it requires time to adapt wages (ECB, 2022).

After a very atypical partial economic recovery from COVID-19, characterised by boosts in demand which led to unprecedented bottlenecks in production and record levels of savings accumulated during the pandemic (ECB, 2022), preventing an economic contraction over the next months will be a central task for European Policy makers.

As a response measure to the crisis and the disruptions caused by the energy supply shock, Europe is forced to drastically accelerate the green transition, which is the reason why the European Commission has introduced the REpowerEU Plan on the 18th of May. The plan aims at increasing Europe's energy independence from unreliable suppliers and volatile fossil fuels by saving energy, producing clean energy, and diversifying energy supplies (Europa.eu, 2022). By 2030, the European Union is expected to be independent from Russian fossil fuels.

European member states have added a REpowerEU chapter to their respective Recovery and Resilience Plans in which they specify investments priorities and reforms. This demonstrates that governments are accelerating fiscal spending for the green transition and that the demand and the costs for new renewable projects is likely to increase (SwissRe, 2022). In a report published by the reinsurance company SwissRe (2022), analysts even suggest that higher government debt from financing renewable energy projects could also encourage policy makers to tolerate higher inflation levels.

However, high inflation does not only represent a serious threat for households and business activities, but it also partially hinders green transition. In case the ECB intervenes with tightening monetary policy it would directly impact cost of capital and consequently the incentive to invest in greener technologies (ECB, 2022).

On the contrary, being accommodative whilst other central banks pursue tight monetary policies risks to amplify the energy price shock by weighing on the exchange rate, thereby adding pressure on real household income (ECB, 2022). Given the recent decision of the Governing Council to increase the deposit facility rate from -0.50% to 0.00%, it seems that the ECB is going into one direction, perhaps following what the Federal Reserve is currently doing. Nevertheless, the steps undertaken are clearly not sufficient to bring back inflation to its initial target as we have seen from the latest Eurostat release. As a matter of fact, further hikes in interest rates are predicted by analysts since planned investments for going green are also expected to put a prolonged period of upside pressure on prices through three interrelated channels.

The first channel is linked to costs of climate change, which was defined by the European Central Bank as “climateflation”. The increased number of natural disasters and severe weather events are rising, mainly impacting the reliability of food production and stability of food prices, with recent research suggesting that “30% of the expected increase in growth of European crops has been cancelled out by adverse weather” (WEF, 2021) thereby putting pressure on poor countries and on low-income families in richer countries.

The second shock is the one that accounts for most of the recent increase in EA inflation, so called “fossilflation”. In August energy accounted for almost 50% of inflation. Even-though oil and gas imports are expected to be reduced by two-third by the end of the year, a decline of fossil fuel prices seems rather unlikely in the short run. This means that fossil fuel will continue being an important contributor to headline inflation (ECB, 2022). This trend is also underlined by current future prices, which are soaring.

The third channel that will be impacting inflation belongs to a “more subtle” category of shocks; “greenflation”. The demand for most metals and minerals required for producing green energy is expected to rise in the foreseeable future, with supply being rather constrained in the short and medium run (it usually takes 5 to 10 years to develop new mines). This imbalance will cause prices of commodities to increase and further drive inflation upwards (ECB, 2022). The price of lithium (required to produce batteries of smartphones, tablets, laptops, electric vehicles etc.) has increased by more than 1000% since January 2020.

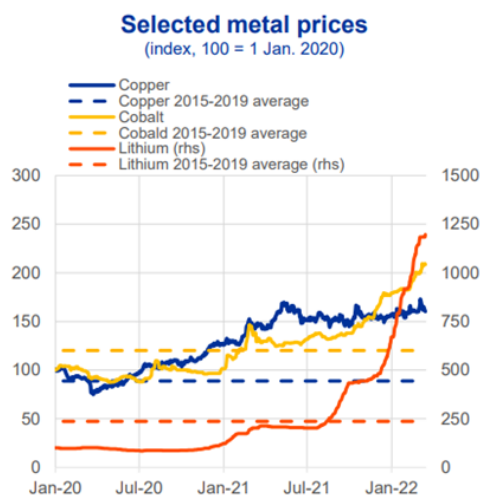


Figure 3

Source: European Central Bank, 2022

The paradox in this case lies in the fact that, the faster the transition to a greener economy, the more inflationary it may get in the short run.

The reason why policy makers are currently prioritising fossilflation and climateflation is that they are impacting final consumers more compared to greenflation. Many firms are passing on higher energy costs to consumers thereby contributing to notable price pressures, such indirect price effect could represent a persistent source of upward pressure on inflation also in the future (ECB, 2022), which is precisely what the European Union wants to avoid. Therefore, accelerating the green transition will be crucial for two main reasons. The first one will be reducing the exposure to supply risks in an oligopolistic fossil fuel market in which suppliers can artificially push up prices at the expense of energy importers, thereby reducing the risks of inflation. The second reason is tackling climate change because it affects economic activity both directly and indirectly. In that sense, the next winter will be decisive for understanding how European economy will be influenced.

# The ecological footprint made by university

By Angelina Nikitiuk

Today, the problem of energy consumption is more relevant than ever. The transition to renewable energy sources now is inevitable, not only in view of following the SDG but also due to the need to get rid of dependence on Russian gas and oil.

Each area of activity contributes to the carbon footprint left on Earth. But let's take a look at the contribution of a social institution familiar to all of us - the University.

There are educational institutions that meet their need for natural resources without harming the environment, they are called Green Universities.

This definition describes the university as follows:

- All students are aware of sustainable development topics
- Zero CO2 emissions by purchasing renewable energy, promoting public transport, or insulating buildings
- Zero waste by maximizing recycling, composting leftover food, reusing water, or purchasing cradle-to-cradle products\*
- Maximum biodiversity by purchasing organic food, creating campus gardens, or banning toxic chemicals. [1]

One of the finest examples of such is the University of Eastern Finland (UEF). This institution ranks third among universities whose attention is focused on the use of energy and climate change issues according to UI GreenMetric World University Ranking. [2]

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\*Cradle to cradle is a sustainable business strategy that mimics the regenerative cycle of nature in which waste is reused

<https://study.com/academy/lesson/cradle-to-cradle-definition-summary-design.html>;

[1] <https://www.greenofficemovement.org/green-university/>

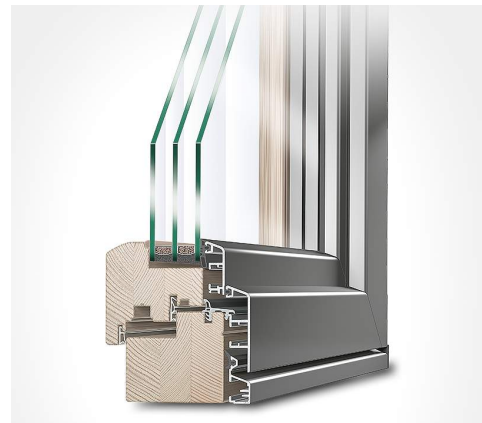
[2] <https://greenmetric.ui.ac.id/rankings/ranking-by-category-2021/2>

[3] <https://ellenmacarthurfoundation.org/university-of-eastern-finland>

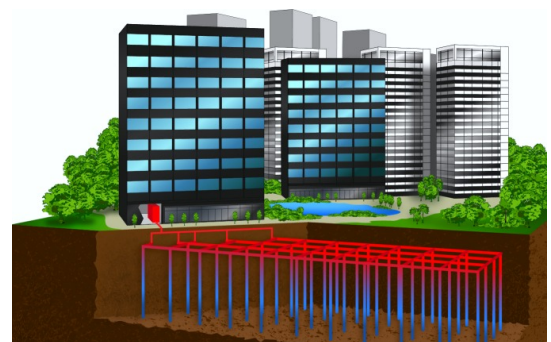
UEF uses 100% renewable energy (48.9% water/hydro, 49.6% bioenergy, and 1.6% wind power). In 2019, the solar panels at one of the campuses generated 14,500 kWh of solar energy. [3]

Another example is the American University of Wisconsin. Some of the school's dormitories have features such as hybrid geothermal heating and cooling systems, energy-efficient windows, green roofs, heat recovery systems, and underground geothermal walls. In 2014 dormitories managed to reduce energy consumption by 80,000 kWh through new energy-efficient methods.

The university has installed 60 solar thermal panels in one of its buildings, which produce up to 900 kWh of energy per day, providing 70% of the hot water needs for that building. It also installed photovoltaic panels that rate at a total of 47.1 kW, or enough to power four homes.



Wood Aluminium Energy Saving Window



How geothermal energy is recovered



In Italy, since 2016 the Italian University Network for Sustainable Development (RUS\*\*) has been operating, promoted by The Conference of Italian University Rectors (CRUI\*\*\*).

RUS marks the first experience of information sharing and coordination among all Italian Universities committed to the topic of environmental sustainability and social responsibility.

The main goal of RUS is to spread the culture of sustainability by sharing skills and experiences. The aim is to increase the positive impact in terms of environmental, ethical, social, and economic actions, which are currently implemented by each university, to contribute to the achievement of the SDGs and to strengthen the value of the Italian experience on an International level. [4]

In 2015, the University of Cassino joined the RUS, sharing the intention to contribute to the achievement of the Sustainable Development Goals set by The UN Agenda 2030.

The university's strategic plan for innovation and sustainable development outlines several goals related to the field of ecology. Among them, the goal of optimizing technological systems and containment of environmental impact, which will reduce the annual cost of energy activities and the carbon footprint. [5]



\*\* it. Rete delle Università per lo Sviluppo sostenibile

\*\*\* it. Conferenza dei Rettori delle Università Italiane.

[4] <https://www.electricchoice.com/blog/25-of-the-most-energy-efficient-colleges/>

[5] <https://reterus.it/en>

These days, there are many innovative ways to improve the energy efficiency of a building, but some of the most important solutions can be identified:

### **Retrofit Campus Infrastructure.**

A majority of university buildings were not designed to be energy efficient and have outdated infrastructure and equipment that contribute significantly to higher energy consumption. Two major energy-intensive applications on campuses are Lighting and HVAC (heating, ventilation, and air conditioning). Retrofitting dated lighting fixtures can save 10-25% of total greenhouse energy demand.

### **Deploy Renewable Sources of Energy.**

Relying on clean energy including geothermal, solar, wind, biomass, and others on campuses to meet energy needs can help educational institutions create sustainable and green infrastructure, and reduce carbon footprints.

### **Smart building management.**

Even tools such as motion sensors that help turn off the light when no one is in the room, or automated faucets that turn off the water supply when there are no hands under them, will help to greatly reduce the amount of consumption. [6]

However, the reduction in consumption depends not only on drastic changes in university buildings but also on each individual student, and students can make a good influence in energy use (see checklist). According to the UK Department for Environment Food & Rural Affairs, "even a 5% reduction across 506,000 rooms in halls of residence would equate to savings of £4.7m of energy and 25,640 tonnes of CO<sub>2</sub>." [7]

Despite the complicated situation with climate change and the consumption of non-renewable energy, this situation can still be viewed from a positive side. Universities, like society as a whole, do not stand still and are slowly but surely moving towards a complete transition to green energy.

[6]

<https://www.unicas.it/media/2309149/PIANO%20STRATEGICO%20ULTIMO.pdf>

[7] <https://www.buildingsiot.com/blog/5-innovative-ways-to-make-energy-usage-on-campus-more-efficient-bd>



## CHECKLIST ON THE RATIONAL CONSUMPTION OF ENERGY FOR THE STUDENTS

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In order to become more conscious in energy consumption, it is important to remember a few commonplace tips:

- Limit your **electricity** usage. Reducing the amount of electricity you use will reduce your carbon emission, and save you money on energy costs. If your devices no longer need recharging, or you don't use them, make sure you unplug this from the wall.
- Turn off your **lights**. Always turn your lights off when you leave the room and replace your lighting with low-energy LED lights. These will use around 90% less energy and also last around 10-20 times longer.
- Reduce **water** wastage. According to CarbonTrack.com "hot water can make up to 30% of your home electricity bill." Reducing the amount of water you use is therefore a great way to lower your overall energy usage. Try to take shorter showers and get into the habit of turning off the tap while you are brushing your teeth. [8] [9]
- **Recycle** your waste. Recycling ensures that less energy is used in the production, transportation, and disposal of products, and means that less waste ends up in landfills. As recycling saves energy, it also reduces greenhouse gas emissions, which helps to tackle climate change.
- Manage your **home temperature**. Setting the thermostat back from 21° C to 16° C at night can result in energy savings of up to 10%. Also, make sure that you turn the thermostat right down when you are leaving for the holidays or going home for the weekend.
- Wash **clothes** at a lower temperature. Heating the water in the washing machine accounts for a large percentage of the energy that washing machines use. Reducing the temperature by just 10°C will reduce energy consumption, help the environment, and save money on energy bills.

Be conscious of your habits and their effects on the environment. As you can see above, there is plenty that you can do to reduce the number of emissions you contribute, and help the environment, all while saving you money on energy costs! [10]

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[8] [https://uploads-](https://uploads-ssl.webflow.com/6008334066c47be740656954/602d33a6a0cf6381abe1bbac_13417_DefraEV0515NUS_FinalReport_Jan2016(3).pdf)

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[9] <https://carbontrack.com.au/blog/hot-water-bill/>

[10] <https://www.conserve-energy-future.com/how-energy-efficient-university.php>

Pictures:

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# How decision-making works in sustainable finance?

By Vanessa Petrarca

Sustainability is becoming a core and heart-touching field in the recent years, and it is starting to be included in the working of the daily activities, as well as in the economy. The financial sector is taking sustainability into account, and this led to the development of sustainable finance.

Sustainable finance is a field of finance including the so-called ESG criteria (Environmental, Social and Governance) into the decision making for a given investment, with the goal of maximizing the social welfare not only under an economic point of view, but also under the viewpoint of the environment and the society.

To clarify the issue, a definition for sustainable investment should be given: it defines the investment aiming at achieving efficiency and fairness, with the goal of having a strong financial performance while stepping forward the accomplishment of environmental and social objectives.

The behaviours implied by the ESG criteria can be described as follows:

- respecting the environmental criterion implies respecting all those not necessarily written rules, such as the adaptation to given biodiversity, the reduction of greenhouse gases, and so on.
- respecting the social criterion focuses on the issues of equity, social integration, inclusiveness, labour relationships, distribution of income, human rights, etc.
- respecting the governance criterion means respecting the management of public and private institutions.

When investors take into account the ESG criteria, their decision making is based on the use of a subjective and non-financial measure,

alongside a careful analysis of the business in order to create standards able to match their own needs (of profit-making).

For further details about the specific goals that should be achieved, refer to the The 2030 Agenda for Sustainable Development, United Nations, New York, 2015, available at the following link:

<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>

The main aims of sustainable finance can be summarized as follows:

- Reorienting investments towards sustainable technologies, which are those innovations that, by considering natural resources, favour economic and social development.
- Contributing to the creation of a 100% circular economy, which is the model of production and consumption with a limited number of resources, and it is aware that the Globe is not able to digest our wastes[1].
- Financing growth in sustainable ways (i.e. sustainable investments) overtime, more in particular, it means financing the growth of those companies that are seeking to combat climate change, unequal distribution of income, the so-called "gender gap", destruction of biodiversity, etc.

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[1] In particular, the circular economy aims at:

- reduction of waste and pollution;
- circulation of products and materials;
- restoring nature.

It consists of 3 fundamental steps: reduce, reuse and recycle.

A generic decision-making process, which can be also used in finance, is composed by 8 steps, as shown in the following table:

<b>First step: problem identification</b>	<b>Second step: establishment of decision criteria</b>	<b>Third step: assessment of weight for decision criteria</b>	<b>Fourth step: set of alternati ves</b>	<b>Fifth step: evaluation of the alternatives</b>	<b>Sixth step: the best alternative is chosen</b>	<b>Seventh step: implementa tion of the decision</b>	<b>Eight step: final evaluation</b>
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However, with sustainable finance, the focus of the decision making, does not relate with these steps but it is based on Triple Bottom Line (TBL) dimensions. These dimensions, used within the context of a corporation, focus on

- People, referring to the stakeholders (employees, customers, suppliers, etc.) of the corporation
- Planet, with the assessment of the impact of the alternatives (which are being environmentally friendly or applying a low-cost strategy) chosen by the company
- Profits, which must be earned in ethical and fair manners – including soliciting business partners and vendors with which it aligns philanthropically

And we can conclude, by saying that a correct and sustainable decision-making process should also include the so-called SEA (Strategic Environmental Assessment), which is an approach aiming at promoting and integrating sustainability in all programs and policies to be adopted. It provides recommendations at a strategic level, allowing for a good control over the operations.

The SEA is composed of some phases, reported as follow:

- Screening, which refers to the decision to undertake a SEA, performed in the preliminary stage.
- Scoping, which refers to the identification and clarification of issues to be addressed by the SEA.

References:

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- Study, which provides the more detailed analysis of key issues and comprises several stages:

1. preliminary report design and of the preliminary environmental report;
2. consultation with relevant environmental actors and SEA Commission;
3. design of a Programme proposal and of environmental report proposal;
4. adoption;
5. consultation and participation;
6. reasoned opinion;
7. approval.

The main goal of the SEA is to evaluate the environmental effects of plans, before their approval, during and at the end of their period of validity. SEA is used for the decision making in the financial field in the same way, by also taking into account the features of financial investments.

In conclusion, we can say that the concept of sustainability is becoming a pervasive one. The inclusion of the financial sector is a step forward towards a systemic approach whereby all aspects and actors of the economic system work together to reach the target of a sustainable development.

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# Quando la tecnologia blockchain incontra l'agricoltura e non solo: nuove sfide ed opportunità

Di Francesca Paesano

La Distributed Ledger Technology (DLT) è il sistema che ha dato origine alle varie criptovalute ad oggi conosciute. Tuttavia, negli ultimi anni il suo utilizzo è stato esteso in molte altre aree. Secondo studi di PwC raccolti nel report "Time for trust: How blockchain will transform business and the economy", il settore finanziario è quello che ha ottenuto maggiori benefici dall'introduzione di servizi basati sulla blockchain, seguito dai prodotti industriali e manifatturieri, dall'energia e dai servizi di pubblica utilità e infine dalla sanità.

Le transazioni basate sulla blockchain sono in fase di sperimentazione in settori che comportano un maggior numero di elementi sfidanti, come quello governativo. Recentemente sono stati utilizzati anche nelle filiere agricole, nella registrazione dei terreni e nelle carte d'identità digitali.

L'uso della Blockchain per l'agricoltura e l'allevamento sono al centro dell'interesse di start-up e governi di tutto il mondo. Non mancano però delle barriere da abbattere. L'uso della tecnologia Blockchain soffre ancora di problemi come infrastrutture scarse, problemi di interoperabilità e altri problemi tecnici. Infatti nella maggior parte dei casi ciò comporta costi inutili e nessun beneficio, anche se un sistema aperto e decentralizzato dovrebbe ridurre i costi delle transazioni.

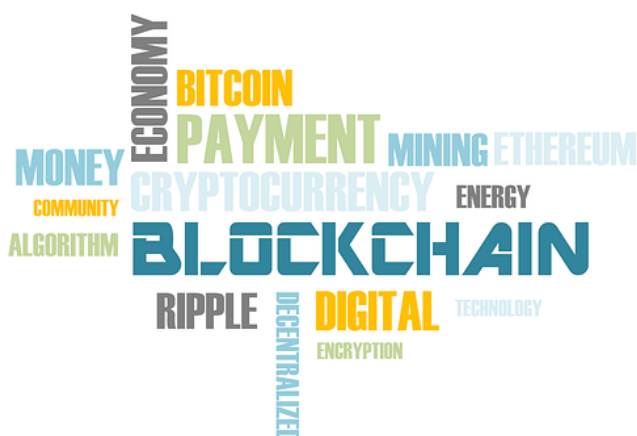
Nonostante ciò, gli sforzi sono diretti a individuare quali siano i processi del settore agricolo che soffrono di una mancanza di trasparenza; in particolare quali beneficerebbero di un decentramento e quali hanno attualmente processi di transazione insicuri.

## Casi attuali di applicazione a livello mondiale

Tra gli esempi recenti, **i sistemi di assicurazione agricola** a basso costo sono considerati un meccanismo che fornisce protezione alle persone colpite da inondazioni o siccità e che contribuisce a mitigare gli effetti di questi eventi. Le regioni dell'Asia e nel Pacifico sono quelle che per prime ne hanno colto l'importanza. India e Filippine hanno dato avvio a grandi progetti governativi nei quali servizi assicurativi e Blockchain sono a stretto contatto. Australia e Nuova Zelanda hanno preferito favorire lo sviluppo di un efficiente mercato privato, mentre le comunità in Bangladesh e Nepal hanno dato vita a iniziative informali private di mutua assistenza e di assicurazione del raccolto e del bestiame.

Per quanto riguarda la **registrazione dei terreni**, le applicazioni della blockchain si concentrerebbero sulla creazione di libri mastri non modificabili per i dati fondiari. Il Programma di sviluppo delle Nazioni Unite (UNDP) in India sta collaborando con alcuni partner per migliorare l'affidabilità dei registri catastali tramite Blockchain.

Con una maggiore trasparenza nelle **catene di approvvigionamento agricolo**, la blockchain può contribuire a fornire una documentazione inalterabile dal punto di origine al punto di vendita del prodotto. Il primo effetto di questa applicazione è una maggiore fiducia dei consumatori nei prodotti che acquistano.





Ciò rappresenterebbe un'opportunità per premiare i produttori che utilizzano buone pratiche agricole nella coltivazione dei loro prodotti, incentivando politiche agricole sostenibili e un consumo responsabile.

Nel **settore della pesca**, la blockchain è utilizzata per controllare e combattere la pesca illegale e non regolamentata, principale minaccia per gli ecosistemi marini. Il WWF sta lavorando a un progetto in Nuova Zelanda per sradicare la pesca illegale e le violazioni dei diritti umani nell'industria del tonno nelle isole del Pacifico.

Nel **settore forestale**, la Hangzhou Yi Shu Blockchain Technology Co, Ltd, fondata dalla contea autonoma di Beichuan Qiang nella provincia di Sichuan e dal gruppo cinese Beijing Sinfotek, mira a utilizzare la blockchain per lo sviluppo economico del settore forestale e per alleviare la povertà rurale. Anche il Ministero spagnolo dell'Agricoltura, della Pesca e dell'Alimentazione intende utilizzarla per sviluppare il settore forestale. Il gruppo operativo ChainWood mira a migliorare la tracciabilità e l'efficienza delle forniture di legname in Spagna introducendo la blockchain nella logistica del settore.

## Le grandi sfide per Start-up e Governi

In ambito legale, si sta ancora discutendo sull'autonomia decisionale dell'algoritmo e se esso possa effettivamente sostituire la legge. In un ambiente DLT (Distributed Ledger Technology), gli smart contracts vengono negoziati sulla base di un codice software ed eseguiti entro i tempi concordati, poiché il contratto stesso è la legge. Sebbene questa immutabilità sia un importante vantaggio della tecnologia e aumenti la fiducia tra le parti, deve essere abbastanza matura da sostituire le leggi. Tuttavia, gli standard sono sottosviluppati e immaturi: poiché la DLT è in una fase di rapido sviluppo tecnologico. Oltre a ciò, la difficoltà nell'applicazione delle leggi sulla privacy rappresenta un'ulteriore sfida. La protezione dei dati e la privacy sono una delle principali preoccupazioni e i Paesi e le regioni stanno adottando misure per impedirne l'uso improprio.

Un altro ostacolo a livello più umano è la fiducia verso sviluppatori e negli amministratori di blockchain. Ciò è legato alla maggiore responsabilità degli utenti: non esiste un'autorità centrale per l'implementazione della blockchain, il

che aumenta la responsabilità di tutti coloro che sono coinvolti. Non c'è nessuno a cui rivolgersi in caso di perdita delle chiavi private (o di perdite in caso di compromissione di una chiave privata).

Ultimo, ma non meno importante elemento sfidante è la velocità delle transazioni. Essa è un fattore importante, poiché alcune blockchain pubbliche non hanno un'elevata velocità di transazione e la creazione di un nuovo blocco non è sempre garantita. Per quanto riguarda la scalabilità, è importante capire i requisiti dell'applicazione in termini di velocità (transazioni al secondo (tps)) prima di scegliere una soluzione.

## Startup che stanno trasformando il settore agricolo

**AgriChain** - società blockchain che si concentra sulle transazioni agricole peer-to-peer eliminando gli intermediari.

**AgriDigital**- piattaforma aiuta a elaborare transazioni agricole complesse utilizzando smart contracts. L'attuale focus è sull'industria cerealicola mondiale

**AgriLedger**- progetto di impresa sociale che supporta gli agricoltori nella tracciabilità degli alimenti, facilita l'accesso ai finanziamenti e archivia i dati delle transazioni.

**Demeter**- piattaforma valevole a livello mondiale per affittare microfattorie in qualsiasi parte del mondo, senza intermediari, complessità e spese generali di grandi organizzazioni.

**Etherisc**- una società che offre agli agricoltori un'assicurazione per i loro campi attraverso applicazioni assicurative decentralizzate.

**Küps**- startup che sviluppa una catena di approvvigionamento alimentare digitale trasparente per mappare il percorso degli alimenti.

**TE-FOOD** - società che implementa strumenti di identificazione su imballaggi per alimenti freschi per tracciare le merci lungo tutta la catena di approvvigionamento.

**Worldcovr** - fornisce assicurazioni sui raccolti per proteggerli dai danni, utilizzando i satelliti per monitorare le precipitazioni.

## Usi attuali e possibili della Blockchain

### *Ottimizzare la catena di approvvigionamento alimentare*

Fornire informazioni sulla provenienza degli alimenti è essenziale per la fidelizzazione e la fiducia dei clienti. Nelle catene di approvvigionamento tradizionali, i rivenditori di generi alimentari non hanno sempre un modo efficace per garantire che tutti i prodotti siano stati coltivati alle condizioni stabilite da un determinato fornitore. Giganti della vendita al dettaglio come Walmart, Unilever e Carrefour stanno già utilizzando la blockchain per identificare la provenienza degli alimenti, ottenendo una riduzione del tempo necessario per rintracciarne l'origine. Walmart impiega pochi minuti per tracciare la provenienza del mango, mentre prima impiegava più di due settimane. Quando un prodotto non soddisfa gli standard del rivenditore, limitare il tempo necessario per rintracciare l'origine del prodotto è fondamentale perché consente ai rivenditori di isolare il prodotto più rapidamente.

### *Transazioni*

La blockchain in agricoltura potrebbe non solo snellire i processi di transazione, ma anche "livellare" la concorrenza per i piccoli agricoltori e allevatori, soprattutto nelle regioni povere. Si considera che parte dello spreco di materie prime è dovuto al fatto che gli agricoltori e i produttori dei Paesi meno sviluppati non sempre hanno accesso a grandi mercati, per cui non possono vendere tutto il cibo che producono. La startup blockchain AgUnity risolve questo problema dando ai piccoli commercianti l'accesso a una piattaforma per acquistare e vendere prodotti agricoli e creare fiducia tra i partecipanti al mercato. Gli operatori del mercato possono formare piccole cooperative e collaborare. Un altro vantaggio della blockchain è la capacità dei produttori agricoli di fissare i prezzi in modo più efficiente ed efficace. In questo modo possono gestire la produzione in base alla domanda dei loro prodotti.

### *Assicurazione del raccolto*

Gli smart contracts potrebbero aiutare gli agricoltori ad assicurare i loro raccolti e a richiedere indennizzi alle compagnie assicurative. Questo processo è spesso lungo e costoso sia per l'agricoltore che per la compagnia assicurativa. Le anomalie meteorologiche imprevedibili rendono difficile stimare correttamente e segnalare per tempo i danni esatti che provocano.

Creando smart insurances personalizzate su blockchain, le richieste di risarcimento assicurativo possono essere attivate in base a determinati criteri, semplificando il processo per gli agricoltori e gli assicuratori.

### *Tracciabilità*

La domanda di prodotti biologici e locali è in crescita. La blockchain consente ai consumatori di monitorare il viaggio dei prodotti, poiché può contenere dati su quando l'alimento è stato raccolto e su chi lo ha lavorato. Data l'immutabilità della Blockchain, la fiducia aumenta e la probabilità di manomissione è ridotta al minimo.

In sintesi, queste sono alcune delle possibilità offerte dalla blockchain al settore primario, ambito diverso da quelli a cui viene collegata nell'immaginario collettivo. Nel settore pubblico grandi passi avanti sono stati fatti dai paesi in via di sviluppo, soprattutto per la protezione delle persone che producono risorse alimentari. Esse sono più vulnerabili a eventi naturali di grande portata, che si prevede aumenteranno a causa dei cambiamenti climatici. L'obiettivo dei governi è mantenere una buona disponibilità di approvvigionamento alimentare (food security). Nel settore privato sarà fondamentale la possibilità di facilitare l'imprenditorialità in ambito agricolo. Tuttavia, questa rivoluzione riguarderebbe anche la crescente richiesta da parte dei consumatori di chiarezza sulla qualità e sulla provenienza dei prodotti, nonché il far risaltare le aziende che lavorano nel rispetto dell'ambiente e del benessere animale. Il fatto di poter tracciare la catena di produzione permette di capire, inoltre, come il valore è redistribuito lungo di essa. Insomma, la blockchain come un aiuto concreto alla risoluzione di problemi attuali e futuri sia dal punto di vista ambientale che di dignità umana.

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