SUMMARY REPORT

Climate Conference of the Parties Roundtable

Harmonized Principles for Data Authentication and Protection to Realize the Paris Goals

PREFACE

This report sets forth the recommendations for establishing global data governance rules to verify GHG claims based on the insights by some of the world's experts.

Unfortunately the critical importance of data governance to drive authentic climate solutions is not widely recognized. Without a trusted data governance systems that aligns government's public policy goals for climate, and social requirements, civil society goal's for independently verifying claims and data and private sector confidence in balance access and disclosure of data with proprietary concerns, the implementation of the Paris Agreement's National Determined Commitments and focus on hot spots of GHG will not occur.

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Lead Authors,
Mathy Stanislaus and Christian Hudson of GIZ

Introduction

Why Access to Value-Chain Data Delivers on Paris Goals

QUOTATION

"The Paris Agreement recognizes that the long-term goals specified in its Articles 2 and 4.1 will be achieved through time and, therefore, builds on a ratcheting up of aggregate and individual ambition over time NDCs are submitted every five years to the UNFCCC secretariat. In order to enhance the ambition over time the Paris Agreement provides that successive NDCs will represent a progression compared to the previous NDC and reflect its highest possible ambition."

In the context of the UNFCCC COP 26, leading representatives from industry, G20 governments, academia and civil society came together on November 26, 2021 to discuss the way forward to support low-carbon transition by improving access to the climate-relevant data on the environmental performance of products over their whole life-cycle. Discussion focused on enabling data to drive the realization of the Paris Goals within parts of the transport and energy sector.

At COP 26, participants recognized that these Paris Agreement goals require mechanisms for authenticating GHG reductions in a transparent fashion, accounting and accountability.

The Parties agreed that specific action will be necessary in key emission-intensive sectors and regarding *"the importance of strengthening cooperative action on technology development and transfer for the implementation of mitigation and adaptation action, including accelerating, encouraging and enabling innovation"* also noting the need for *"international collaboration on innovative climate action, including technological advancement".*

These key emission-intensive sectors include the transport and energy sectors, which are responsible for about 40% of GHG emissions, for which achieving Paris climate goals needs an economic transition coupled with economic success that will move to a low-carbon economy. This means rewarding the implementation of innovations by increasing the size and value of the markets for sustainable processes, products, and materials.

The roundtable discussion was guided by the recent G7 2021 Communique that stated a technology driven transition to net zero requires a *"a trusted, values-driven digital ecosystem for the common good that enhances prosperity in a way that is sustainable, inclusive, transparent and human-centric…. [that requires the] development of harmonised principles of data collection which encourage public and private organisations … based on … championing data free flow with trust, to better leverage the potential of valuable data-driven technologies while continuing to address challenges related to data protection"*

The discussions were designed to highlight options for making progress during 2022, including informing G20 governments, considering the interest of the upcoming German G7 Presidency.

The keynote was delivered by Germany's Parliamentary State Secretary Elisabeth Winkelmeier-Becker, who highlighted the importance of authenticated data to realize the Paris Agreement and scale up the market for zero emission vehicles, rewarding sustainability and responsible sourcing in the battery value chain, as well as enabling circularity. She noted the need for internationally comparable data on batteries and materials to drive standards for new, sustainable battery production. To provide the certainty and to enable economic structural economic changes, confidence and credibility of digital systems for data are crucial, so Germany is piloting a battery passport in the framework of a national funding scheme. Mrs. Winkelmeier-Becker noted the expectation that this workshop discussion would build the foundation for a technical workshop in next year's G7 Presidency.

The discussion was led and facilitated by Mathy V. Stanislaus, Esq., Vice Provost and Executive Director of The Environmental Collaboratory at Drexel University and strategic advisor/ex officio board member of the Global Battery Alliance.

Panel interventions and discussions came from experts within: Tesla, Open Earth Foundation, Microsoft, Optel Group, Transport for Environment, World Business Council for Sustainable Development, VDI-VDE-IT, Aapti Institute, World Resources Institute, Rocky Mountain Institute, Schneider Electric, Clarios, The Ministry of Energy, and Mines and Low-Carbon Innovation of British Colombia.

The panellists found much common ground on:

- realistic possibilities of new data governance infrastructure to deliver data access
- that the essential performance features an infrastructure that would require principles to guide development,
- the appropriate development paths
- the role of governments and other stakeholders

This note summarises the discussions by merging the statements made by the panellists during the workshop into the thematically structured paragraphs below, including deriving recommendations for the next steps for progress in 2022 into the next COP and thereafter.

Section 1 — Possibilities

Delivering Value-Chain Data for the Transition to a Low-Carbon Economy

Markets for the low-carbon economy depend on the purchaser's ease and trust in identifying the sustainability data and sourcing characteristics of a product. Key product characteristics – e.g. the embedded greenhouse gas emissions, or sustainable sourcing practices - for products are not visually apparent. The whole life-cycle emission impacts, determined by responsible raw material sourcing till the likely end-of-first-life use of the product, are usually equally opaque. In an increasingly complex world, the upstream and downstream impacts of products cannot easily be recognised.

Therefore, the growth of markets for sustainable products and innovation depends on wide access to meaningful, trusted data on otherwise invisible environmental performance characteristics in the value chain. When the right conditions are created – as shown by the recent boom in investment in electric vehicles – the market transformation can be far faster than people and industry imagine.

Fortunately, data solutions can provide that information, which enable the transformation of product markets, and ensure compliance with the Paris goals. They can allow the supply and access of environmental information with each offer of products or services, informing purchasing decisions, and moving beyond metrics of corporate level impact.

"As requirements to decarbonize including pricing of carbon — pressure to minimize costs will lead to illegal/ counterfeit materials and products — need controls in supply chain"

Louis Roy, CEO Optel Group

"Reliable information — based on accepted data methodology — would enable customers and economic operators to make inform battery choices and inform policies for scaling of electrification. It can bring value of batteries at end of EV life — enable great robust market for end of life and extend life of batteries"

Private Sector Representative

Data solutions can:

1. Accelerate investment in innovation by enabling market participants, or market growth for sustainably sourced and produced products (like electric vehicles) and the more sustainably produced components or materials within any product class.
2. Allow identification of the central intervention points in value chains, where focussed improvement action can have the greatest sustainability benefits, change conversations in value-chains, and drive the scaling of responsible sourcing. This early identification of hot-spots and improvement can avoid disruptive, abrupt supply chain shifts (which can create uncertainty and high costs).
3. Facilitate the circularity of materials and products over their whole life-cycle – circularity, to reduce carbon and resource use in the production of virgin material, will be central to achieving the Paris Agreement 1.5-degree climate goals, and offers significant economic benefits.
4. Deliver on the promise of consumption-based accounting data, discussed at COP 26 as a key criterion to increase inclusive global investment in a low-carbon transition.

These possibilities are very well illustrated by the use-case of batteries in the scaling up of Electric Vehicle (EV) markets:

The material and energy demands for production of EV batteries are increasing rapidly as the market expands – the International Energy Agency estimates that IEA 2021 batteries play a central part of the new energy economy with a projected market share of over 16 trillion USD by 2050 - with the environmental impact of individual batteries varying significantly depending on their technological design, and process and energy mix used in their manufacture. Projections in the GBA 2030 vision conclude that this could drive at least a 30% reduction in the energy and transport sector while reducing the carbon emissions during manufacturing by 50%

Yet, the residual economic value of batteries at the end of the first use is high - 70% of battery life remains available after batteries reach the end of their first life in electric vehicles, and the material itself remains valuable. There is a huge potential for re-use or

"Why are digital traceability systems are so important?

Moving to electric vehicles doesn't mean no emissions — emissions are moving upstream — all over the world. This complexity requires digital data systems to understand and assess impacts:

- *Many people have been led to believe that "EV'batteries" are not good for environment — question green credentials of EV cars*
- *Trust from governments — trust for people on the ground "trust really matters"*
- *Whereas broken trust based on misinformation can fundamentally change the public's decisions"*

Julia Poliscanova
Senior Director, Vehicles & Emobility, Transport & Environment

remanufacturing, with related GHG emission savings, if reliable information on battery performance and content are available for all stakeholders in the value creation process.

Increasing access to data on a battery's material constituents, its environmental and social impacts during its whole life-cycle, and the battery's performance during use will create:

- An enhanced market for environmentally sustainable battery (system) design and manufacturing;
- A robust market for product life-extension, remanufacture, and end-of-life usage and recycling.

IT technologies that can facilitate access to value-chain data have already been developed and deployed in related contexts. Those technologies solve many of the problems which have previously held back the required data-sharing between actors in value-chains: e.g., i) They can enable automated inter-operability between data-users; ii) Cryptography now allows data to be stored and accessed in ways that deliver transparency and privacy together (The Energy Web Foundation is one example).

The concept of the "digital product passport" has proved its worth as an ideal solution – offering full traceability across the whole product life-cycle, including the end-of-use phase, enabling it to offer information for the net-zero transition, and benchmarking of environmental performance. GBA's battery passport is envisioned to enable this solution for transport and large-form batteries. Increasing large volumes of potentially valuable data on carbon footprints and other aspects of sustainability will become available in the next 3 years. Examples include satellites linked to AI analysis, and the internet-of-things.

"Data protection frameworks are a prerequisite – key concern of data extraction by governments is misuse. Communities need to participate in data governance – protect data generations — value distributed – IP, privacy. We need to prepare communities to participate meaningful in data value creation/protection" Data cooperatives that enable data use, data sharing – data quality, standardization can advance this trust. Data stewards can serve as intermediary to anonymize data

Two specific examples:

- *Seattle — data trust — different mobility service providers shared data provided into a trust, anonymized, then shared with researchers*
- *India: India Open Data Exchange — data from different smart cities — mobility, electric vehicle data — sent to exchange and then shared with research — while protecting privacy/IP*

Astha Kapoor
Co-Founder, Aapti Institute
(Civil Society/NGO, India)

"As requirements to decarbonize including pricing of carbon — the pressure to minimize costs will lead to illegal/counterfeit materials and products — need controls in supply chain."

Private Sector Representative

Section 2

Essential Performance Features of Future Data Access

Very soon, there is likely to be a rupture in the way environment-related data is delivered. The future will prioritise the use of primary data over models and estimates of environmental impacts. Information on social conditions in value chains can also be delivered. Leading companies want to be at the fore of this disruption.

There are challenges and various reasons why the full potential of data for Paris goals may not be realised. The exchange of data will need an underlying 'data infrastructure', just as roads are needed to allow the transport of goods. That infrastructure does not exist, and its creation, form, and characteristics will determine whether it facilitates the potential of data.

The roundtable identified some of the essential performance characteristics that it would need to deliver, and what that means for its design:

1. Trust

Trust in products is crucially important to their market success. The "Dieselgate scandal", where EU car manufacturers were found to have misled consumers about particulate emissions from diesel vehicles, led to a rapid shift of consumer choice from diesel cars, with sales falling from more than ½ of the car market before the scandal to a smaller market share than electric cars. Trust in data is particularly important for increasing sales of innovative products for the drive towards achieving Paris Goals. One example is the myths currently circulating about the negative environmental benefits and an increase in CO_2 emission over the entire lifetime of electric vehicles compared to petrol cars, based on false data on the life-cycle environmental impacts of batteries.

Establishing market success for products also relies on finding ways to avoid counterfeiting and fraud in value-chains This can especially be a problem in upstream operations, where short-term economic incentives often drive practices that can ruin markets when they are discovered. The

"Data frameworks must bring value back to communities that we are working with, to improve communities, to drive collaboration.How does it improve communities? Data/ digital systems cannot be just about enabling market incentives in supplier transactions — it must enable participation in the bigger purpose"

Private Sector Representative

"It is important for governments to learn pain points regarding protecting confidential information while balancing with societal consideration and data security. SMEs are important opportunities for civil society and scientific institutions. The job of government to establish framework conditions, rules for data strategy and data protection to foster level playing fields"

Uwe Seidel
VDIVDE-IT (programme agency, in charge of battery cell production on behalf of BMWi (German Ministry of Economic Affairs and Energy)

incentives to counterfeit can be pervasive – in some countries, even 50% of pharmaceutical drugs are counterfeit, despite regulation and the direct impact on health. In lead-acid battery chains, it is known that illegal smelting provides material into the value chain.

Trust often depends on transparency and accountability in decisions about data. There is an urgent need for a supra-regional data governance framework for confidence and credibility in the data system for product passports and digital traceability systems, as a crucial success factor of industrial policy. Most current initiatives in data sharing – for example in the auto-sector - are private-sector led. The legitimacy, accountability, and trust that builds out of a global, multi-stakeholder form of organisation and monitoring function appear to be needed.

2. Meaning

To be useful, data must be meaningful to its users. Decisions on sustainability in value-chains are complex, potential metrics and forms of measurement are diverse and numerous, and individual product groups each have their own characteristics.

International convergence around comparability of ways to measure sustainability for materials and products is urgently needed. Data from different nations and sectors will need to be comparable, to allow information on components from global value chains to be brought together into meaningful metrics for systems and products. Double-counting is a risk, where methodologies do not align.

As products each differ from another, there is a need to develop an ontology of products – e.g. an agreed, comparable representation of how a "battery" is described - one by one, to allow any installed product to be mapped onto a global value chain.

Progress is being made - there will surely be an international [ISO?] environmental standard for describing the embedded CO2 of products realised by 2024. Enabling the data access which will bring that standard to life is clearly crucial to its success.

3. Net Benefits for users

Access to relevant, accurate data will rely on the willing participation of all the potential actors in the value-chain, upstream and downstream, who could generate or maintain valuable data. This will require that the net benefits of each of them are positive, implying solutions with low-costs and aligned incentives.

For example, most value chain data is not generated by the downstream multinational companies but by Tier 2, 3, and 4 upstream SMEs, family businesses, or micro-enterprises. A way must be found for them to be able to generate access and secure provision of data at low-cost whilst they focus on their core-business.

As the key goal is to drive low-carbon innovation, the provision of authenticated data in product value chains must not be a cost burden that holds back the implementation of innovation in the industry. That means that it must especially avoid putting extra costs or burdens on value-chains for more sustainable products and materials, compared to established products in the market with higher sustainability impacts. Costs for innovative SMEs must be kept low, so as not to disadvantage market entry by SMEs selling innovative products within any product group.

Benefits must flow to the providers of data. A workable infrastructure solution must bring the value realised from data back into the communities in the value chain that could provide. This points to avoiding data being primarily provided into proprietary databases with restricted access. Trusted intermediaries – data stewards – were put forward as a model for a solution.

Full and meaningful participation will also require the right balance between transparency and confidentiality for sensitive and proprietary data.

The need for net benefits is also true for nations. Data has economic value, and nations act strategically to control the value of their data. Where they do not see that they will realise benefits from data sharing along value chains, they may well make sure they set rules to control data on sustainability, especially as the market significance of the data on decision-making increases.

Global stakeholders need to create a system where opting-in to collective infrastructure for data sharing will have advantages, compared to uncoordinated solutions.

The Mines Digital Trust Initiative of the British Columbia Ministry of Energy, Mines and Low Carbon Innovation

The Mines Digital Trust initiative of the British Columbia (B.C.) Ministry of Energy, Mines and Low Carbon Innovation has garnered attention from a global audience and is providing opportunities to profile B.C.'s leadership in digital technology & responsible mining practices.

The B.C. Mines Digital Trust utilizes Verifiable Credentials (VCs) which are enhanced digital versions of physical credentials. VCs use cryptographic proofs to make them tamper-evident, secure, and usable only with the holder's permission. When presented to a verifier, they can confirm the intended holder and original issuer without having to contact that entity. Together, this means that government administration and intervention is vastly reduced or removed and organizations maintain, improve and extend the privacy, control and trustworthiness of their information.

Through collaboration with the OpenEarth Foundation, B.C. was invited to give an interoperability demonstration at the UNFCCC Global Innovation Hub pavilion at COP26. During this demonstration, the B.C. government issued a Carbon Emissions VC to Copper Mountain Mine, which then transferred the VC to the global carbon accounting system being pioneered by the Open Earth Foundation. It was an example of how a B.C. mine can utilize a global platform to showcase their inherent emissions advantage and demonstrate how they are reaching their net zero aspirations.

Next steps include a use case that will scale the ability of the project to support third-party certifications through the issuance of VCs. In this case, the Mining Association of Canada will issue a Towards Sustainable Mining (TSM) VC to a B.C. mining company using BC's digital trust technology. Together with a B.C. government issued Carbon Emissions VC, the mining company could use the TSM credential in a digital marketplace. An example of such a marketplace that acknowledges the TSM is the London Metals Exchange.

Section 3

Principles to Guide Development

Roundtable panellists suggested 5 principles that would be needed to deliver the functionality a solution for data access would need:

1. Technical interoperability of data systems in value-chains: the agreement of the technical standards to deliver reliable and secured data
2. Assurance processes for data quality: including commonly agreed rules on quality and on the 3rd party verification of data, to avoid 'garbage in- garbage out'
3. Comparability of data: through the creation of global standards for description of product sustainability, including an ontology of products
4. Convergence of product passports for different products groups, to avoid duplication, confusion, and cost, as their value chains are interlinked
5. Agreement on global solutions, for transboundary value chains.

Technological Features

Panellists also described principles to define the technological performance needs for an infrastructure, as:

- Open source technology, and technologically agnostic, to allow ongoing innovation and legitimacy
- Ensures data security - to ensure immutable, accurate pass-on
- Supports the globally harmonised traceability of raw materials, through all value-chain operations
- Uses a digital ID for each product, where both centralised or decentralised identifiers would be technically viable, with a choice to fit the system's performance needs.
- Designed for evolution and agility

"Climate solutions require a common framework of data — we cannot have silos and fragmented rules of data — we need to account in a common trusted way... transparency along side with privacy is necessary... Interoperability of data will enable multistakeholder action."
Sue Gander
Director, Electric School Bus Initiative, World Resources Institute

"Authenticated data and digital systems must be created to confirm ESG claims, and should have 4 key characteristics:

1. *Open source and technology agnostic, to maximize innovation, ensure trust, and create a public good*
2. *Support tracing of the lifecycle of all assets from cradle to cradle, beginning with - but not limited only to - batteries*
3. *Based on digital identities that can be used for purposes beyond lifecycle tracking and operational use, including things like machine-to-machine automation, trading of value, cybersecurity, and others*
4. *Developed to ensure trust and protect General Data Protection Regulation (GDPR) compliant solution"*

Jon Creyts
Managing Director and Chief Program Officer Rocky Mountain Institute

Delivering Trust

Creating trust for individuals to share data will require workable mechanisms for checking breaches and enforcing rights. With most individual data providers without the capacity or interest to play that role, 'data stewards' may be a crucial part of the solution as trusted intermediaries between data generators and data users. They can shape their role and responsibilities to maximise the value created by data and how that value is fairly distributed. Their design can be based on pilots, e.g. in Seattle or the Indian Urban Data Exchange.

Essentially, what is needed is a 'digital trust network' – that facilitates data generators and users to interact with each other, allowing for heterogeneity, but with trusted relationships with access to data determined by pre-agreed rules. Much of the governance of real-time data can be automated, with oversight that protects the rights of all stakeholders in the data flows.

To deliver trust, there will need to be principles that determine what counts as authenticated data. The verification of data will likely require independent 3rd parties on the ground. Appropriate design of the IT systems is crucial.

The inclusion of representatives from the wide-range of generators and users of data will be needed to deliver legitimacy, trust, and information for the good governance of future data access. This can be provided by well-designed participatory governance processes.

"Companies and public authorities should focus on interoperability, starting with aggregated existing standards before creating means for governance at two levels: Collection, Use, Access, to data for the specific use cases of interest, and Data-sharing models governance to ensure security and privacy of data owners and users."

Thomas Deloison
Director, Mobility,
World Business

"Data standardization — including standardization of s data parameters is critical to manage supply chain and understanding SCOPE 3 GHG emissions... IP balance with need for specific information for specific stakeholders for specific outcomes is necessary."

Dr. Christian Rosenkranz
Vice President Industry and Governmental Relations
EMEA CLARIOS

Delivering Net-Benefits

For the system to bring market benefits for companies and net-benefits for participants to generate and share accurate data, the question of data control is central. One option to promote data sharing is for regulators to ensure data ownership is maintained where ownership will bring the highest incentive to generate data – often customer level.

Decisions on norms for data access must be decided and match the necessary degree of transparency and specificity of data to the societal and market goals that it can achieve. Only the data which is needed must be generated and accessed, for ethical and practical reasons. This will be different for each product and use-case. For example, access to data should be sufficiently disaggregated data to allow governments and civil society to identify hot-spots, reward innovation and take action to solve problems, without allowing access to commercially sensitive data.

Section 4

Reflections on the Appropriate Development Path — and the Roles of Government and Private Stakeholders

The essential element of the development of a solution for access to authenticated sustainability data is finding alignment among the relevant stakeholders. This is also the greatest challenge, as stakeholders are diverse, global, product specific, and hugely numerous. Yet, the provision of trusted data for all these purposes seems unlikely to happen through individual market action. It needs common rules and sufficient incentives for compliance, to allow fair competition and wide investigation of what will work best to deliver the essential performance features.

Roundtable panellists found much common ground on appropriate pathways forward, to develop a common solution in line with the identified principles.

The key lies in convening the relevant stakeholders in value chains, either regionally or globally, to develop voluntary solutions. The policy, business, and civil society communities worldwide need to come together to support the creation of the data governance framework. The leading representatives from the public and private sectors need to talk about data governance – and define the key principles to drive it forward. The progress of the Global Battery Alliance, which has done that for the battery value chain, can stand as an inspiration.

As it will not be possible to design the solution at the outset, we should start, and help the solution evolve, designed to fit needs, learning by doing, with wide participation and a range of bottom-up approaches, discovering what works best, and self-organised heading towards a common goal.

- We need a range of multi-stakeholder pilots, from different use-cases/different products. Development of a solution for a use-case must be progressive, for example, start on 2 or 3 parameters, for each selected value chains, following agreed principles, and scale up solutions from there. Development can build on available data, for specific use-cases nested in larger value-chains and scale up from there – an approach that was used successfully in the mining sector in British Columbia.
- We can start with high-value use-cases, of which there are many, with batteries being one. Within products, there may be particularly high-value specific cases – like EV buses, where relatively few vehicles have very valuable batteries might be testing grounds.
- But we cannot allow silos to develop – we urgently need initiatives to be working towards

the same common underlying infrastructure. The basic methodologies should be the same from one manufacturer to another. So, initiatives should share tools and move towards homogenous standards.

- We can draw parallels from the progressive development of the internet, based on the agreement of a couple of key protocols.
- Rapid innovation must be driven by the realisation of greater value, rather than the backward-looking push of compliance, demonstrating who can be empowered to improve their decision-making and the value which can be realised.
- There are valuable lessons that can be gathered from transparency and data initiatives in a wide range of sectors and initiatives – including projects on palm oil and deforestation, and regional efforts on batteries (e.g. in California). The creation of a battery product passport will be a pilot project that proves the possibility of data exchange and can inform wider product passport development.

The development will require networked coordination, stimulation of additional pilots which innovate, and creation a space for exchange and consensus around innovation.

Someone needs to find a way to get a wide range of stakeholders, each with their own specific interest, working towards a holistic solution. The existing WBSCD's Carbon Transparency Partnership – set up as a 'network of networks' for initiatives working on improving data access could play a role.

Although the demand to participate from certain stakeholder groups will be high, ways will need to be found to bring in people in the value chains who will help to generate data, build their capacity, and shape the solution to their needs. Different nations have divergent perspectives on data and data control – some are purely extractive, unregulated regimes – and building participation in discussions from those will require extra effort.

The challenges in the development path will require everyone to work together – the ambition for scaling sustainable, circular markets to meet climate goals is very high.

The Role of Governments

Governments are organisations designed for societal action. They have the responsibility to collectively create the framework conditions for the successful development of transboundary data access. They also have a key role in adding accountability to the governance of private-led initiatives.

Yet, the requirement for networked coordination of innovation as the best route to development is the opposite of a rush to different, competing national regulatory specifications for solutions, which would never keep pace with evolving developments, and create fragmentation and failure.

They can play a convening and nurturing role, facilitating multi-actor solutions and international cooperation, perhaps in the form of public-private partnership. To do so, they will need to learn about the pain-points of the industry and find the right balance between collective societal goals and industry wishes, whilst acting as a funder and stimulus of innovation. In Germany, the development of a solution for product passports will feature in the German Data Strategy, as it already does in the proposed EU regulatory framework for batteries.

Governments may play a valuable role in nurturing the appropriate forms of participatory decision-making that will be needed in the future to deliver legitimacy, trust, and information for the ongoing good governance of transboundary data access.

And it may fall to governments to monitor the balance of national interests to ensure future infrastructure works for all regions, and that the system remains resilient to any national attempts to strategically control data.

Role of Civil Society

As demonstrated by the Civil Society Organizations that participated, Civil Society Organizations have a crucial role in balancing the perspectives between government and the private sector in establishing data governance rules that has credibility with the public. Moreover, certain civil society organizations can serve a critical data intermediary role – such as data cooperatives or data stewards – to anonymize certain data to protect against disclosure of privacy, IP, and security issues. They can also serve as a neutral convener of stakeholders.

Section 5

Next Steps

QUOTATION

"This report sets forth the opportunity to establish global data governance rules based on the insights by some of the worlds experts. Unfortunately the critical importance of data governance to drive authentic climate solutons is not widely recognized. Without a trusted data governance systems that aligns governments public policy goals for climate, and social requirements, civil society goal for independently verifying claims and data and confidence in the private sector in balance access and disclosure of data with proprietary concerns."

The attendees at the roundtable already brought many of the right brains and perspectives to the table and could valuably form a core group to take forward progress.

Whilst the appropriate development path appears relatively clear, the kind of collaboration involved takes resources, as well as convening power. Bringing pilots to operationality also requires resourcing.

The German G7 Presidency committed to will help move the development of global solutions forward by convening one or more technical workshops during its 2022 Presidency. One way forward would be to focus on the deeper exchange of the lessons of the many pilot projects known by the roundtable panellists.

It will also continue to support the platform for SMEs and large companies to work together to develop the digital product passport for batteries.

The global value of broader early-stage funding activities in this area may be on the table for G20 governments or philanthropists, with interests in successfully achieving the low-carbon transition.