**BLOCKCHAIN & EUROPE's GOVERNANCE TRANSFORMATION FROM GLOBAL TO LOCAL.**
**In the framework of the Blockchain *for the UN Charter Values and the SDGs Initiative***
**(BC100+)**

**European Consultation Paper**

*This European Consultation Paper is presented in Turin (see the draft hybrid conference program inserted in the present document) to strengthen the European contribution to BC100+ strategy paper to be submitted to the President of the United Nations General Assembly and the European relevant institutions.*

*It presents a series of twenty-five proposals to be finalized after the May 17th event:*

1. **The EU, Italy, Germany, France, Slovenia, Spain, UK, Switzerland to set up *a dedicated "Team Europe Blockchain for the SDGs".*** (Pag. 8)

2. **The EU Blockchain Global Strategy first "building blocks ".** (Pag. 10)

3. **The European Political Community of 48 Countries blockchain agenda.** (Pag. 11)

4. **The African Union and Europe Blockchain for the SDGs Plan of Action.** (Pag. 12)

5. **A 2023-2030 governance and participatory democracy action plan** with Decentralised Impact Organisations (DIOs) built on Decentralised Cooperation Organisations (DAOs) and Regenerative Finance (ReFi) for impact verification, staked commitments & collective action in relation with the climate crisis and the management of the commons. (Pag. 13)

6. **Europeans need a new financial framework** which would include new pillars in the era of Web 3.0 under the name of decentralized finance 'DeFI', 'regenerative finance'(ReFI). (Pag. 14)
   - **6.1.** Green Growth and Circular Economy: The Blockchain technology as "game changer" to boost Green Finance and ESG reporting.(Pag. 15)
   - **6.2.** Impact Finance: The Twin Green Transition and Digital Transformation will drive the new Stability and Growth Pact in Europe and trigger the future European Fiscal Union. (Pag. 20)
   - **6.3.** The impact of Green Finance into a new digital ecosystem: The twin Green and Digital Transformation is a key priority for Europe (Pag 22)
   - **6.4.** The Tokenization of Assets for a Decentralized Future in Europe: Carbon Credits as an emerging Asset Class.(Pag.26)

**6.5.** The European Parliament should convene the European States-General of Finance in the age of Web 3.0 for 'positive shifts' leading to a new social contract.(Pag.28)

7. **The UNECE Aarhus Convention** (Pag. 28)

   **7.1.** **The Green Finance Taxonomy implementation by Public Banks** - as party to the Aarhus Convention as the EIB – should be monitored by a Blockchain for UN Charter Values and SDGs eco-system

   **7.2.** Signatories of the **Aarhus Convention for Europe** and the **Model Law of the United Nations Commission on International Trade Law** ( UNCITRAL) on electronic transferable documents of July 13, 2017, should join **the European Blockchain Partnership (EBP), custodian for the European Blockchain Service Infrastructure (EBSI),** as Observers.

8. A blockchain eco-system and its situation room **European Public Goods – Green Deal & the Green Industrial Revolution – Environmental Impact to support science-based policy framework**. (Pag. 29)

9. **Empower the 'sleeping giants' of the 'purchasing power'.** The Commission should provide a strategy Blockchain & Public procurement. (Pag. 29)

10. **The EU Observatory and Forum should provide an overview of Trade 2026 & Business, as** Commodity Traders are the last bastion of wild capitalism and Multinationals and banks are already very present in the field of trading and shipping platforms. (Pag. 30)

11. A BC100+ Situation Room should focus on **Blockchain for Voluntary Carbon Market**. (Pag. 30)

12. **Decarbonize crypto**. The Europeans should join **the Crypto Climate Accord**, initiated in 2021 by Energy Web, the Rocky Mountain Institute (RMI) and the promoter of fair financial systems Alliance for Innovative Regulation (AIR). (Pag. 30)

BC100+ considers twelve potential flagships in this context:

13. **Flagship Self Sovereign Identity** *through the European Blockchain Services Infrastructure (EBSI).* (Pag. 30)

14. **Flagship Food in crisis** with the World Food Programme and GBBC. Focus on Ukraine. (Pag. 31)
15. **Flagship Food Systems.** TITAN. An EU Horizon Project. (Pag. 31)
16. **Flagship Rainforests. In view of Climate COP 30 in the Amazon Region:** Indigenous People and Value Chains of the Amazon and Congo Basin & Indonesia. (Pag. 31)
17. **Flagship Oceans** in view of UN Oceans Conference June 2025 co-chaired by Costa Rica and France and hosted by the City of Nice: Blue economy, maritime transport & logistic and trade value chains, marine protected areas. (Pag. 31)
18. **Flagship Blood Minerals**. COLTAN in the Democratic Republic of Congo. *Today we hear about 'green cars', green economy, energy transition. But in Congo, the color is red, the red of the blood shed every day.* Denis Mukwege, Nobel Prize. (Pag. 31)
19. **Flagship Plastics** in view of UN Conference on Oceans June 2025 & Global Plastics Treaty. (Pag. 32)
20. **Flagship Nature Conservation &Local Communities Well Being** with Authorities of South Africa, Namibia, Great Lakes Region. (Pag. 32)
21. **Flagship Migrants.** The just transition must primarily benefit the most vulnerable communities and lead to good living. (Pag. 34)
22. **Flagship Transparency in Public Funding** with the KfW Group**.** Next step (Pag. 35)
23. **Flagship Regenerative Finance.** (Pag. 35)
24. **Flagship Decentralized Finance.** (Pag. 35)
25. **BC100+ Follow-up for Italy.** (Pag. 35)

DRAFT

## Introduction

**Europe is called upon to change profoundly in the age of 21st century totalitarianism and the need to create a new relationship with the citizens of all of Europe as well as with the Global South.** What role can a blockchain strategy play in supporting the SDGs in a reshaped world order where China, Russia, Brazil, United Arab Emirates, Saudi Arabia (on the way to reconciliation through China with Iran) are convinced that the future will no longer be placed under Western-American hegemony? **Energy, raw materials including critical minerals, currencies, production and logistics chains, migratory movements, climate, rainforests, food, oceans are all security issues concerned by this 'reshaped world order'**([1]) where totalitarian powers and autocracies intend to be in a leading position. Yes, transparency, empowerment, trust and the redistribution of value will be key levers for "a new world order for the common good" if we don't want to fall into the abyss. Can we set up new 'partnerships' where poverty and the protection of material and immaterial common goods will be at the heart ?

**Game Changer**. Faced with the challenges for our security and our resilience, and the urgent need to accelerate the implementation of the Sustainable Development Goals, it is imperative to "change the rules of the game". This is what the blockchain allows as shown by the WEF in Davos. Reports, including from participants at the Turin meeting, showed how blockchain is a game changer; and where we stand with blockchain and the SDGs[2]. We also see how the blockchain will be a "game changer" in the field of finance[3]. Experiments are on the rise[4] and global initiatives to link a 'Regeneration the Earth' movement and blockchain are flourishing[5]

**Empowering.** If here is indeed an EU strategy for digital, which promises
« A Europe fit for the digital age, Empowering people with a new generation of technologies », there is still no European strategy for using the blockchain as a geopolitical lever to really change the rules of the game.

**Transform.** But today, since our values are threatened, since peace has disappeared, since the

[1] *Au commencement était la guerre*. Alain Bauer. Ed Fayard 2023.

[2] https://blockchainforgood.fr/wp-content/uploads/2022/12/Rapport-2022-ok_ENG-V0.pdf

[3] https://medium.com/@alanotte10/impact-finance-and-digital-transformation-the-new-stability-and-growth-pact-and-the-future-a0dfb1dff08c

[4] survey here is provided by Positive Blockchain
https://docs.google.com/spreadsheets/d/1R3QYw0bWe5Tdqnz_TUCP7B20ABtlAdHwzPhrghZDYnM/edit#gid=0

[5] https://docs.google.com/presentation/d/1iBMMmGPi3oHArbbs5XS_l_BWc2JqQes_FKyYaGQhGOk/edit#slide=id.g2220a54778b_0_1926

SDGs are in decline, we must dare to transform! The world has shifted in 2022 to another era in terms of geo-politics, finance, trade, climate and planetary resources. Negative tipping points have been crossed. And a war in Europe – hybrid and global in scope – forces us to organize ourselves on the basis of a triangular relationship between democracies, autocracies and the Global South.

The European Parliament *Special Committee on foreign interference in all democratic processes in the European Union, including disinformation, and the strengthening of integrity, transparency and accountability* stressed the need to change the transparency rules and insert ethics in politics.[6]

Among the levers of the global confrontation between democracies and autocracies, AI plays a major role. How to leverage blockchain for good and sustainable development goals is widely reported. It is now a matter of Europeans adopting a geo-political strategy in this area. This is the subject of this introductory report and of the Turin conference.

**Security** depends in particular on increasing influence. Faced with this planetary upheaval that the climate crisis will only reinforce, Europeans must become resilient in terms of military and ecological security, now linked by the climate impact on security and peace, and build this resilience using the new levers of web 3.0 in terms of empowerment, impact analysis, redistribution of value to ensure compliance with commitments and values.

**The key role of the EU**. The blockchain will be – is already – a game changer for business and local authorities. This will be increasingly so if the EU adopts a blockchain strategy in line with its policies such as *Next Generation EU*, the *Green deal*, Sustainable Consumption & Production and Zero Carbon, its legislative initiatives as EU regulatory monitoring requirements to provide traceability, transparency and trust as well as "due diligence»[7], *Shape Trade 2026*[8], the *EU Raw Materials Act* and provisions on "public procurement".

[6] https://www.europarl.europa.eu/doceo/document/TA-9-2022-0064_EN.html

[7] The European Commission proposal on requiring EU companies to conduct "due diligence" processes related to their human rights and environmental impacts. Some businesses would also be required to align their business strategies with limiting global warming to 1.5 degrees Celsius. The directive also extends to companies' subsidiaries and value chains. La gestion des ESG et le reporting des entreprises. Dans le cadre des projets de directive relatives à la traçabilité ESG et climat, la blockchain devrait être envisagée comme obligatoire. Cela aussi changerait les règles du jeux.

[8] The Commission has until 2026 to set up a digital network to monitor its commitments, particularly in strategic sectors such as batteries, agro-food systems and forests, sustainable international trade, the impact of funding on looks at its taxonomy of sustainable investments.

**MICA.** This report does not cover a dimension that deserves a report on its ownThe MiCA (Markets-in-Crypto-Assets), a European Regulation containing important provisions on the Community regulation of the market of so-called “Crypto-Assets”

**Values.** The universality of the values of the United Nations Charter is no longer recognized and autocracies want to evacuate human rights. This is where the challenge of participatory democracy arises in the age of Web 3.0, DAOs and value chain management blockchains. Old-fashioned multilateralism will no longer suffice. In the same way that COP 27 calls for transforming the implementation of commitments based on a principle of transparency and accountability, it will be necessary to place 'buttresses' to the United Nations Charter and boosters to the SDGs down for two years. The EU, in the name of the Charter of Fundamental Rights, must, in addition to defending the rule of law, promote web3.0 cooperation between actors in global value chains based on new forms of managerial management. in the age of blockchain. The management of business, finance, and communities to uphold the values of the United Nations Charter, human rights and the SDGs must be transformed.

**Democracy.** Blockchain as a game changer for democracies against autocracies in the age of hybrid warfare and artificial intelligence. What do we mean by that?

- Democracy must be consolidated. The vision of environmental democracy was enshrined in the Rio Declaration on Environment and Development (1992), the results on the ground are still slim. And one of its levers should be a democracy in the digital age capable to force accountability in a much more dynamic way. Hence the role of Web 3.0 and the blockchain as an “accountability, responsibility and partnership” tool for the commitments made, the frameworks set, particularly in financial terms.
- We must better fight against corruption and the rise of inequalities. The fight against corruption at a time of rising prices which fueled populism and large long-term investments threatened with being clawed back by the mafia in Europe, corrupt people all along the value chain, for example in the fields of strategic minerals in Africa
- There needs to be a just transition. We must reward virtuous behavior and redistribute the value in a different way, ensuring the fight against inequalities and the protection of biodiversity (tokens economy).

**Europeans need to put in place ‘positive tipping points’ in governance in the age of Web 3.0.** This is the goal of the BC100+ flagships. Thanks to blockchains, it will be a question of strengthening transparency, trust between partners, decentralized cooperation (DAO) and the redistribution of value for the benefit of the most disadvantaged throughout the space of the European Political Community and at the global level, with the European Commission coordinating the contribution of EU member countries. In particular, business reporting (CBRF) will be transformed by the use of Web 3.0.

Europe will have to be equipped with tools for building a new mode of development, the fight against corruption, the implementation of a systemic approach to ESG, transparency, trust and solidarity with the most disadvantaged who are new and who can move forward. This should be the subject of the blockchain plan for the values of the united nations charter and the SDGs for the years 2023-2030.

BC100+ is **one of the *game-changing initiatives*** "*strengthening the shared responsibility for governance of our global common goods*,"[9]addressing Blockchain as a key *collective intelligence and trust tool* in three areas :

1. A governance and accountability tool leading to a new vision, particularly of finance and key issues as due diligence, carbon credit, biodiversity/nature credits, public debtand token economy, impact investing.
2. A tool for transforming the development model to face a double challenge: planetary limits and a just transition, in the face of social inequity which itself threatens the environment.
3. A tool for peace and the values of the United Nations Charter, empowerment and decentralized participation.

This action plan is a join endeavour of 3 groups of invitees :

Group 1. Leading blockchain initiatives and platforms having co-signed a Manifesto.

Group 2. UN Agencies having 'blockchain initiatives' with which a conference call should be organized.

Group 3. Networks working in support of UN values and the SDGs who express interest in developing a blockchain strategy to enhance governance and act as an 'accountability *accelerator*'[10] allowing a *Financial Spring for People and Planet.*

[9] Delivering remarks on his priorities for the UN General Assembly's (UNGA) resumed 77th session, H.E. UNGA President Csaba Kőrösi emphasized preparations for the 2023 SDG Summit – the midpoint of the 2030 Agenda for Sustainable Development – and for the Summit of the Future in 2024

[10] https://globalcommonsalliance.org/alliance-projects/accountability-accelerator/

| | |
|---|---|
| **14:00 – 14:10** | **Welcome** Prof. Guido Boella, Turin University* and Prof Francesco Profumo, Fondazione Compagnia di San Paolo * |

**Why this meeting in Italy?**

**Proposal 1. The Turin May 17th event is an invitation to the EU, Italy & Cyprus, France, Germany, Ireland, Liechtenstein, Malta, Slovenia, Spain, UK, Ukraine, Switzerland to set up *a dedicated "Team Europe Blockchain for the SDGs"*** designed in the light of the *Europe Sustainable Development Report 2022- Achieving the SDGs : Europe's Compass in a Multipolar World*[11] to *work closely with the incoming G20 presidencies and* explore how blockchain can contribute to multi-stakeholders, multi-levels empowerment processes to accelerate the transformation and increase the resilience of Europe (as a European Political Community of 48 Countries and the EU), Italy, it's Regions and Cities and empowerment of Local Communities and Citizens.

**Background : Excerpts of The *Europe Sustainable Development Report 2022*[12]**

*Boosting innovation capacities, living standards and the convergence process across and within EU member states remains important for collective SDG actions in the EU and to strengthen the EU's industries and competitiveness in world. SDG 10 (Reduced inequalities) and SDG 17 (Partnerships for the goals) call for reducing inequalities across countries and for increased partnerships.*

***Transformation 6. To achieve the SDGs, the EU must invest in cutting-edge digital infrastructure, strengthen innovation, and protect European democracy and its citizen's rights to their data. The EU and European companies must become leaders in the digital revolution if the region is to maintain its high living standards.***

*As the EU repositions itself in a multipolar world, it should strengthen its strategic autonomy by forging cooperative alliances with a diverse range of partners and aligning its external policies to the global common good. Forge global alliances for the SDGs: Foster mutually transformative partnerships . If the EU is to reaffirm and regain its leadership on the SDGs, it must gear its own internal policies more explicitly towards the SDGs and give the 2030 Agenda strategic priority in all its external policies.*

11 https://s3.amazonaws.com/sustainabledevelopment.report/2022/europe-sustainable-development-report-2022.pdf

12 https://s3.amazonaws.com/sustainabledevelopment.report/2022/europe-sustainable-development-report-2022.pdf

***The EU, France, Germany and Italy – as members of the G20 – should form a dedicated "Team Europe for the SDGs"*** *that works closely with the incoming G20 presidencies of India (2023), Brazil (2024) and South Africa (2025) to get the 2030 Agenda back on track and ensure that both the United Nations 2023 SDG Summit and the 2024 Summit of the Future effectively advance the decade of SDG implementation (Kloke-Lesch, 2021). Brazil's parallel G20 and BRICS presidencies in 2024 coinciding with Italy's G7 presidency should be embraced as opportunities to build bridges. Additionally, the EU should explore joint SDG acceleration initiatives with the African Union, ASEAN, MERCOSUR. P 38*

**The *"Team Europe Blockchain for the SDGs* " composed of Institutions and Governments should work together with BC100+ partners** including (i) UN Agencies with blockchain initiatives or with the intention of developing such initiatives[13], (ii) **n**etworks and/or organizations and initiatives working in support of UN values and the SDGs which have either expressed interest in developing a blockchain strategy or already taken steps to incorporate the technology into their activities[14] (iii) Leading blockchain initiatives and platforms having co-signed a Manifesto.

Together they would **r**espond to the call of UNGA President for "*transformative solutions*," "*strengthening the shared responsibility for governance of our global common goods*," contributing to the UN SDG Summit invitation "*to announce transformative policies and measurable commitments for accelerated implementation of the SDGs by 2030, aiming to renew awareness in our societies of the choices we can all make to influence our future*" .

[13] UN Agencies with blockchain initiatives or with the intention of developing such initiatives. FAO, UNDP, UNICEF, WFP, UN-Women, UNHCR, UN-Habitat, UNECE

[14] Group 3 may also include organizations that work to enhance governance and act as an 'accountability accelerator,' such as those in support of the Global Commons Alliance.

| | |
|---|---|
| | **Keynotes** |
| **14:10 – 14:20** | MEP Brando Benifei, European Parliament Rapporteur on Artificial Intelligence |
| **14:20 – 14:35** | **Blockchain for SDGs**, the Blockchain for Good report 2022 by Lucas Zaehringer, Positive Blockchain, member of the BC100+ Steering Group |
| **14:35- 14:50** | **Blockchain for civic participation and social economies** by Prof. Guido Boella, Turin University * |

**Proposal 2. The EU Blockchain Global Strategy first building blocks**. The "Europeans" have initiated initiatives which could be seen as key "building blocks " of a 'global strategy' and should be strengthen and completed:

- The EBSI and the European Blockchain Partnership with the "Self-Sovereign. Identity" initiative as one of the '**flagships**' and TRACE4EU
- The Horizon funded project, as TITAN (blockchain and food systems), as 'flagship'
- The reports of the European Blockchain Observatory and Forum & Blockchain for Good as '**situation rooms'**
- The Positive Blockchain data base as a depository of **'best in class blockchain applications'**
- The **international partnership** initiatives of Member States in the field of blockchain, as Germany and Slovenia. Some could lead to 'flagships' as 'transparency in public funding' with KfW, others could lead to new partnerships as the Slovenia initiatives with Tanzania and the UAE
- Processes as the European Blockchain Week which was hosted by the Slovenian EU Presidency and which is inspiring the proposal of an **AU-EU Blockchain for the SDGs Week**
- **Support as Digital4EU**

There are maybe other existing initiatives unknown to us which would deserve to be recognized.

| |
|---|
| Should be added proposals debated during the following sessions: |

| | |
|---|---|
| **15:00 -16:00** | Session 1: Blockchain & Governance at the Web 3.0 Democracy Age, empowerment from global to local & Europe's transformation |
| Panel discussion Moderator**: Mercedes Bresso *** | |
| • Raymond Van Ermen, The-EPE *<br>• Tommaso Astazi, Blockchain for Europe<br>• Dr. Ronald Steyer, KfW German Development Bank, Innovation & Digitalisation<br>• Antonio Lanotte, EUBOF Expert*<br>• Ms Vasilisa Marinchuk, Centre Blockchain de Catalunya.<br><br>Debate with respondents : Alexi Anania, EUBOF Expert | |

**Proposal 3. The European Political Community of 48 Countries and its bi-annual coming summits in Chișinău, Madrid and London should put the digital revolution and blockchain on its agenda with a focus on :**

(i) Web 3.0, values and democracy, European public goods,

(ii) Twin revolutions : blockchain and green deal, food in crisis

(iii) Just transition and inequalities, no one left behind.

(iv) ReFI Regenerative and Inclusive sustainable finance

The European Blockchain Geopolitical Strategy for the SDGs should take into consideration.

- **The tools of a trusting society**, starting with the fight against corruption. The 48 states of the European Political Community should be members of the European Blockchain Partnership.
- **Public or private blockchain**, requires making choices.
- **System governance**. Identity and oracle, checking the validity of data are subjects thatrequire special attention.
- **Smart contracts*, decentralized applications (dApps*) and decentralized autonomous organizations (DAO*)?** CAD. According to the information site stg.deepdao.io, these 4,834 DAOs* bring together a total treasury of 7.6 billion dollars whose governance is distributed among 670,000 voters.

**Proposal 4. African Union-Europe Blockchain for SDGs Partnership.**

Now that both the UA and the EU have digital action plans, the proposed Blockchain partnership "*between equals*" AU-Europe for the Sustainable Development Goals - which would be debated during an *Africa-Europe Blockchain for the SDGs Week* - will be based in particular on recent reports from UNCTAD on blockchain, from GIZ on "blockchain as an opportunity for Africa", from BpI on "blockchain, opportunity for Europe", from UNEP on "blockchain, sustainable energy and climate for the Global South", the work of the FAO on "blockchain and food systems", of the STOA at the European Parliament on "blockchain and international trade", of the South-African International Affairs Institute on "blockchain in the mining sector", from 'Blockchain for Good' on Blockchains and Sustainable Development.

The 2024-2030 action plan will aim to build the new levers of a "developmentalist State" as suggested by Mr. Carlos Lopes, African Union High Representative for the AU-EU Partnership and author of a book "*Africa is the future of the world. Rethink Development*" [15]. Rigor and efficiency in the management of public finances and trust between the government and interested parties, innovation and competence, inclusive and low-carbon trajectory.

The Africa-Europe Plan would cover the role of blockchain in the Africa-Europe framework, in particular based on themes proposed by Carlos Lopes:

- expanding knowledge of global value chains and opportunities for transformative industrial policy through the development of green economy and blue economy as part of the AU Agenda 2063:
- redesigned industrialization in the mining, forestry, agri-food, renewable energies, biotic resources sectors to produce added value, create new services and improve its technological capabilities,
- upstream and downstream links to boost value chains and leave the role of simple supplier of unprocessed raw materials
- create industries in the hydrogen sector.
- identity, land ownership and the redistribution of value (token economy) for the benefit of the vulnerable in the value chains (small farmers, foresters, guardians of natural parks) and in cities and territories (artisans, migrants, etc.)
- cooperation with Universities and Business Schools and training young people in the opportunities created by blockchain for the SDGs.

[15] « *L'Afrique est l'avenir du monde. Repenser le développement* »

**Proposal 5**. **A 2023-2030 governance and participatory democracy action plan** with Decentralised Impact Organisations (DIOs) built on Decentralised Cooperation Organisations (DAOs) and Regenerate Finance (ReFi) for impact verification, staked commitments & collective action in relation with the climate crisis and the management of the commons and their value chain in strategic areas (energy, carbon, food, minerals, biodiversity)

*As noted by IXO[16], "the climate crisis is a governance and coordination crisis. Could Decentralised Impact Organisations (DIOs) built on DAOs and ReFi for climate verification, staked commitments & collective action, be a solution. Here are the Three Foundational Ways:*

- ***Verification of impact**. A fully decentralised market allows for the development of peer-to-peer platforms to trade carbon credits. Blockchain as an auditable record system can create standardisation and accountability in tracking, measuring, and monitoring environmental impact. Providing immutable veracity to offsetting practices simplifies and speeds up the trade of carbon credits while addressing possible double-counting issues. Blockchain technology - with its transparent measurement, reporting and verification - is effective in tracking and verifying impact.*
- ***Staked commitments**. Smart contracts can be configured to access and aggregate operational field data throughout a supply chain to measure or calculate emissions directly. They also confirm that pre-agreed contractual terms have been satisfied and thus trigger transactions. This provides a practical and effective means to reward critical tasks, such as verifying emission reductions and adaptation measures at the local level, through results-based financing mechanisms such as ixo Alphabonds.By underpinning their commitments with capital deposits as collateral, we can mitigate the risk of parties back-peddling in the fight against climate change. If states do not comply with their emission reduction targets, their deposit could be redistributed to those that have abated carbon emissions by planting trees.*
- ***Collective Action**. A decentralised impact organisation would leverage the resources of millions of individuals and unite their efforts in combating climate change. With DIOs, it could be possible to economically align networks of strangers to work together and govern shared resources in a decentralised manner. Anyone in a blockchain network could effectively earn tokens by planting trees compared to "mining" in the Bitcoin system. People could also purchase tokens to support climate action. Tokenomics are used to align incentives. By increasing the exchange value of digital assets, individuals*

[16] ***Decentralised Impact Organisations,*** *Natacha Rousseau, Mariana Sarmiento*
Earth State Briefing IXO

*would provide incentives for more rapid and frequent tree planting, for example. Blockchain technology is ideally suited to automatically settle these transactions if appropriate tools for verification and an incentive system underlying decentralised verification are in place.*

**Proposal 6. Europeans need a new financial framework** which would include new pillars in the era of Web 3.0 and joint Flagships decentralized finance 'DeFI' & 'regenerative finance'(ReFI) as well as *Transparency in Public Funding* on the basis of the KfW Trust Budget Application.

The UN Secretary General stated "*Digitalization must democratise the governance of finance to democratise finance itself". Whereas* the digital age brings about "*disruptors*" and "*game changers*" through DLT and tools such as smart contracts. These innovations may promote improved outcomes in the form of transparency and trust, efficient use of public and private funds, or more robust impact investments. Considering that *Digital disruption creates an historic opportunity to reshape finance. Digitalization can have a transformative impact by empowering people in financing. Catalytic opportunities can harness digitalization in aligning finance with the SDGs. Barriers and digital risks need to be overcome. Governance innovations are pre-conditions for harnessing digitalization in delivering financing of the SDGs ;* [17]

The European Blockchain Geopolitical Strategy for the SDGs should have a finance chapter with three areas:

- **Proof of impact**, just transition, voluntary carbon market, in particular its 'integrity' and MRV. due diligence, carbon credit, biodiversity/nature credits, public debt and token economy, impact investing.
- **Peer-to-peer electronic money** and programmable money (observatory of 141 active projects) in connection with SDG 1, on the eradication of poverty; SDG 2 on ending hunger, achieving food security and promoting sustainable agriculture; SDG 3 on good health and well-being; SDG 5 on gender equality and women's economic empowerment; SDG 8 on promoting economic growth and employment; SDG 9 on promoting industrialization, innovation and infrastructure; and SDG 10 on reducing inequalities. In addition, SDG 17 on strengthening the means of implementation implicitly provides that financial inclusion will play a more important role by mobilizing more savings to encourage investment and consumption, which are drivers of growth.
- **Token economy**. For the IXO Foundation impact tokens will have to replace all negotiable instruments like "emission reduction certificates verified for carbon credits,

[17] Executive Summary: https://unsdg.un.org/resources/peoples-money-harnessing-digitalization-finance-sustainable-future

renewable energy certificates for clean energies, certificates of qualification for educational outcomes, biodiversity certificates for results in matters of nature, the certificates of vaccination for health outcomes health or any other state of result verified that people care about, for which they are ready to invest, to work or spend their money.

What innovations would be made and would change the rules of the game?

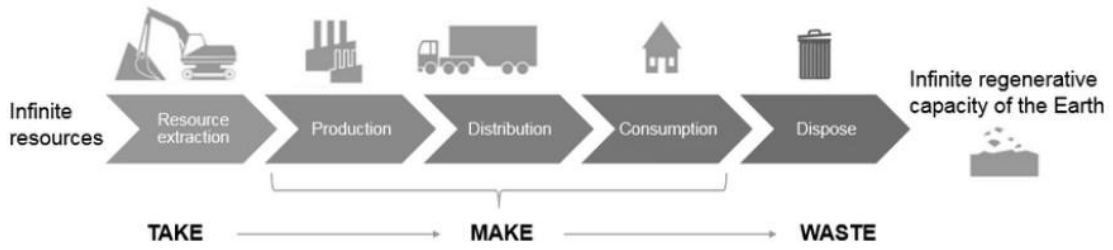
- **The system must be able to monitor the use of public funds,** in particular to ensure that their use does not destroy the objectives that have been set elsewhere. Thus, the use made of the EU budget can either serve as a lever for transformation, or counter the ambitious objectives that the EU sets itself with misdirected subsidies (and this is the case of the new PAC according to many experts) badly calibrated financial instruments badly used (corruption). What is true for the EU is just as true for all the States and all the Financial Institutions of the Planet.
- **Risk assessment in the public interest**. "A "systemic" shortcoming is the current taxonomy- clause of "do no harm" (to biodiversity - sec -) deviating the attention from the opportunities at scale nature-based solutions have to offer to society and to investors, and as a primary source of CC mitigation." (Gertjan)
- **Inclusive Finance**. The blockchain can redistribute value and therefore fight against inequalities.
- **Public Debt**. A blockchain-forest system should allow States to guarantee the debt. One could thus imagine that countries like the DRC or the Amazonian countries could use it.
- **Cryptocurrencies.** Develops especially in Africa, widely adopted to free oneself from systems that are unfavorable to people.

### 6.1. Green Growth and Circular Economy: The Blockchain Technology as a "game changer" to boost Green Finance and ESG reporting.

A greener economy means growth and job opportunities. Eco-design, eco-innovation, waste prevention, and reusing raw materials can bring net savings of up to €600 billion for EU businesses. Measures to increase resource productivity by 30 percent by 2030 could boost GDP by 1 percent, while creating 2 million new jobs. It also benefits the environment and reduces the EU's greenhouse gas emissions, according to the European Commission. However, the commission's statement on the Green Deal suggests it is also politically motivated.
According to the European Environmental Agency, the circular economy is a relevant part of the green economy that more widely addresses human welfare, lifestyles, and consumption

models. The circular economy tries to build extensive and inclusive well-being with natural capital, ecosystem resilience, and ecosystem services preservation.
The root of the growing interest in the circular economy is the inevitable need to protect both renewable and non-renewable natural resources and to develop more efficiency in their use. Since 1900 the world's population has quadrupled. Resource consumption has grown by a factor of 10 and is expected to double by 2030.

*Figure 2. The linear pattern of growth*
*Source: Wautelet, 2018.*




A circular economy (Figure 3) is an industrial model that is intentionally regenerative. Products are designed to facilitate reuse, disassembly, restoration, and recycling to encourage the reuse. of materials. Businesses keep resources in use as long as possible to obtain the maximum value, and then recover and regenerate products and materials at the end of their service lives
Eco-design is a key element of the circular economy. New engineering (or re-engineering) of production processes, goods, services, and value chains according to the eco-design criteria includes:

- boosting resource and energy efficiency;
- eliminating toxic and dangerous chemicals;
- reducing environmental impacts in production, consumption, and end-of-life
- management;
- increasing products' reuse, regeneration,
- and material recycling; and
- preventing waste production and disposal.

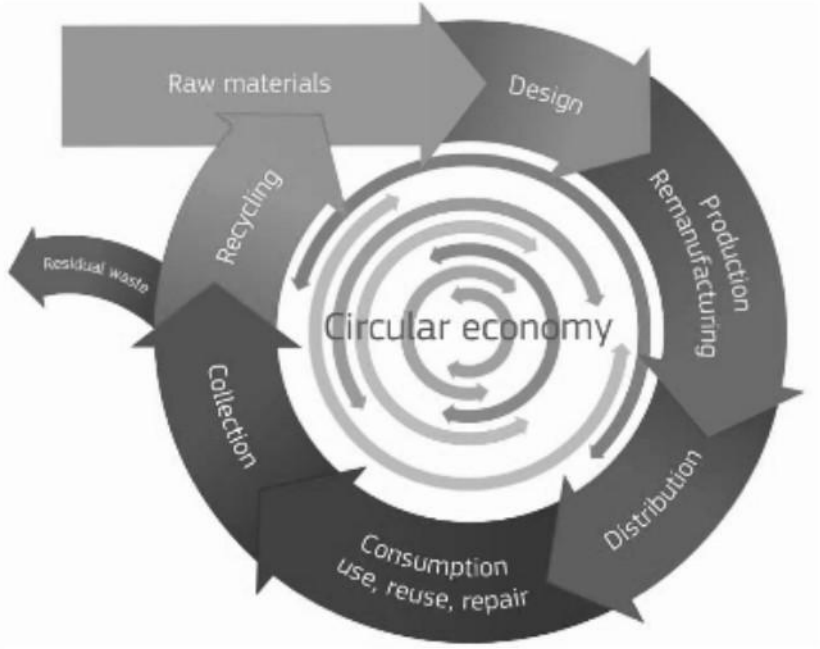
Businesses involved in these activities need to analyze and modify existing products and production processes. This includes:

- Verifying and improving scientific and management models — life-cycle assessment algorithms, environmental management systems, and the certification of products — to make the circular economy criteria more effective.
- Adopting specific models to maximize resource efficiency toward zero waste.
- Developing research and eco-innovation. To enable circular economy models to reduce consumption while improving well-being, it is important to develop the greatest renewable

resource we have: knowledge arising from the reuse, regeneration, and recyclability of products, components, and materials.

- Developing renewable energy and materials. Circular economy models require businesses to move away from fossil fuels (which are non renewable and contribute to global warming) in favor of renewable energy sources.
- Generating zero disposable waste. In a circular economy model, waste is reused as a resource.
- Addressing inner, multiple, and cascading circles. Inner circles minimize material usage by recovering end-of-life products in the value chain close to their consumption phase. This approach brings a high return on collection and treatment costs in comparison to the costs of disposal.
- Increasing the efficiency of materials used to facilitate the lowering of production costsand prices. This can increase consumption and the pressure on natural resources.

*Figure 3. The circular economy*
*Source: European Commission (2016).*




To meet the EU's 2030 climate and energy targets and achieve the objectives of the European Green Deal, redirecting investments toward sustainable projects is crucial. The COVID-19 pandemic has reinforced the need to redirect capital flows to sustainable projects to make economies, businesses, societies, and health systems more resilient in the face of climate and

environmental shocks. The EU taxonomy classifies and establishes a list of environmentally sustainable economic activities. It is an important tool for increasing sustainable investments and implementing the European Green Deal. In particular, by providing its list to companies, investors, and policymakers, the taxonomy can create certainty for investors, protect private investors from greenwashing, help companies plan for transition, mitigate market fragmentation, and ultimately help shift investments to where they are most needed.

Shifting toward a circular economy will involve designing a new sustainable tax system for renewable and non renewable resources. Sustainable taxation should encourage positive activities and discourage negative activities. In a sustainable economy, taxes on renewable resources (including labor) are counterproductive and should be abandoned. The resulting loss of revenue could be made up by taxing the consumption of non renewable resources and undesired wastes and emissions.

Such a shift in taxation would promote a circular economy with local low-carbon and low-resource solutions. It would be more labour-intensive than manufacturing because economies of scale in a circular economy are limited. Taxes on non-renewable resources could be charged in a similar way to today's VAT, including on imported goods. Also, not taxing labor would considerably reduce tax administration, labor tax is based on a large number of small incomes, and reduce incentives for work in the shadow economy, which accounts for a double-digit percentage of many national GDPs. To get businesses on board with environmental initiatives, governments should consider:

- Changes in depreciation methods. The development of second-hand product markets increases the products' value and prevents them from being depreciated to zero. It also brings up the question of when in the life cycle a reusable resource should be taxed.
- Changing the VAT system to influence behaviour. Lower VAT on labor-intensive services encourages repairs and reduces waste.
- Increasing the tax on emissions and technical material consumption. A higher tax reduces the consumption of non-renewable resources.

The tax system plays a key role in achieving an inclusive circular economy. High taxes on labor push businesses to minimize employees. Resources, however, tend to be untaxed and are therefore used without restraint. This causes unemployment, overconsumption, and pollution.

The plan is to put taxes on natural resource usage and pollution and use the revenues to lower the tax burden on labor while increasing social spending. This kind of tax reform would incentivize companies to save resources and the natural world. It would spark job creation and support those who need it most.

Environmental, Social, and Governance (ESG) is a set of criteria that investors use to evaluate companies' sustainability performance, including their impact on the environment, society, and governance practices. In recent years, the importance of ESG has grown as concerns about

sustainability and social responsibility have increased. At the same time, blockchain technology has emerged as a promising tool for ESG reporting, providing a secure and transparent way to store and share data. By integrating blockchain into ESG reporting, companies can enhance their credibility and transparency, and investors can make more informed decisions.

**The Sustainable Grid**

| Environmental | Social | Governance |
|---|---|---|
| • Mitigation of and adaptation to climate change.<br>• Water and marine resources.<br>• Resource use and circular economy.<br>• Pollution.<br>• Biodiversity and ecosystems. | • Equal opportunities, access to the labor market, gender equality, and disability.<br>• Working conditions, including wages, social dialogue, and work-life balance.<br>• Human rights, fundamental freedoms, and democratic principles, with reference to the International Bill of Human Rights.<br>• Adequate or equal presence of women in management positions (boards of directors) and during meetings (webinars, Zoominars). | • The role of administrative, management, and control bodies.<br>• Ethics and corporate culture, including the fight against corruption.<br>• Political commitments and lobbying activities.<br>• Management of relations with business partners.<br>• Internal control and risk management. |

Source: A. Lanotte - The Sustainable Grid, "Green Finance: Sustainable Growth and the Circular Economy" (Tax Notes International US) .

ESG finance is a topic that challenges all components of the financial system and the corporate world more generally. However, is it a transitory or structural phenomenon? And, what is its real impact on corporate behaviour? The starting point for any answer must be an understanding of what is at stake. If we look at the world's financial resources, the liquidity available today — and therefore immediately investible — amounts to 110 trillion euros, an amount higher than the world's GDP, which is 90 trillion.
Total financial wealth amounts to almost 300 trillion and if we look at a country like Italy, that in the hands of households is now 4.8 trillion euros, or three times Italy's GDP, and a third of this wealth is liquid. How these resources are invested can make a real difference. Hence the unrepeatable opportunity for many companies to open up their capital and intercept these resources that can change their size and destiny, but also the development of investments that are increasingly directed towards illiquid assets, such as real estate, private equity and venture capital. The multiplication of financial instruments creates an increasingly important and articulated bridge between savings and the development of the real system.

There are three primary applications of blockchain technology for ESG reporting.

- Firstly, blockchain serves as a gateway for collecting data from various sources, such as digital identity tools and Internet-of-Things sensors, which facilitate secure

and transparent data transfer to the blockchain network. Sensitive data can also be protected through the use of one-way encryption.

- Secondly, smart contracts can be used for periodic audits, automating the process of verifying that the reported data matches the data stored on the blockchain. This feature can also be used to automate inventory management, resource replenishment, billing, and data exchange.
- Thirdly, blockchain-based tokenization can be used to track items in the supply chain to their origin, enabling real-time detection of bottlenecks and ESG mismatches.

Blockchain can be useful in increasing consumer trust in ESG by providing greater transparency and traceability throughout the supply chain. Tokenization can also play a role in increasing consumer trust in ESG. By tokenizing (see paragraph 30) products and services, companies can provide consumers with a unique and verifiable digital identity for each item, enabling them to trace products back to their sources and ensuring that they meet certain sustainability criteria. This can help to demonstrate the absence of slave and child labor, the fair value of raw materials, and the actual environmental impact of the company.

### 6.2. Impact Finance: The Twin Green Transition and Digital Transformation will drive the new Stability and Growth Pact in Europe and trigger the future European Fiscal Union.

Simpler rules and strategic vision are key priorities for Europe towards a common fiscal framework and towards an European Digital Single Market; in this light tax systems can play a key role in achieving common goals. Such a shift in taxation would promote and reward more inclusive circular economy business models with its local low-carbon and low-resource solutions in accordance with the next European taxonomy. To realise this green potential, digital technologies need investment and legislation that encourages them to flourish, for example MiCA. Europe therefore needs to step up its digitalisation efforts — such as boosting connectivity and increasing funding for research and development. For this to happen, Europe must look at digital and climate action together, rather than separate policy areas. The next and highly revised “Stability and Growth Pact” needs therefore to reflect not only the dramatic effect of the pandemic event and the strong dependency from the Russian gas but also and most importantly the direction European Union and primarily the European Union Market wants to have for the next decades. The way the “**Next Generation EU**” has been built, the mutualisation of the sovereign debt caused by the pandemic event, and most importantly its fundamental directives such as an European Green New Deal which will, in its ambitious targets, will lead to a “**net zero**” emissions in 2050 and the Digital Transformation which will

disrupt some of the traditional business models and surely bring new dynamics in terms of digital infrastructures and different approaches to traditional finance.

To realise this green potential, digital technologies need investment and legislation that encourages them to flourish. Europe therefore needs to step up its digitalisation efforts — such as boosting connectivity and increasing funding for research and development. For this to happen, Europe must look at digital and climate action together, rather than separate policy areas. The Next Generation EU, evoking the ambition to lay the foundations for the Europe of the next generation, supported by DIGITALEUROPE, whose vision is for Europe to embrace digital in climate action, to bring benefits into the society at large and to continue its global leadership by collaborating with our international partners. The implementation of a "Recovery and Resilience Facility for Energy Transition" will also be crucial to give a big impetus to important investments, such as common energy purchases as well as building European strategic energy facilities and reforms. The science is clear: the world must reduce greenhouse gas emissions by 43% by 2030 to limit global warming to 1.5°C above pre-industrial levels.

The European Union has, so far, responded forcefully to the economic crisis brought about by the pandemic event and the war in Ukraine. The role of the European Central Bank has been crucial in buying public debt bonds and also exceptional national fiscal stimulus measures have been complemented by unprecedented action at the EU level, in order to provide an important support to the vulnerable member states, opening up a broaden space for some incoming fiscal reforms on a more union basis instead of individual measures. For example "renewable energy communities (RES communities)" are a growing and extraordinarily multifaceted phenomenon which involves a range of possible activities around renewable energy (notably, production, supply, distribution, sharing and consumption) collectively carried out by citizens, often in partnership with small and medium enterprises and local public authorities. The Clean Energy Package (CEP) is expected to represent a turning point for the development and diffusion of RES communities in Europe, as for the first time both their very existence and their potential role in the energy transition receive legal recognition at the EU level. In this direction a renewed fiscal framework would be more effective if complemented with spending reviews and better public investment management systems that also contribute to increase high quality public investments. The REPowerEU Plan can respond to this ambition, through energy savings, diversification of energy supplies, and accelerated roll-out of renewable energy to replace fossil fuels in homes, industry and power generation. The Recovery and Resilience Facility (RRF) is at the heart of the REPowerEU Plan, supporting coordinated planning and financing of cross-border and national infrastructure as well as energy projects and reforms.

For example the “Puglia” Region has its own Regional Hydrogen Strategy called H2Puglia2030. The Regional Council by Resolution n.1799 of December 5, 2022, have acquired the favourable opinion of the Observatory, approved the final document of its Hydrogen Strategy, incorporating the contributions and comments that emerged from the public consultation.

H2Puglia2030 identifies 5 areas of the Hydrogen economy, indicating, for each of them, the regional competencies in the field with specific objectives and actions and identifying, at the same time, the regulatory tools to be adapted and the funding measures that can be activated, in coherence with the main regional policy documents, as follows:

- Hydrogen production, storage, transport and distribution: actions to support sustainable hydrogen production in the region, development of storage technologies, a regional hydrogen distribution network for use in mobility, as well as civil and industrial co-generation.
- Actions aimed at the introduction of green hydrogen in production sectors that use Gray hydrogen (from methane) or black hydrogen (from diesel or coal) such as the chemical and steel industries;
- Mobility and transport: actions to support the adoption and development of hydrogen in public transport, freight logistics, the rail network, as well as other innovative areas;
- Manufacturing supply chain, research, development and innovation: actions to support the transition of companies to hydrogen markets, innovation, research, support and investment attraction policies;
- Cross-cutting actions: scientific and professional training, participation in regional, national and international networks.

With this document, Puglia aims to become an energy hub through the construction of a regional Hydrogen ecosystem aimed at maximizing the synergies between the different studies of the carrier and the characteristics of the energy and industrial system of the territories, and is ready to face all the challenges of the PNRR.

### 6.3. The impact of Green Finance into a new digital ecosystem: The twin Green and Digital Transformation is a key priority for Europe!

ESG finance is at this juncture, with the double face of both a new investment product and a different modality and therefore transversal to any financial instrument, from liquid equity to real estate. The sector today encompasses and surpasses many experiments that have characterised the market over the last thirty years: forms of “social” finance rather than CSR-related instruments have occupied the market in a worthy but marginal way, based on a very

simple idea of "**discount**": the investor renounces a large part of his return, reaping the moral benefit of having contributed to a just cause.
The ESG perspective is radically different, asking not the saver to make a sacrifice, but the financed subject to adopt active and effective policies and behaviours for their impact along the environmental (E), social (S) and corporate governance (G) dimensions. This is not only to generate a "moral" benefit for the community but also a substantial one, capable of reconciling the dimension of production and jobs growth with that of the wider social return.
This is possible thanks to the awareness that certain trends can seriously and definitively compromise our eco-system and the ability of companies themselves to produce: water scarcity, the use of fossil fuels, air and water pollution, and inadequate forms of governance are dramatic examples that can only be countered by equally concrete responses called energy transition, circular economy, ecological transition and good governance. The aim of ESG finance is to support and operationalise these choices, assuming the role of a structural and definitive phenomenon. The social dimension is therefore no longer a discount, but rather a premium as it creates room for growth, compatible with the protection of our eco-system.

What can we expect in the future? So, if the ESG dimension cannot be called transitional, going back to the original question, what will be the impact of sustainable finance?

- Here we can take a position because the impact will be strong and decisive. The first reason is because the cost to companies and states of not adhering to ESG principles is becoming higher and higher. It is not far-fetched to imagine that in the short-term companies without an EGS rating or with very low values will be cut off from the map of financing and investment. And it is not impossible — and above all desirable! — that this will also happen to states.
- The second is the loss of opportunities: a decisive move towards the ESG dimension for a company means benefiting from higher multiples (because more capital is going in that direction), higher EBITDA (gross margin) growth thanks to ecological or energy transition processes, and a lower cost of capital due to lower risk.
- The third is a demographic fact: by 2029, two-thirds of investors will be millennials and Z-gen. It is more than a hope to bet on a different attitude to the meaning of one's investment choices and the acceptance of principles that place the eco-system at the heart of decisions.

The power and fascination of this new challenge will be that of being able to write in the history books not so much that a different and "**better**" finance will have changed the world, but that finance — which, let us remember, needs risk and real returns to create GDP and employment,

and to pay for our welfare — will have been decisive in changing the face of our society for the better. How we invest can make a difference.

Innovation companies and multinational enterprises are also moving items of value across blockchain networks. The process of tokenization— that is, converting the rights to an asset into a digital token within a blockchain, with one token representing an intangible asset or a defined portion thereof — plays a considerable role in the exchange of information. Everything is recorded on the distributed and decentralized ledger, which increases trust and transparency between counterparts. Lifting responsibilities from the companies that have been granted access to a public and permissioned blockchain allows the entire ecosystem to focus on its respective businesses and obligations. They can also anticipate their future objectives and projects by using smart contracts.

**The twin Green and Digital Transformation is a key priority for Europ**e! To realise this green potential, digital technologies need investment and legislation that encourages them to flourish. Europe therefore needs to step up its digitalisation efforts — such as boosting connectivity and increasing funding for research and development. For this to happen, Europe must look at digital and climate action together, rather than separate policy areas. The Next Generation EU, for example, evoking the ambition to lay the foundations for the Europe of the next generation, supported by **DIGITALEUROPE** whose vision is for Europe to embrace digital in climate action, to bring benefits in the two society at large and to continue its global leadership by collaborating with our international partners.
The European Commission has adopted several measures to increase sustainable finance. First, the new sustainable finance strategy sets out several initiatives to tackle climate change and other environmental challenges while increasing investment — and the inclusion of SMEs, in the EU's transition toward a sustainable economy. The European green bond standard proposal, for example, will create a high-quality voluntary standard for bonds financing sustainable investment. Finally, the commission recently adopted a delegated act on information to be disclosed by financial and non-financial companies on their sustainable activities, based on article 8 of the EU Taxonomy. These initiatives highlight the EU's global leadership in setting international standards for sustainable finance. The European Commission intends to work closely with all international partners, including through the International Platform on Sustainable Finance, to build a robust international sustainable finance system.

The application of blockchain, in the form of a distributed ledger technology (DLT), has the potential to transform well-established financial institutions and tax administrations by simplifying complex processes such as annual tax returns, VAT/GST, immovable property sales taxes, including the introduction of a Digital Euro (in the form of a stablecoin), ensuring faster

execution of transactions, improved transparency, auditability of operations, and possibly lowering costs (after a first implementation phase). It is therefore high time for the EU to create the conditions for an "**EU Digital Single Market**", as a corollary, with "decentralized" responsibilities. The "EU Digital Single Market" can be established on a blockchain-based network on which Digital Euro (CBDC) will be implemented, a public "**permissionless**" blockchain, in which all the stakeholders, in particular Revenue Agencies, Customs, peripheral tax offices and agencies or similar ones will have a defined role. Each entity will function according to their respective fields of responsibilities, for example by giving consensus such as validating nodes, in other words by effectively checking and monitoring the information streamline throughout the "Digital Value Chain". The digital chain of events will bring transparency to the whole process while granting its users autonomy and security, in addition to cost-effectiveness and time saving.

A new Circular Economy Package has been adopted by the European Commission. A milestone to implement the EU Circular Economy Action Plan.

The package includes:

- Sustainable Products Initiative, including the proposal for the Eco-design for Sustainable Products Regulation — find out more https://lnkd.in/dk58nKnM
- EU strategy for sustainable and circular textiles — find out more https://lnkd.in/ddkgyyg3
- Proposal for a revised Construction products Regulation — find out more https://lnkd.in/dZgzdYBd
- Proposal for empowering consumers in the green transition — find out more https://lnkd.in/dqpdGmK2

Businesses run on information. The faster it is received and the more accurate it is, the better. Blockchain is an ideal information tool because it provides immediate, shared, and completely transparent information stored on an immutable ledger that only permissioned network members can access. A blockchain network can track orders, payments, accounts,production processes, and much more. And because members share a single view of the truth, they can see all details of a transaction end to end, giving them increased confidence and opening up new efficiencies and opportunities. This, together with some other feautures, creates a new digital ecosystem in which green finance can flourish.

## 6.4. The Tokenization of Assets for a Decentralized Future in Europe: Carbon Credits as an emerging Asset Class.

An OECD paper ("*The Tokenisation of Assets and Potential Implications for Financial Markets*" (Jan. 2020). states that "asset tokenization" involves the digital representation of physical assets on distributed ledgers or the issuance of traditional asset classes in the form of tokens.
In the first case, the economic value and rights derived from pre-existing real assets are linked to, or embedded in, tokens based on distributed ledger technology (DLT), which then serve as a store of value. The issued tokens exist only within the blockchain, while the real assets continue to exist in the real world outside the blockchain. In the second case, asset tokenization involves the creation of an instrument generated within the blockchain and the issuance of native tokens, born directly on the blockchain, that live exclusively on the DLT. A token corresponds to a digital asset registered within a blockchain infrastructure. A blockchain infrastructure ensures that token exchanges take place securely and without intermediaries, opening the door to a large number of applications that are not limited to the cryptocurrency world. Although the term "**token**" is commonly used in reference to cryptocurrency, the two terms are not interchangeable. All the basic characteristics of tokens and how they are transacted are established in smart contracts.
Characteristics to be established are: a) number of tokens in circulation; b) users who can transfer them; and c) those who can dispose of the tokens up to the relevant access rules.

Emissions trading systems (ETS) have proven to be an effective and efficient form of carbon pricing and are an important climate policy instrument, with the ability to mitigate climate change on a large scale. Achieving the Paris Agreement climate targets will require the widespread use of carbon pricing.

An ETS caps and reduces emissions through tradable allowances that induce emissions reductions at the lowest total cost to society. The most potent tool in combating climate change is a price on carbon and the use of advanced technology such as blockchain and AI (machine learning) to shape virtuous and more sustainable circular business models.

Innovative companies and multinational enterprises are also moving items of value across blockchain networks. The process of tokenization converting the rights to an asset into a digital token within a blockchain, with one token representing an intangible asset or a defined portion, plays a considerable role in the exchange of information.

Everything is recorded on the distributed and decentralized ledger, increasing trust and transparency between counterparts. Lifting responsibilities from the companies that have been granted access to a public and permissionless blockchain allows the entire ecosystem to focus on its respective businesses and obligations. They can also anticipate future objectives and projects by using smart contracts.
Putting a price on carbon emissions that considers the negative externalities of climate change creates an incentive for the invisible hand of the market to move economies away from burning fossil fuels. A price on carbon that can encourage this is arguably the most effective way to lower carbon emissions. Although carbon dioxide is not the only greenhouse gas, it does the most damage. For investors, carbon traded in these markets can be viewed as an attractive asset class with well-understood risk premium drivers.

(See Table 2 - Three Types of Carbon Markets, source: A. Lanotte, "*The Tokenization of Assets for a Decentralized Future in Europe* (Tax Notes International US ").

**Table 2. Three Types of Carbon Markets**

| Market Elements | ETS Carbon Markets | International Carbon Markets | Voluntary Carbon Markets |
|---|---|---|---|
| Description | Mandatory participation for large emitters.<br>Some allow limited amount of international Clean Development Mechanism credits. | The Clean Development Mechanism was the first major international market under the Kyoto Protocol.<br>Emissions reductions transferred across countries. | Independent markets for non-regulated entities to voluntarily reduce emissions.<br>Variety of industry-created standards. |
| Status | Covers 8% of global emissions, growing to 14% with the launch of the China ETS. | Large market, currently stagnating.<br>Article 6 of the Paris Agreement aims to reignite international markets. | Mainly used for corporate social responsibility activities.<br>Attractive for small projects. |
| Regulation | Highly regulated, with robust monitoring, reporting, and verification. | U.N.-recognized accounting methods, such as gold-standard accounting. | Low to no regulation, different accounting methods with varying degrees of rigor. |
| Liquidity | Highly liquid.<br>In 2018 more than $200 billion traded in the Western Climate Initiative and Regional Greenhouse Gas Initiative, and EU ETS. | Medium liquidity.<br>Average of $14 billion traded per year since 2006. | Low liquidity.<br>In 2018 nearly $300 million traded. |
| Carbon prices | Range from $5.70 to $31.50/ metric ton of carbon dioxide-equivalent emissions ($tCO_2e$). | Range from $0.20 to $0.40/$tCO_2e$. | Range from $0.10 to $70/$tCO_2e$. |

The twin green and digital transformations are a key priority. To realize the green potential,

digital technologies need investment and legislation that encourage them to flourish. For this to happen, important world events like the annual World Economic Forum in Davos, Switzerland, or the 2023 U.N. Climate Change Conference, the 28th session of the Conference of the Parties (COP 28) to the U.N. Framework Convention on Climate Change will convene from November 30 to December 13 in Dubai, must look at digital and climate action together, rather than as separate policy areas.?

**6.5.** **The European Parliament should convene the European States-General of Finance in the age of Web 3.0** for 'positive shifts' leading to a new social contract. There are many conferences on finance, some on subjects such as the stability pact, others on the role of development banks, others on private finance, but never on a systemic approach to public finance and private combined. This would involve putting in place a systemic financial strategy with new pillars in the areas of public and private finance and their governance, trust and transparency, as well as in terms of financial, accounting and budgetary standards, debt management, borrowing, impact investing, blended capital, DeFI, regenerative finance, redistribution of value( token economy.

**Proposal 7. The UNECE Aarhus Convention** signatories should consider how they could contribute to build transparency and trust through a DLT eco-system" *Blockchain Eco-System for UN Charter Values and SDGs* (BC100 +)

7.1. **The Green Finance Taxonomy** implementation by **Public Banks** - as party to the Aarhus Convention as the EIB – should be monitored by a Blockchain for UN Charter Values and SDGs eco-system

7.2. Signatories of the **Aarhus Convention for Europe** and the **Model Law of the United Nations Commission on International Trade Law** (UNCITRAL) on electronic transferable documents of July 13, 2017, should join the European Blockchain Partnership (EBP), custodian for the European Blockchain Service Infrastructure (EBSI), as Observers.

| | |
|---|---|
| **16:00-17:15** | Session 2: Blockchain, the Green Industrial Revolution & the Green deal, Net Zero Agenda |
| Panel discussion **Moderator: Flavio Brugnoli *** | |
| • Ms Nena Dokuzov, European Blockchain Partnership<br>• Pierre Marro, DG Connect European Commission<br>• Ms Marieke de Ruyter de Wildt, TITAN EU project, Bockchain & Food Systems<br>• Dr. Almudena de la Mata, DApp EU Project, Citizens contribution to Air Quality<br><br>Debate with respondents : Luigi di Marco, Leda Guidi, Silvio Ranise, Daniele Tumietto * | |

**Proposal 8. A blockchain eco-system and its situation room : European Public Goods – Green deal and Green Industrial Revolution – Environmental impact for science-based policy framework.**

Planetary boundaries are subject to irreversible shifts that will affect international security (permafrost, Gulf Stream, melting ice at the poles in particular). Europeans must accelerate the transition to a new low-carbon economy within a framework of revisited international cooperation. Similarly, biodiversity management can be transformed by using the Web.3 which provides tools to increase efficiency, redistribute value to the benefit of the most disadvantaged (who often play an essential role in ecosystem services) and accelerate the transition to an economy of the commons.

The resilience of humanity in the face of the need for adaptation in relation to planetary limits calls for a revolution in the management of common goods such as the tropical forest, biodiversity sanctuaries, water and air. It will not only be about the right of citizens to enjoy it without discrimination, but also having to allow their direct participation in the management[13]. It should be emphasized here that this is a shared environment for which everyone is accountable.[14]

New business models are needed to regenerate the planet, influence the global value chain to defend the values of the United Nations and Europe, accelerate the transition, manage the carbon market, assess impacts on climate change, biodiversity loss, and pollution – see UNEP's Sustainable Consumption and Production Hotspots Analysis Tool.

**Proposal 9. Empower the 'spleeping giants' of the 'purchasing power'. The Commission should provide a stragegy Blockchain & Public procurement**. Here too, the rules of the game

must be changed for more traceability and debate on the impact of public procurement in the value chain in the context of "disintermediation" (formulated already in 2016 in the analysis of the EP STOA) and from Decentralized Impact Organisations21 DIOs built on DAOs and ReFi for climate, NFTS22. This would therefore concern the climate, biodiversity, the circular economy, etc. on the 3 axes '*verification, staked commitments, collective action'.*

**Proposal 10. The EU Observatory and Forum should provide an overview of Trade 2026 & Business, as** Commodity Traders are the last bastion of wild capitalism. Multinationals and banks are already very present in the field of trading and shipping platforms. proof of the expected added value. The subject concerns private and public agendas in the areas of food security, management of food systems and imports (cocoa), sustainable energy and climate, management of minerals (cobalt, gold, diamonds), such as community organization (DAO).

**Proposal 11. A Situation Room should focus on Blockchain for Voluntary Carbon Market.** According to the Blockchain for Good report None of blockchain projects can guarantee the truth and accuracy of information shared in a distributed ledger. From this pitfall, relating to the quality of the data, stems the interest or the uselessness of these projects, the lack of maturity of which does not yet allow us to say whether they are falling into a new "greenwashing" or are the beginnings of deeper changes contributing to climate resilience.

**Proposal 12. Decarbonize crypto. The Europeans should join the Crypto Climate Accord, initiated in 2021 by Energy Web, the Rocky Mountain Institute (RMI) and the promoter of fair financial systems Alliance for Innovative Regulation (AIR),** since joined by more than 250 market participants. The shared ambition is to decarbonize the global crypto-asset sector by "prioritizing climate management and supporting the transition of the entire crypto sector towards net emissions of zero greenhouse gases by 20401

Aircraft compensation. According to the Blockchain for Good report, the promise of these initiatives concerns regenerative agriculture, reforestation or even reforestation activities. Greenpeace study based on project documentation and satellite analysis of deforestation in and around projects supported by British Airways, easyJet and United Airlines. And their verdict is, to say the least, very mixed.

BC100+ considers 12 flagships in this context:

**Proposal 13. Flagship Self Sovereign Identity** *through the European Blockchain Services Infrastructure (EBSI),* Objective : Scale up success stories in support to

- street children in countries lacking identification systems.
- small farmers land property, in countries lacking identification systems.

- migrant populations inclusivity and refugee's support
- students (diplomas)

**Proposal 14. Flagship Food in Crisis** The World Food Programme (WFP) Innovation Accelerator and GBBC Giving are working together on Food for Crisis, a joint initiative to address the global hunger crisis. Pilot country: Ukraine.

**Proposal 15. Flagship Food Systems.** Lead partner : The TITAN consortium Objective : Providing digital technologies that increase transparency throughout the food value chain to save money, resources, people and the planet. https://titanproject.eu/

| |
|---|
| Lead partner : The TITAN consortium consists of eight universities, three research institutes, thirteen small and medium-sized enterprises, and three non-profit organizations. The 27 partners are located in 14 countries throughout Europe, namely: Belgium, Finland, France, Italy, Germany, Greece, Netherlands, Norway, Serbia, Poland, Portugal, Spain, Switzerland, and United Kingdom. |

Objectives and expected impact.

The overall aim of TITAN is to enhance food transparency in order to transform the food system into a demand-driven economy that provides consumers with healthy and sustainable food. The 21 TITAN innovations will address:

- transparency of information to consumers, for better food choices;
- transparency for enhanced food safety and authenticity of products.
- better information on health and sustainability of food products.

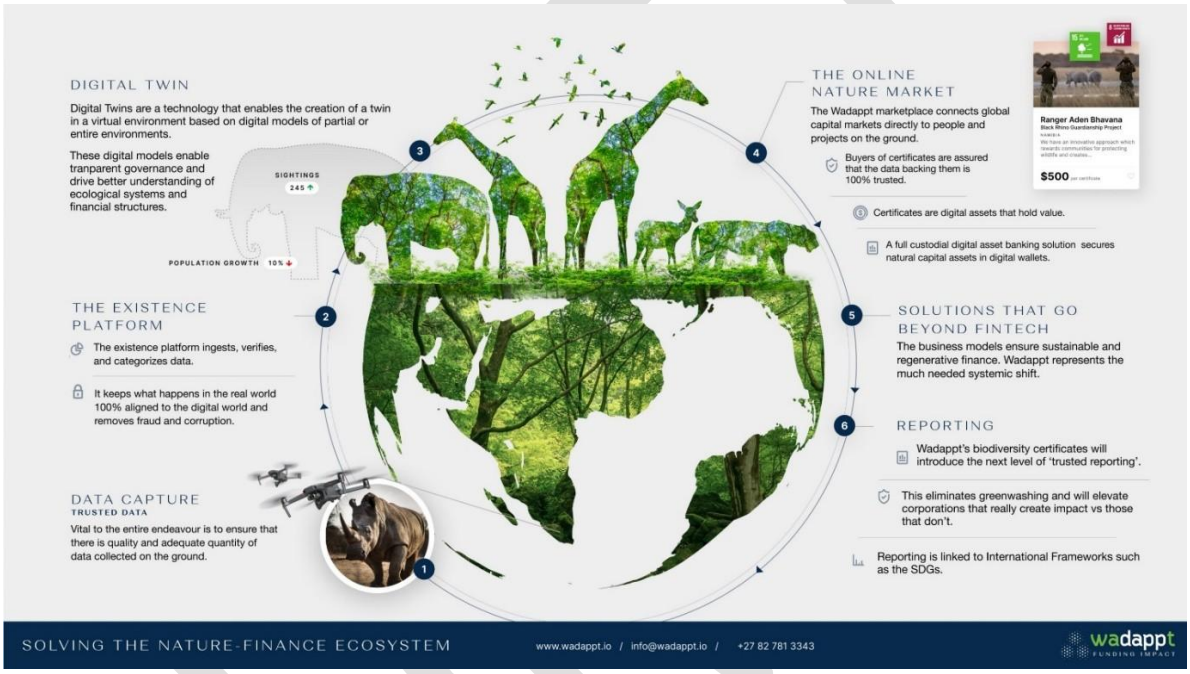
**Proposal 16. Flagship Rainforests. In view of Climatre COP 30 in the Amazon Region :** Indigenous People and Value Chains of the Amazon and Congo Basin & Indonesia.

**Proposal 17. Flagship Oceans. Pacific and Indian Oceans (eventually enlarged to Arabian Gulf & Red Sea,)** Blue economy, maritime transport & logistic and trade value chains in view of UN Oceans Conference June 2025 co-chaired by Costa Rica and France and hosted by the City of Nice.

**Proposal 18. Flagship Blood Minerals**. Transform the Coltan value chain for the benefit of local communities in Eastern Congo and its mining cooperatives. This is the purpose of the feasibility study project which is presented to echoing a call from Doctor Mukwege, Peace Nobel Prize : *Why can't we imagine a transparent win-win trade where the industry develops and pay for the raw materials at their fair price? Today we hear about 'green cars', green economy, energy transition. But in Congo, the color is red, the red of the blood shed every day.*

**Proposal 19. Flagship Plastics.** Including plastics recycling related to the SDGs in view of UN Conference on Oceans June 2025 & Global Plastics Treaty. Global *plastic waste is increasing rapidly. In general, densely populated regions generate tons of plastic waste daily, which is sometimes disposed of on land or diverged to sea.*

**Proposal 20. Nature Conservation &Local Communities Well Being** with Authorities of South Africa, Namibia, Great Lakes Region with 'direct SDG positive impact' financing mechanism where funds go directly to communities and projects creating positive impact on the ground.



| 17:15-18:15 Session 3: Blockchain to reduce inequalities |
|---|
| Panel discussion **Moderator: Marco Ciurcina *** |
| • Julio Linares, Economic anthropologist and outreach for the Basic Income Earth Network, Circles UBIe<br>• Alexi Anania, EUBOF Expert<br>• Ms Ingrid Vasiliu-Feltes, CEO Softhread, CIO Government Blockchain Association<br><br>Debate with respondents : Cinzia Maiolini *, Livio De Santoli |

1. Just Transition.

According to Eloi Laurent[18], we are approaching the finite limits of our planet's hospitality. Our social systems have become self-destructive. We must reverse the spiral where we are destroying the habitat that sustains us. This requires a just transition. In Latin transitio means the passage, which is to say the narrow way that humanity must develop in the first half of the 21st century. In the face of crises, we need a vital acceleration of collective intelligence. It must ensure a fair and equitable transition, the condition of which is the great sharing: of resources, of power and of all the intelligence at our disposal. This work of sharing must be deployed on many fronts at the same time: energy, water, air, soil, climate, biodiversity, health according to various methods of justice: distribution, redistribution , participation, recognition.

We need an economy bounded upstream by biophysics (with more efficient management of flows of materials, waste, energy, biodiversity and ecosystems) and bounded downstream by social justice which articulates the universal human needs at planetary limits by projecting them over time and draws the 'well-living' or 'good life'.
How blockchain can contribute to this:

Redistribute value. Economy tokens. It will be a question of paying particular attention to initiatives that make it possible to redistribute the value for the benefit of the most disadvantaged in the value chains such as small farmers, indigenous people who manage forests, etc.

No one should be left behind. It is a question of expanding more and more the role of the citizen, including the most vulnerable, as an actor in the value chains. We must devote this new vision of the citizen-actor, who does his part through his choices both in terms of behavior and the use of his purchasing and investing power. This will have local and global impact. This is

[18] Economie pour le XXIème siècle. Manuel des transitions justes. Eloi Laurent, Ed La Découverte. Janvier 2023.

particularly the case of the European Climate Partnership, which should be equipped with a blockchain ecosystem to encourage exchanges and monitor progress.

A Blokchain eco-system in support to ecosystem restoration should be designed in order to

- Put equity at the center and work closely with local communities
- Incorporate equity and justice concerns.
- Elevate case study alongside global approaches.
- Improve scientific communication around opportunities, trade-offs, and power relations.
- Adjust high level restoration targets to place greater emphasis on equity

**Proposal 21. Flagship Migrants.**

The just transition is based on three dimensions forming an economic triptych: reducing inequalities, redefining cooperation, rethinking human needs. It must primarily benefit the most vulnerable communities and lead to good living.

- In the framework of the Turin meeting we will focus on the case of migrants and blockchain initiatives for their integration in Italy.
- We will also discuss the issues analyzed in Identity Check's Blockchain for Good report. Regarding the use of biometrics in the humanitarian field, the report "Biometrics in the Humanitarian Sector" published in 2018 by Oxfam, also concluded that, on the precise use of biometric data of aid beneficiaries, "the risks potentials for humanitarian agencies to hold large amounts of immutable biometric data – legal, operational, and reputational, combined with the potential risks to beneficiaries – far outweigh the potential benefits in almost all cases. (…) According to Mark Duffield, Emeritus Professor at the Global Insecurities Center at the University of Bristol in England, "complex humanitarian crises in the Global South have become 'cyber-humanitarian laboratories' functioning as feedback loops allowing private companies to test new technologies for the extraction, analysis, and application of humanitarian intelligence on displacement3". p.323

**18:15-18:45**. Conclusions by
Ms Dasha Silovic, The-EPE and Mr Pier Virgilio Dastoli, EMIT *.

**This report is an invitation to define a "European geopolitical blockchain strategy" at three levels**, that of the EU, that of the European Political Community and that of the partnership with the "Global South".

**Proposal 22. Flagship Transparency in Public Funding**. See pages 14-15. Next step

**Proposal 23. Flagship Regenerative Finance**. Next step

**Proposal 24. Flagship Decentralized Finance**. Next step.

**Proposal 25. Turin Event Follow up for Italy**. Interventions during the Turin event on the situation in Italy should make it possible to prepare a follow-up at the Italian level, the State, its Regions and Cities, its companies, finance.

Once the proposals above will be consolidated an appointment with the European Commission First Vice-President Timmermans as well as the Ambassador of Ireland in Italy will be requested to present the Turin Declaration.

DRAFT