July 2021

Plastic Credits

— *Friend or Foe?*

Retrospective of recent market dynamics

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– Friend or Foe?

Founding partners

Supporting partners

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Report Agenda

YUNUS ENVIRONMENT HUB

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Introduction

With socio-environmental awareness continually growing yet Extended Producer Responsibility (EPR) schemes not being available in most markets outside Europe, plastic packaging causes headaches for hundreds of businesses. **Innovative solutions are desperately sought to stem the plastic tide as the pressure on governments and businesses increase. Along with the plastic debris 'Plastic Credits' swept ashore in most recent years.** But what first sounded promising, now quickly is becoming an environmental pariah. Why is that the case?

Are we at risk of cutting corners by focusing solely the "new commodity" in form of plastic recyclates and shying away from the difficult debate about the social implications that come with it? The idea of "plastic neutrality" requires continuous and unlimited access to recyclates to match the amounts of plastic we pump into the markets every day. **In this hasty yet idealistic pursuit of "plastic neutrality" we tend to forget that recyclates are labour intensive, and that to warrant sustainable material flows all people in the value chain must be adequately compensated. As pressure increases for the Fast Moving Consumer Goods industry so does the pressure on our society and ecosystems. Yet, the awareness of social and humanitarian impacts in the plastic pollution debate is still not on par with the environmental impacts.** We're risking to repeat the oversights of the Carbon Markets that gave rise to the Climate Justice movement. As in Climate Change, the impacts of plastic pollution are not borne equally or fairly, between rich and poor, women and men, and older and younger generations.

ValuCred analysed the plastic recycling sector and specifically the Plastic Credit market in terms of its ability to create the much needed market transition, anchoring social justice and sustainability firmly within its accounting mechanisms. **In 2021, *ValuCred* reviewed 19 out of 28 identified relevant international standards[i] in addition to 9 related certification services[ii], and 38 plastic crediting schemes and platforms[iii].** Analysing the wider market landscape, we have identified some of the reasons that may explain the inversely proportional relationship between the interest in impactful solutions and their business uptake.

This analytical report focuses on the seven most relevant voluntary market standards in the newly evolving Plastic Credit market space. Further research results and insights into certification services and projects, plastic credit schemes and platforms will be shared in a separate report in the near future.

***ValuCred* is a consortium led by *Yunus Environment Hub*, *Nehlsen AG & Rodiek*, and *BlackForest Solutions*, for the design and financing of sustainable plastic waste management systems. ValuCred is one of the first projects promoted by *PREVENT Waste Alliance*, with funding from the *German Federal Ministry for Economic Cooperation and Development (BMZ)* and the *Röchling Stiftung* for the development of an international *Standard Process Model (SPM)* that aligns and connects interdependent stakeholders in the ‚Plastic Credits' market.**

1 Research background

Categorizing the plastic sector

In 2021, *ValuCred* conducted a desktop research in the plastic sector with focus on approaches to address plastic pollution and the related emerging Plastic Credit market. Over 60 relevant standards, norms, guidelines, certification schemes, project developers, project platforms, marketplaces and digital solution providers were identified.

To establish some preliminary structure and gain better oversight of the market space, *ValuCred* decided to define three purpose-based categories, based on the services provided:

1. Standards, norms, and guidelines
2. Certification services
3. Projects, platforms, and marketplaces

Further breakdown into subcategories may be considered as the intelligence gathering continues. Before outlining the undertaken analysis of identified Plastic Credit standards' compliance with SDGs, this report briefly summarizes the main characteristic of the three categories defined during the research of the plastic sector and Plastic Credit market.

1.1. Category 1 – Standards, norms, and guidelines

With a total of 28 relevant standards and guidelines identified, category 1 consists of international and national standards that focus either on:

a six recycled content validations and verifications (material quality standards),

b) five environmental aspect and impacts of plastics in the environment,

c) nine plastic waste chain of custody validations and verifications with or without the purpose of issuing plastic credits,

d) miscellaneous others e.g., plastic waste feedstock, environmental claims, etc.

Groups a), b), and d) are predominantly international or national **standards** (*ISO, EN, DIN*, etc.) whilst group c) can be described to have the character of voluntary **market guidance**.

Note: *This report focuses and is based on the review of voluntary plastic credit standards that are available in the public domain as of June 2021. Later versions of voluntary standards, or versions of voluntary standards that are not publicly available are not evaluated in this report.*

1.2. Category 2 – Certification services

Whilst this report focuses on standards, *ValuCred* deems it necessary to highlight the fact that the observed inconsistent language use in the Plastic Credit market, specifically pertaining to certification claims, leads to misunderstanding of fundamental certification principles. We therefore wish to clarify some of the typical terminologies and underlying certification principles to ensure a common understanding. The following is written with the intent to provide the factual information and to clarify concepts, rather than implying any guiding of leading character.

Accredited versus non-accredited certification services

Generally, certification services ought to be led by independent certification bodies, which can either offer

- accredited or
- non-accredited services.

The certification programs for beforementioned groups a), b) and d) of category 1 are mostly accredited services that certification bodies offer. Accreditation bodies award accreditation to certification bodies when they have been able to demonstrate their **competence** and **impartiality**. It must be noted though, those accredited services are not always available for every standard in the market.

Certification services for group c) are generally non-accredited; that means that certification bodies offering Plastic Credit validations, verifications, and certifications are typically not subjected to an accreditation body's scrutiny for these service lines. **Accredited certification service** is not yet available for Plastic Credit Programs.

However, it is worthwhile noting here that Verra is working on the development of an accreditation standard specific to plastic waste collection and recycling activities under ISO 17029/ISO and 14065:2020.

Plastic Credit Programs currently only have two choices relating to their public declarations: **compliant** or **certified**.

Compliant versus certified

The difference between compliant and certified:

- **Compliant** is a self-proclaimed title, when the entity in question has implemented all requirements to its best ability and claims that it is being fully or partially compliant, but it has no independent third-party assurance.
- **Certified** means there is an independent third-party certification body that provides written assurance of compliance with the specific standard, or in the case of Plastic Credits: voluntary market guidance.

Our research found that these terminologies are not correctly applied in the Plastic Credit market and therefore lead to confusion. *ValuCred* further observed that the principle of impartiality is not safeguarded in some of the analysed standards in group c), which may explain the observed hesitancy from businesses to embrace the current Plastic Credit solutions in the market.

1.3. Category 3 – Projects, platforms, and marketplaces

This category is by far the largest category and the most complex one as it consists of the participants in the Plastic Credit market that offer a variety of solutions and approaches to address the global plastic pandemic through one of the options below or a combination thereof:

a) generate 'Plastic Credits' through micro, small, and medium scale project operations, and trade of related **proprietary** Plastic Credits

b) generate 'Plastic Credits' through micro, small, and medium scale project operations, and trade of related **third-party** Plastic Credits

c) trade of recycled materials with or without corresponding Plastic Credits

d) engage in direct partnership offsetting (without 'Plastic Credits')

e) engage in direct partnership offsetting and exchange of Plastic Credits

The term 'Plastic Credit' is used collectively to describe the different terminologies in use e.g., Circular Credits, Social Plastic Collection Credits, Waste Collection Credits, Waste Recycling Credits, Ocean Bound Plastic Credits (OBP Credits), Neutralization Certificates etc.

2 Plastic Credit Standards' compliance with the SDGs

When reviewing existing standards relating to plastics, both standards specifically referring to Plastic Credits and those not referring to Plastic Credits were included in this analysis. There are a total of 17 SDGs relating to 169 targets and 231 unique indicators.

Results: None of the analysed Standards[1] refer to the UN SDGs. The only standards that include references to some of the underpinning concepts of the SDGs are:

- *Verra's Plastic Standard v1.0* refers to the underlying concepts for some of the goals in chapter 3.14 *Safeguards*, and so does the *PCX* Standard in Chapter 7 Safeguard Systems.
- *The Ocean Bound Plastic (OBP) certification program* that the certification body Control Union operates with the NGO *Zero Plastic Oceans (ZPO)* states on their website that one of the benefits of getting certified under the *OBP* program is to "Comply with UN Sustainable Development Goals and your own sustainability goals"; however, no SDG indicators that can demonstrate compliance with SDG goals and targets are contained in the *OBP Program*.

Additional information: *Whilst most entities of Category 3 display the SDG icons on their respective websites or project specific websites, none of these 'public associations' can be substantiated by demonstrating contribution to the defined underlying targets or indicators, nor are any self-proclaimed contributions towards the 2030 Agenda for Sustainable Development at the present moment, third-party verified. As such, ValuCred concludes that the icons are used for informational purposes only, and no official claims of contribution are intended.*

[1]UL: UL 2809; Textile Exchange: GRS GRS-101-V4.0 and RCS-101-V2.0; *Verra*: Plastic Standard and Corporate Guidelines; GreenBlue: Recycled Material Standard; DNV GL: Chain of custody DNVGL-BA-PHCoC-01; SCS Global Services: Recycling Program Standard and Recycled Content Standard; *Zero Plastic Oceans: OBP* Collection Organization Standard, *OBP* Recycling Organization Standard, *OBP* Neutralization Services Provider Standard, and *OBP* Plastic Producers & Users Standard; *BVRio*: Circular Credits Standard; *rePurpose Global*: Draft Global Plastic Neutral Standards; *Plastic Credit Exchange* (*PCX*): Plastic Pollution Reduction Standard; *Deutsches Institut für Normung (DIN)* and cirplus: *DIN* SPEC 91446, *ISO* 14024:2018, *ISO* 15270:2008. [Note: Standards from the *Comité Européen de Normalisation*: EN 15343 and *International Standards Organization*: *ISO* 14020:2000, *ISO* 14021:2016, *ISO* 14024:2018, *ISO* 15270:2008, *ISO* 17422:2018, *ISO/TR* 21960:2020, *ISO* 22526-1:2020 and *ISO* 22526-2:2020, and *ISO* 22766:2020 were not reviewed as those standards have to be purchased.]

3 Social and environmental criteria for project financing

Only the Plastic Credit specific standards are relevant here, hence a limited selection of the before-mentioned standards carry through this analysis. The objective of this chapter is to offer an analysis of environmental and social criteria within the voluntary standards, and to highlight the existing difference in interpretations thereof. Operational Health & Safety (OHS) requirements are not in scope of this report.

ValuCred noted that the voluntary standards either refer to "safeguards" or to "criteria", and ValuCred does not interpret the different terminology to have a bearing on their intended enforceability.
It is ValuCred's interpretation however that safeguards differ from criteria in their intention and aim by their very definition.

Safeguards are precautionary measures, stipulations or something that serves as a protection or defence (=protect from harm). Criteria are a set of defining characteristic of something, standards on which a judgment or decision may be based, or rules or principles for evaluating or testing something (=neutral quality).

For the purpose of comparability amongst the most relevant different Plastic Credit market standards, ValuCred's focus in the analysis lies on qualitative and quantitative parameters, preferably in the form of measurable criteria. In ValuCred's opinion criteria enhance transparency as they foster comparability between the various initiatives in the Plastic Credit market.

3.1. *Zero Plastic Oceans' Ocean Bound Plastics Program*

The OBP Program, consisting of two subprograms and four voluntary standards, focuses predominantly on the certification of the flow of materials. The below named voluntary standards do not contain any references to "Plastic Credits" , but uses the terminologies and "Ocean Bound Plastic Credits", and "Neutralization Certificates" instead.

Note: *This report is based on the versions of the Standards available in the public domain in June 2021. Zero Plastic Oceans will publish new version updates for its voluntary standards in September 2021 that address some of the raised concerns in this report.*

Regarding social and environmental criteria, a generic statement is included on the program's website "International social and environmental standards are implemented all along the value chain of plastic collection, transformation, and disposal, including no child labour, fair working conditions, fair payments to the waste pickers and adequate waste management." It further says that the *OBP* program has a positive social impact creating jobs and better economic opportunities within vulnerable communities.

As a general social criterium requirement, all voluntary standards stipulate that organizations shall have social policies in place that encourage that workers are at least paid minimum legal wages.

3.1.1. *OBP* Collection Organization Standard, effective 08th of October 2020

Social criteria

- This voluntary standard stipulates that organizations shall take social impacts into consideration when selecting collection sites.
- Organisations shall not use child labor in any way, and the minimum age is set at 14 years for any kind of work. Further, an organisation shall demonstrate compliance with the national minimum age for employment and/or the age of completion of compulsory education, whichever is higher.

- Forced or compulsory labor as defined by ILO convention 29, or any condition that will generate an unfair dependence of workers towards the Organization (such as retaining identity documents, salaries, generating debts) shall not be used.
- Social policies that ensure that workers are at least paid minimum legal wages are endorsed.
- Additionally, the FAQ document that serves as supporting interpretation guideline for certification bodies contains the requirement for the informal sector to be paid a price for the OBP material that is within or above local market prices, to ensure fair working conditions for informal waste pickers.

Environmental criteria

- Any type of plastic materials is accepted in the *OBP* Program, incl. tyres, synthetic rubber materials, paints, and resins.
- Co-processing i.e., energy recovery is permitted under the *OBP* Program

This voluntary standard stipulates that organizations shall first and foremost take environmental impacts into consideration when selecting collection sites, and that collection sites are to be located within 45km from a shoreline to be considered *Ocean Bound Plastic (OBP)*. In terms of "surplus collected *OBP* material" that is not bought by anyone, a proof of environmentally adequate final disposal must be provided.

3.1.2. *OBP* Recycling Organization Standard, effective 08th of October 2020

Social criteria

- Organisations shall shall not use child labor in any way, and the minimum age is set at 14 years for any kind of work. Further, an organisation shall demonstrate compliance with the national minimum age for employment and/or the age of completion of compulsory education, whichever is higher.
- Forced or compulsory labor as defined by ILO convention 29, or any condition that will generate an unfair dependence of workers towards the Organization (such as retaining identity documents, salaries, generating debts) shall not be used.
- Pocial policies that ensure that workers are at least paid minimum legal wages are endorsed.

Environmental criteria

This voluntary standard stipulates that recycling organisations shall have enforced waste management procedures that prioritize reduction, reuse, and recycling of all its production wastes, and that they shall be able to demonstrate the destination of its final waste, in particular that all reasonable precautions are taken to avoid that its plastic waste may become abandoned in the environment or open air burned.

3.1.3. *OBP* Neutralization Services Provider Standard, effective 08th of September 2020

This voluntary standard allows producers offsetting of consumed plastic through *OBP* Neutralization Certificates.

Social criteria

- This voluntary standard stipulates that organizations shall take social impacts into consideration when selecting collection sites.
- Organisations shall not use child labor in any way, and the minimum age is set at 14 years for any kind of work. Further, an organisation shall demonstrate compliance with the national minimum age for employment and/or the age of completion of compulsory education, whichever is higher.
- Forced or compulsory labor as defined by ILO convention 29, or any condition that will generate an unfair dependence of workers towards the Organization (such as retaining

identity documents, salaries, generating debts) shall not be used.

- Social policies that ensure that workers are at least paid minimum legal wages are endorsed.
- Additionally, the FAQ document that serves as supporting interpretation guideline for certification bodies stipulates that payments for recyclable materials shall be above the minimum local benchmark prices for informal waste pickers.

Environmental criteria

This voluntary standard distinguishes between disposal and **valorization**. **Valorization** encompasses all treatments of *OBP* including thermal treatments such as pyrolysis, gasification, incineration, or co-processing in cement kilns. Licensed landfilling of *OBP* is also accepted within the scope of this Standard.

Neutralization Certificates are equivalents of a given weight of non-recyclable *OBP* removed from the environment.

3.1.4. *OBP* Plastic Producers & Users Standard, effective 08th of September 2020

This voluntary standard allows producers offsetting of consumed plastic through *OBP* Neutralization Certificates. It is the only one of the four that directly mentions the organizations' commitment to finance the removal of *OBP* from the environment (here: "Neutralization") in direct correlation with the quantity of plastic used for the manufacturing of the organization's product (product line or range of products). That is, if an organization uses 1,000 metric tonnes of plastics for a product (product line or range of products), it will need to purchase i.e., finance an equal amount of *OBP* removed from the environment to claim successful "neutralization". The price per tonne for the neutralization service fee and the annual weight of *OBP* to neutralize are to be pre-determined in the contract between the parties.

Social criteria

- Subcontractors must sign a self-declaration of compliance with minimum social and environmental requirements.
- Organisations shall shall not use child labor in any way, and the minimum age is set at 14 years for any kind of work. Further, an organisation shall demonstrate compliance with the national minimum age for employment and/or the age of completion of compulsory education, whichever is higher.
- Forced or compulsory labor as defined by ILO convention 29, or any condition that will generate an unfair dependence of workers towards the Organization (such as retaining identity documents, salaries, generating debts) shall not be used.
- Social policies that ensure that workers are at least paid minimum legal wages are endorsed.

Environmental criteria

This voluntary standard stipulates that recycling organisations shall have enforced waste management procedures that prioritize reduction, reuse, and recycling of all its production wastes, and that they shall be able to demonstrate the destination of its final waste, in particular that all reasonable precautions are taken to avoid that its plastic waste may become abandoned in the environment or open air burned. Washing of *OBP* is considered as unpractical and not environmentally sensible; hence removing contents or unwanted contamination is endorsed. In doing so toxic product like solvents, acids, soaps, cleaning products must not be released into the environment under any circumstances.

Other non-plastic wastes e.g., Tetra Pak are excluded from this scheme.

ValuCred annotation: *All voluntary standards contain an annex with a self-declaration for sub-contractors, which must be signed off, declaring that the sub-contractor does not use child labour, forced labour, and has social policies in place to pay minimum wages.*

3.2. *Verra*

3.2.1. Plastic Waste Reduction Standard v1.0, effective 10th of February 2021

One of the Plastic Standard's objectives is to address social and environmental risk and improve livelihoods throughout recycled material supply chains and that accounting methods will be set out for social and environmental **safeguards**.

In addition to this voluntary standard, *Verra* permits additional standards, such as the Sustainable Development Verified Impact Standard (SD VISta), to be applied to demonstrate positive social and environmental impacts beyond *Verra*'s Plastic Program.

Under this voluntary standard it is up to the project proponent to identify potential intended or unintended negative social and environmental impacts and mitigate the corresponding risks.

Social safeguards

Any employment provided in the course of the project activities shall be fairly and equitably compensated. To meet basic needs of all project actors, proponents shall ensure that at least a regionally prevailing industry wage, striving to ensure a living wage, is paid. Living wages as opposed to minimum wages shall be aimed for according to the definition from the Global Living Wage Coalition, and hours worked beyond the regionally recognised work week shall be compensated. Any involvement of persons under the age of 18 is discouraged and forced labor including contractually bound labor without compensation, or withholding wages as disciplinary measure are strictly prohibited.

ValuCred annotation: *It remains unclear how this voluntary standard promotes an environment for sustainable economic growth inclusive of the informal sector and the most vulnerable, implying that "where a project proponent must eliminate existing income-generating activities such as from informal waste workers" alternative activities that generate the same or an increased income and that require similar knowledge, skills and working hours must be created. Further, the voluntary standard suggests that a project may lead to a loss of employment greater than creation of employment and that this must be described and justified by the project proponent. Alternative activities that generate the same or increased income and require similar knowledge, skills and working hours shall be created, as a compensation measure.*

ValuCred looks at this with some concern as it can still give rise to unintended negative impacts on the community as these workers transition into new activities. The consultation and consent mechanisms for this compensation measure are not clear at this time.

Environmental *safeguards*

This voluntary standard establishes *safeguard* requirements for topics such as energy efficiency, Greenhouse Gas (GHG) emissions, and natural resources. Using primary data and/or secondary literature, project proponents shall demonstrate that all technologies used in the project activity have energy efficiencies similar to or greater than equivalent technologies used in the region.

Verra also requires projects to demonstrate additionality, which is covered in a section separate from other environmental safeguards of the Plastic Standard.

- The energy efficiency *safeguard* asks the project proponent to ensure conservative energy consumption for the activity type.

ValuCred annotation: *Whilst this requirement will be verified by a third-party auditor and it is a valuable benchmark to strive for, it remains sufficiently vague and will, specifically in least developed and low-income countries, prove difficult to objectively verify.*

Compliance with this requirement may be demonstrated in the way that is most appropriate for the project activity and geography, which means that quantitative and qualitative international comparability of projects' and activities' impacts remains challenging.

- GHG emissions shall be monitored and any increases in emissions due to the project shall be kept to a minimum, if not avoidable. The least GHG emission-intensive activities and/or technologies shall be deployed, where feasible.

ValuCred annotation: *The standard offers examples of GHG emissions management measures that may be applicable to a diversity of projects registered under the standard and therefore is not uniformly applicable to all projects, which renders it not comparable with other standards. As such, this remains too vague to evaluate environmental performance or weigh resulting positive against negative impacts effectively.*

- Any direct impact of the proposed projects on natural resources inter alia air, water and soil quality as well as biodiversity and endangered species shall be identified, avoided, or mitigated.

ValuCred annotation: *Whilst Verra's standard includes examples of how compliance with these requirements may be demonstrated and the method that is most applicable can be chosen by the project proponent, ValuCred sees a potential risk of scope creep in this safeguard and a, in some cases unreasonable, burden being placed on the projects. Some of the methods used to identify and avoid or mitigate the impact include: monitoring of water quality and habitat conversion, water risk assessments, adequate treatment of effluents, among others, which would require a project proponent to hire external consultants and third-party auditors to assesses the compliance with these requirements, thus adding a significant financial cost to the 'periphery' of the generation of Plastic Credits that may not be able to be borne by all participants.*

Additional ValuCred annotation: *Unmanaged dumpsites and incineration of plastic waste without energy recovery are not permissible under this voluntary standard. This is considered best practice as it shuns prevalent linear economy approaches to waste management and instead endorses the circular economy principles. At the same time ValuCred acknowledges that waste management infrastructure and recycling solutions may not be readily available yet in many locations for the different types of plastic materials, especially so called "low-value plastics", and that the exclusion of co-processing or landfilling may lead to unintended perpetuation of the common practice.*

Verra is currently developing a chemical recycling methodology, which would allow for the crediting of chemical recycling activities.

3.3. 3R Initiative (3RI)

3.3.1. Guidelines for Corporate Plastic Stewardship, effective 10th of February 2021

These guidelines focus on organizations that seek to reduce their plastic waste and establish a corporate plastic stewardship program and clarifies how Plastic Credits can be used within this context. The guidelines stipulate that companies should apply science-based methodologies to a product/packaging's entire life cycle and its environmental and social impacts. The guidelines state that projects that generate plastic credits must adhere to social and environmental safeguards.

ValuCred annotation: *These guidelines are the only document amongst all reviewed voluntary standards that directly refer to the diminishing need for Plastic Credits over time as corporate actions move towards extended producer responsibility schemes.*

However, Plastic Credits in these draft guidelines are still solely referring to the **material aspect** of plastic waste and only implicitly refer to the related **environmental service** that EPR schemes typically sponsor, by calling for prioritisation of actions within a value chain before investing in outside mitigation actions. As such, with a Plastic Credit "representing a specific quantity of plastic pollution removed from the environment and/or put into the circular economy (i.e. collected and/or recycled), in excess of what would have happened in the absence of the credit-generating activity (i.e., business as usual), *ValuCred* regards the provided guidance as conceptually incomplete and not forging the paradigm shift in the debate about the Plastic Credit as new financial instrument to sustainably fund, the **environmental service** and **infrastructure** as opposed to the 'new commodity' of plastic waste.

EPR schemes ought to sustainably finance the **environmental services** and **infrastructure** that are required for effective waste management, and don't concern themselves with the actual pricing of waste material in the free market. Any voluntary standard or guideline that doesn't align with this core principle can potentially undermine the successful introduction of EPR schemes.

3.4. BVRio

3.4.1. Circular Credits Standard (CCS)

All projects applying this voluntary standard are required to meet minimum social and environmental *safeguards* to ensure that the activities involved in the creation of credits do not cause harm to the parties involved.

Social *safeguards*

In addition to any payment for the acquisition of physical recyclable materials the environmental service of the activities must be adequately paid for.

Environmental *safeguards*

- Additionality: The environmental impact of activities and projects must contribute to an improvement of historic trends of waste pollution.
- No double-counting: The environmental impact related to the recovery and destination of waste should not be attributed to more than one entity.

ValuCred annotation: *The CCM does not fit the typical profile of a "standard" i.e., it is not a comprehensive or version-controlled document, there is no effective date when it came into force, the revision frequency is not publicly stated, etc. However, BVRio's CCS is the only "voluntary standard" out of all reviewed, that unambiguously places the importance of payment for the environmental services rendered by marginalised waste sector workers at its core, thus providing a platform for a more inclusive and holistic debate on Plastic Credits: not to finance the plastic materials but the labour behind the sought-after commodity.*

3.5. Plastic Credit Exchange (PCX)

3.5.1. Plastic Pollution Reduction Standard

This voluntary standard covers the processes of Plastic Offsetting and Plastic Crediting. *PCX* states in the Standard that the amount of Plastic Credits purchased are equivalent to the partner's Plastic Footprint and that this is third party-audited. The organization wishing to offset their plastic footprint can choose to offset a product category, an entire brand, or all company's operations.

ValuCred annotation: *PCX's Standard contains safeguard systems rather than social and environmental criteria. The voluntary standard calls for risk assessments for identified potential impacts relating to pollution prevention and abatement, biodiversity and marine conservation, management of natural resources, and welfare of the people.*

Social *safeguards*

The voluntary standard contains requirements regarding gender equality and social inclusion. Operating partners shall observe best practices on gender equality and social inclusion, and activities shall not implement any specific activities that constitute any form of discrimination or harassment. Further, *PCX* recognizes the important role of the communities in the voluntary standard. Consultations and feedback mechanisms shall be in place and will be available throughout the implementation of the activities.

Environmental *safeguards*

Life cycle analysis is encouraged, taking the type and composition of the plastic waste and the capabilities and regulations in the respective countries into account, to derive at the most favourable and sustainable treatment of the collected plastic waste. The voluntary standard distinguishes between material and energy recovery.

Verified plastic offsets remain valid for one year to ensure the continual removal of plastic waste from the environment. In the process of reducing the plastic waste, there shall be no detrimental impacts to other aspects of the environment.

3.6. *rePurpose Global*

3.6.1. Draft Global Plastic Neutral Standard

*rePurpose Globa*l developed their Draft Global Plastic Neutral Standard in early 2021 and *ValuCred* had the opportunity to review and provide input on these in April 2021. At the time ValuCred concluded its desktop research, this voluntary standard has not been published.

4 Inconsistently considered elements and international best practices

4.1. Inconsistently and insufficiently considered elements in current Plastic Credit Standards and Plastic Credit schemes

Taking a step back from the analysis of the voluntary standards in the previous chapter, and taking a birds-eye view on the Plastic Credit market landscape, *ValuCred* took a two-pronged approach: comparing the voluntary standards against the regulatory backdrop of established EPR schemes and the international Basel Convention on the one hand and comparing the voluntary standards against other globally established management standards and initiatives such as the *ISO* Standards framework, the *Global Reporting Initiative (GRI)*, and the UN Sustainability Goals (SDGs) on the other hand.

The intention for these next chapters is to provide an overview of general elements that ValuCred deems inconsistently and/or insufficiently addressed throughout this new market as well as amongst some of the previously analysed voluntary market standards (4.1), to highlight best practices promoted within the voluntary standards (4.2) and to provide a set of recommendations to encourage the further discourse by bringing all relevant stakeholders together for the much needed thought exchange and debate in this emergent market.

It is within this context that *ValuCred* identified the following concepts that are not consistently and/or sufficiently considered by all actors in the Plastic Credit market space:

- Most voluntary standards focus on the material aspect alone when defining Plastic Credits as the new financial instrument, and neglect to highlight the important potential of Plastic Credits paying for the environmental services provided. This market-driven "price per tonne" debate hides the necessity to liberate finance to ensure adequate living wages throughout the value chain. As the funding of the required infrastructure through Plastic Credits is still inconsistently considered amongst the analysed voluntary standards, the market may perceive the price associated with a plastic credit to be solely for the material collected or recycled, rather than as an investment into the longer term infrastructure that will improve plastic waste management.
- There is insufficient evidence that liaison with and input from international, national, state, etc governmental authorities that will bring EPR schemes into force and govern their roll-out, implementation, and enforcement had been sought by all voluntary standard setters.

  To date, no plastic credit standard has been integrated into an EPR scheme. While some standards and programs are engaged with governmental authorities involved in bringing EPR schemes into force, more effort could be devoted to the goal of implementing and enforcing EPR schemes.
- There is no set of common qualitative and quantitative environmental and social criteria that allow comparability amongst current market players that use different standards.
- A common language for organizations and stakeholders is not yet available, which could further transparency and enhance understanding of new and important concepts.
- None of the voluntary standards contain arithmetic formula(e) and established variables to calculate the Plastic Credit's monetary value that takes one or all of the following into account: country, existing collection and recycling infrastructure, type of plastic removed from the environment, type of collection service (e.g., one off clean-up or private/public regular service), regional minimum wages and living wages, automation of sorting and segregation of lack thereof, international transport of recyclates, etc.
- Verifiable SDG contribution through their targets and indicators i.e., none of the voluntary standards contain any provisions as to the SDG indicators that have to be recorded and mo-

nitored to substantiate any potential claims of contribution to the UN Sustainability Development Goals.

- Relevant and well-established global initiatives and schemes such as ESG criteria & *GRI* reporting, *perfomance based Management Systems approaches such as ISO14001, ISO9001, etc* and European Norms, US Cap & Trade and EU ETS are not considered, and their valuable concepts and potential to benefit this emergent market are insufficiently considered and explored.
- Corporate claims are used either in conjunction with or independently of issued plastic credits in the different programs. Further, there is hardly any voluntary standard drawing a direct correlation between the amount of plastics introduced into a national market by an organization and the amount of plastics removed through plastic credit financed initiatives. Standardization of corporate environmental and social commitments and public claims are needed to increase the transparency of these claims and prevent greenwashing.
- Longevity of commitment i.e., companies that seek to offset their plastic footprint or invest into a project or initiative can abandon their commitment any time, undermining the credibility of Plastic Credit financing as a sustainable approach to address global plastic pollution
- Lack of commonly agreed terminology e.g.,
  - Circular Credits, Social Plastic Collection Credits, Waste Collection Credits, Waste Recycling Credits, Neutralization Certificates, etc.
  - Standard, guideline, guidance, mechanism, scheme, initiative, etc. Especially the terminology "standard" is generously applied in the Plastic Credit market and can be misleading for users
- Lack of commonly agreed definitions and concepts e.g., applicability scope within which Plastic Credits can be used e.g.,
  - to finance environmental services and related infrastructure vs. recyclate material 'subsidies',
  - eligibility of Plastic Credits for avoided plastic emissions achieved through product redesign to promote and finance much needed research and development (R&D) vs. Plastic Credit financing for collection and treatment of already produced and emitted plastics only.
  - exclusive use of SI Units as the international standard for measurement for collected and treated waste
  - differentiation of Plastic Credits depending on their linear or circular approach in terms of plastic waste treatment i.e.,
    - linear: plastic waste collection and incineration in cement kiln or deposit on landfills (plastic waste exiting the material cycle)
    - circular: plastic waste collection and production of new raw materials such as pellets, granules, flakes (plastic waste remaining in the material cycle)
    - etc.

4.2. International best practices

The best practice examples that were observed amongst the reviewed voluntary standards are briefly summarised in the following:

- Payment for **environmental services** (*BVRio*). This core requirement is commendable as it is fully aligned with the underlying principles of successful EPR schemes.
- ISO 14064-2:2019 as well as ISEAL Credibility Principles provide the basis for and guide application of the Plastic Program rules and requirements (*Verra*).
- *Verra* requires the Validation & verification bodies (VVBs) for their program to be IAF accredited for *ISO* 14065:2013.
- Independent third-party auditing being embedded as a concept into the standards (ZPO; Verra)

- Standards allowing any type of plastic materials and therefore have the broadest applicability scope, incl. tyres, synthetic rubber materials, paints and resins (ZPO, *PCX*)
- Public disclosure of plastic footprint assessment (*PCX*)

Conclusions and recommendations

1st recommendation: Build in and safeguard impartiality

Since the Plastic Credit market is a new and emerging one, power dynamics are not yet established, and roles and responsibilities of each participating entity are not always well delineated. Some voluntary standard developers get involved in project development or in the selection of certification bodies, or project developers write their own voluntary standards and sometimes even suggest evaluating their own projects against their own standards without any independent third-party oversight. It cannot be considered good practice if project developers, operators of project or recyclate marketplaces or any other entity deeply involved in the operational side of collections, transport and treatment of plastic waste develop their own "standards" as this -from the very outset- constitutes a direct conflict of interest. It is comparable to car manufacturers writing their own emission regulations.

> ***ValuCred* considers it necessary to integrate and safeguard the principles 'independence' and 'impartiality' as these will be vital to the success of the Plastic Credit market.**

ValuCred therefore considers it necessary to integrate and safeguard the principles 'independence' and 'impartiality' to those standards that do not yet include them, as these will be vital to the success of the Plastic Credit market. These principles will increase accountability to external stakeholders and ultimately generate more trust in a robust framework.

ValuCred hence concludes that there is a tremendous untapped potential for standard setters to

1. step up and out of the operational side of Plastic Credit project implementation to maintain a neutral market oversight and
2. bring upon the paradigm-shift that is overdue in the unregulated sector of Plastic Credits, and with it unleash their full potential.

2nd recommendation: Align with EPR principles

The Basel Convention that entered into force in 1992 is the largest international treaty that controls transboundary movements of hazardous wastes and their disposal, with currently 188 member parties.

General guidance on EPR schemes was already provided in the Plastic Waste amendments to the Basel Convention that was adopted in 2019 with the aim to enhance the control of the transboundary movements of plastic waste. Further guidance on EPR is available in the practical manual on extended producer responsibility adopted by decision BC-14/3, in "Extended Producer Responsibility - Guidance for efficient waste management" and in "Development of Guidance on Extended Producer Responsibility (EPR)". The Plastic Waste amendments entered into force in 2021 in 186 states and one regional economic integration organization, making them the only international legally binding instrument that addresses plastic waste.

For further guidance regarding the environmentally sound management of plastic waste the new Draft updated technical guidelines for the identification and environmentally sound management (ESM) of plastic wastes and for their disposal were published and the stakeholders' consultation ended on 15th July 2021. However, in absence of an international or national regulatory framework for Plastic Credits, the array of voluntary standards is currently defining the global operational framework in which Plastic Credits can be applied. It is therefore the responsibility of standard setters to align their standards' principles and requirements not only with successful schemes such as EPR in Europe, but as well to lead the multi-stakeholder discourse within the right framing and the correct focus i.e., using Plastic Credits to leverage finance for infrastructure and human resource to deliver the environmental services of (plastic) waste collection, transport, and treatment combined with the "polluter pays" principle. Further guidance on EPR concepts is available in the EPR Toolbox developed by the PREVENT Waste Alliance.

Most standards fail to frame these principal objectives of EPR schemes correctly, by focussing pri-

marily on the plastic waste material as tradable commodity, thus steering the debate of Plastic Credit schemes potentially serving as a bridging or "soft onboarding" mechanism towards full EPR conformity away from their core purpose. It is time to move the goalpost as in a decade from now, the Plastic Credit market's focus on commoditized plastic waste will be regarded as short-sighted. The decade long systemic oversight of embedding social criteria into carbon accounting mechanisms led to the necessity to shift the climate change discourse towards civil rights movement with the people and communities most vulnerable to climate impacts.

Learning from past mistakes made in the Carbon Markets, the Plastic Credit market, which is still in its infancy, is at risk to repeat this mistake if it continues to pursue the material aspect rather than focussing on the social impact. The opportunity to steer the plastic pollution and plastic credit discourse towards positive social contributions by establishing financial mechanisms for the environmental services rendered by marginalised communities and the most vulnerable is what ultimately determinate the sustainability of solutions.

ValuCred sees the greatest value for Plastic Credits in acting as a financing mechanism to fund the environmental services of collection, transport, and treatment, and the set-up and operational costs of related infrastructure.

ValuCred sees the greatest value and main applicability for Plastic Credits in the acting as a financing mechanism to fund the environmental services of collection, transport, and treatment, and the set-up and operational costs of related infrastructure. In conclusion, financial aid via Plastic Credits for the trade of recylates as commodity is not deemed appropriate by *ValuCred*. The emerging market of trading recycled plastic materials will, in *ValuCred*'s opinion, regulate itself through supply and demand and does not require Plastic Credits as financial stimuli.

3rd recommendation: Criteria-based valorisation of a Plastic Credit

Plastic Credits don't exist in a vacuum and their value allocation must be contextualised. In light of the above i.e., Plastic Credits are deemed to be a suitable financial instrument to leverage funds for infrastructure and human resource, there is not a "one size fits all" valorisation but consideration must be given to the financial resources of the target country, its existing collection and recycling infrastructure, environmental and social harm inflicted by type of plastic if it was not to be removed from the environment, type of collection service (regular private/ public service, etc.), regional minimum wages and living wages, automation of sorting and segregation of lack thereof, international transport of recyclates, etc. This means that the current standing practice, where Plastic Credit pricing is demand-driven needs to be flipped on its head, so that the lack of infrastructure and remuneration of workers in the waste sector determines the total combined funding need that is required to establish and operate a sustainable "supply chain" that produces the 'new commodity' of recylates. Plastic waste and recylates will need to be productized and with that, as with any other product, local, regional, and national CAPEX and OPEX investments will need to be made, and those determine the monetary value of a Plastic Credit respectively.

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4th recommendation: Breaking through the glass ceiling

The Plastic Credit market will benefit from straying from its currently myopic vision to build a 'second carbon market', just with plastics instead of CO_2 equivalents. These commodities are inherently different, and the market will hit a glass ceiling, limiting the Plastic Credit market's potential, and cutting off many opportunities that lay elsewhere.

ValuCred notes that the current positioning of the Plastic Credit market is, despite its most recent exploding interest, clinging on to past and single-minded concepts rather than keeping abreast with future developments. Outside the 'car-

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bon market box' successful international schemes such as *ISO* compliant sustainability frameworks, Carbon Disclosure Project (CDP), Dow Jones Sustainability Indexes, and the Global Reporting Initiative (*GRI*) for ESG criteria reporting have been widely adopted and are globally well-established for decades. Europe has been leading the way with the roll-out of EPR schemes, and once again, with the most recent adoption of a proposal for a Corporate Sustainability Reporting Directive (CSRD) by the European Commission large organisations will now need to undergo a fundamental shift in terms of transparency and reporting requirements. The CSRD covers all relevant Environmental, Social and Governance (ESG) elements, and it will be phased in from now until 2023. Transparent structural solutions and effective systems are therefore a necessity as this new Directive will send a ripple effect throughout the international markets, including the Plastic Credit market. For Plastic Credits to become or stay relevant, they must understand and to a certain degree incorporate these new regulatory demands as these will certainly become most relevant for key stakeholders, i.e., FMCG companies and brands.

Greater transparency and accountability amongst all actors in the Plastic Credit market, a common set of terminologies, qualitative and quantitative environmental and social criteria must be established and agreed upon.

5th recommendation: Common language and criteria

Another barrier that needs to be overcome, in *ValuCred*'s view, is the lack of common language and criteria for organizations and stakeholders. To increase the quality of shared information on environmental and social impacts and enable greater transparency and accountability amongst all actors in the Plastic Credit market, a common set of terminologies, qualitative and quantitative environmental and social criteria must be established and agreed upon. That will allow global comparability and therefore a criteria-led determination of preference for different services. This in turn, will inspire or increase trust amongst all stakeholders as it will eliminate the potential for opaque unsubstantiated claims and "greenwashing".

About *ValuCred* and the *PREVENT Waste Alliance*

In the *PREVENT* working group on plastics, *ValuCred* considers all of the above-named elements and recommendations in its development of the international *Standard Process Model (SPM)* to ensure its mid-term and long-term relevance to the corporate sustainability debate and 2030 Agenda for Sustainable Development, whilst striving to align and connect the interests of interdependent stakeholders in the ‚Plastic Credits' market. *ValuCred* forms part of the pilot project "Plastic Credits for Inclusive and Transparent Circularity" supported by the *PREVENT Waste Alliance*. As such it actively takes part in the exchange with other project partners on the development and implementation of Plastic Credits. Moreover, *ValuCred* contributes to the ongoing discussion on Plastic Credits in the working group on plastics with a particular focus on the alignment with EPR.

The *PREVENT Waste Alliance* serves as a platform for exchange and international cooperation. Organisations from the private sector, academia, civil society and public institutions jointly engage for a circular economy. The *PREVENT* members contribute to minimising waste, eliminating pollutants and maximising the reutilisation of resources in the economy worldwide. They strive to reduce waste pollution in low-and middle-income countries and work together for the prevention, collection, and recycling of waste, as well as the increased uptake of secondary resources. The *PREVENT Waste Alliance* was launched in 2019 by the *German Federal Ministry for Economic Cooperation and Development (BMZ)*. More information: www.prevent-waste.net.

Contact Information

For more information on *ValuCred* and our mission to develop a holistic, inclusive, and transparent structural solution to leverage finance for waste infrastructure and operations, or in case of any enquiries, please visit: www.yunusenvironmenthub.com/*ValuCred*/

or contact us via e-mail: info@yunuseh.com

[i]Identified standards

1. *Comité Européen de Normalisation; EN* 15343 Plastics. Recycled plastics. Plastics recycling traceability and assessment of conformity and recycled content
2. *Deutsches Institut für Normung (DIN*) and cirplus; *DIN* SPEC 91446 Standards for trading (via digital platforms) and processing plastic waste feedstock and recyclates
3. *International Organization for Standardization*; *ISO* 14020:2000 Environmental labels and declarations — General principles
4. *International Organization for Standardization*; *ISO* 14021:2016 Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling)
5. *International Organization for Standardization; ISO* 14024:2018 Environmental labels and declarations — Type I environmental labelling — Principles and procedures
6. *International Organization for Standardization; ISO* 15270:2008 Plastics - Guidelines for recovery and recycling of plastic waste
7. Int*ernational Organization for Standardization; ISO* 17422:2018 Plastics — Environmental aspects — General guidelines for their inclusion in standards
8. *International Organization for Standardization; ISO*/TR 21960:2020 Plastics — Environmental aspects — State of knowledge and methodologies
9. *International Organization for Standardization; ISO* 22766:2020 Plastics — Determination of the degree of disintegration of plastic materials in marine habitats under real field conditions
10. *International Organization for Standardization; ISO* 22526-1:2020 Plastics — Carbon and environmental footprint of biobased plastics — Part 1: General principles
11. *International Organization for Standardization; ISO* 22526-2:2020 Plastics — Carbon and environmental footprint of biobased plastics — Part 2: Material carbon footprint, amount (mass) of CO_2 removed from the air and incorporated into polymer molecule
12. *Zero Plastic Oceans; OBP* Collection Organization Standard
13. *Zero Plastic Oceans; OBP* Recycling Organization Standard
14. *Zero Plastic Oceans; OBP* Neutralization Services Provider Standard
15. *Zero Plastic Oceans; OBP* Plastic Producers & Users Standard
16. *Verra; Plastic Waste Reduction Standard*
17. *3RInitiative (3RI); Guidelines for Corporate Plastic Stewardship*
18. *BVRio*; Circular Credits Standard
19. *Plastic Credit Exchange* (*PCX*); Plastic Pollution Reduction Standard
20. *rePurpose*; Global Plastic Neutral Standards
21. GreenBlue; Recycled Material Standard
22. DNV GL; Chain of custody DNVGL-BA-PHCoC-01 Chain of custody standard for plastics retrieved from the hydrosphere
23. SCS Global Services; Recycling Program Standard
24. SCS Global Services; Recycled Content Standard
25. Textile Exchange; GRS GRS-101-V4.0
26. Textile Exchange; RCS-101-V2.0
27. UL; UL 2809
28. Circularise; The Circularise Protocol

[ii]Certification Programmes

i. Plastic Neutral Certified
ii. Prevented Ocean Plastic (POP) Program

iii. International Sustainability & Carbon Certification (ISCC) PLUS Certification Program
iv. Recycled Content
v. Recyclable Material
vi. Recycled Content Certification
vii. Recycling Program Certification
viii. Recycled Content Verification Program
ix. Post Consumer Resin (PCR) Certification Program

[iii]Identified Platforms, marketplaces, project initiatives, etc.

1) *Starboard*
2) *Parley Ocean Plastic*
3) *Inclusive Waste Recycling Consortium (iWrc)*
4) *BVRio Circular Action Hub (CAH)*
5) *BVRio & Verra; 3R Initiative"*
6) *Plastics for Change*
7) TonToTon
8) *Plastic Disclosure Project (PDP)*
9) *Plastic Bank*
10) *Plastic Credit Exchange (PCX)*
11) *rePurpose* Global
12) Oceanworks Plastic
13) Plastic Collective
14) cirplus
15) *Association of Plastic Recyclers (APR)*
16) *Bantam Materials International*
17) *One Earth – One Ocean*
18) *UNDP Waste Recovery Platform*
19) *Cleanhub*
20) *The Circulate Initiative (TCI)*
21) *PlasticFischer*
22) *ReBalance/Penn*
23) *Plan A*
24) *The Ocean Cleanup Project*
25) *Everwave*
26) *Tide Ocean Material*
27) *SAP RSM*
28) *SAP Ariba*
29) *The plastics circle*
30) *Plasteax*
31) *Blockchain Development Company (BCDC)*
32) *The Plastic Offset Company*
33) *recereum*
34) *Empower*
35) *ClimeCO*
36) *Recycling Offset Credits (ROC)*
37) *Promissory Recovery Note System (PRN)*
38) *EcoEx*