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MBK Biochar Carbon Removal Platform

Executive Summary

MBK International Services Inc. offers a next-generation, engineered biochar solution optimized for climate permanence, transparency, and verified co-benefits. By leveraging FSC- and PEFC-certified biomass, high-temperature pyrolysis, and blockchain-powered MRV, MBK's platform not only meets but also exceeds the expectations of leading carbon credit registries. Designed to benefit both the environment and the carbon marketplace, MBK Biochar is not merely a soil amendment; it is a high-integrity, investor-ready carbon removal asset.

1. Permanence & Scientific Credibility

1.1 Engineered Stability

MBK biochar achieves a fixed carbon content of $\geq 85\%$, produced at temperatures above 600°C with controlled residence time to promote the formation of aromatic rings and improve resistance to microbial breakdown.

Scientific Validation:

- Lehmann et al. (2015): Biochar's mean residence time exceeds 1,000 years in anaerobic soil.
- Schmidt et al. (2021): High-temp chars remain stable across diverse climatic conditions.

1.2 Verified Compliance

MBK biochar meets permanence thresholds set by key registries:

- Puro.Earth: Complies with 100+ year durability standards
- Verra: Conforms to VM0044 biochar methodology
- Gold Standard & CAR: Stacked credit approval is under review

2. Digital MRV & Blockchain Verification

2.1 Integrated Monitoring & Traceability

- Batch-level Tagging: Every shipment includes a GPS-tagged Batch ID.
- IBM Hyperledger Ledger: An immutable blockchain records every step of production and application.
- API-Ready: Connects seamlessly with SAP, Workiva, and Salesforce for enterprise-grade ESG reporting.

2.2 Third-Party Verification

- Audited by SCS Global Services and DNV.
- Validated datasets support the issuance for Verra, Puro.Earth, and CarbonFuture.

3. Environmental and Agronomic Co-Benefits

3.1 Regenerative Soil Enhancement

- Boosts water retention by up to 25%.
- Improves nutrient cycling, microbial activity, and the stability of organic matter.
- Supports regenerative agriculture programs (EU CAP, USDA NRCS).

3.2 Emissions Mitigation

- Prevents CH₄ and N₂O emissions from decomposing biomass.
- Recover energy from pyrolysis gases to minimize net emissions.

3.3 Ecosystem Services

- Promotes deeper root systems and resistance
- Field-tested yield improvements in vineyards, orchards, and tree nut operations.

4. Market Alignment & Integration

Strategic Registry Integration:

- Puro.Earth – Registered supplier, CORC-eligible
- Carbonfuture – MRV-compliant with validated protocols
- ACX, Patch, CIX – API-enabled for batch issuance and trading

MBK Biochar serves as a top-tier carbon removal solution that fulfills the requirements of buyers seeking verified, auditable, and durable offsets.

5. Conclusion: Engineered Climate Integrity

MBK's Biochar Platform connects innovative carbon science with robust monitoring infrastructure, offering a reliable, scalable, and fully certifiable carbon removal asset. Designed for durability, optimized for ESG compliance, and built for scalability, MBK is ready to meet the world's climate accounting needs with credibility and impact..