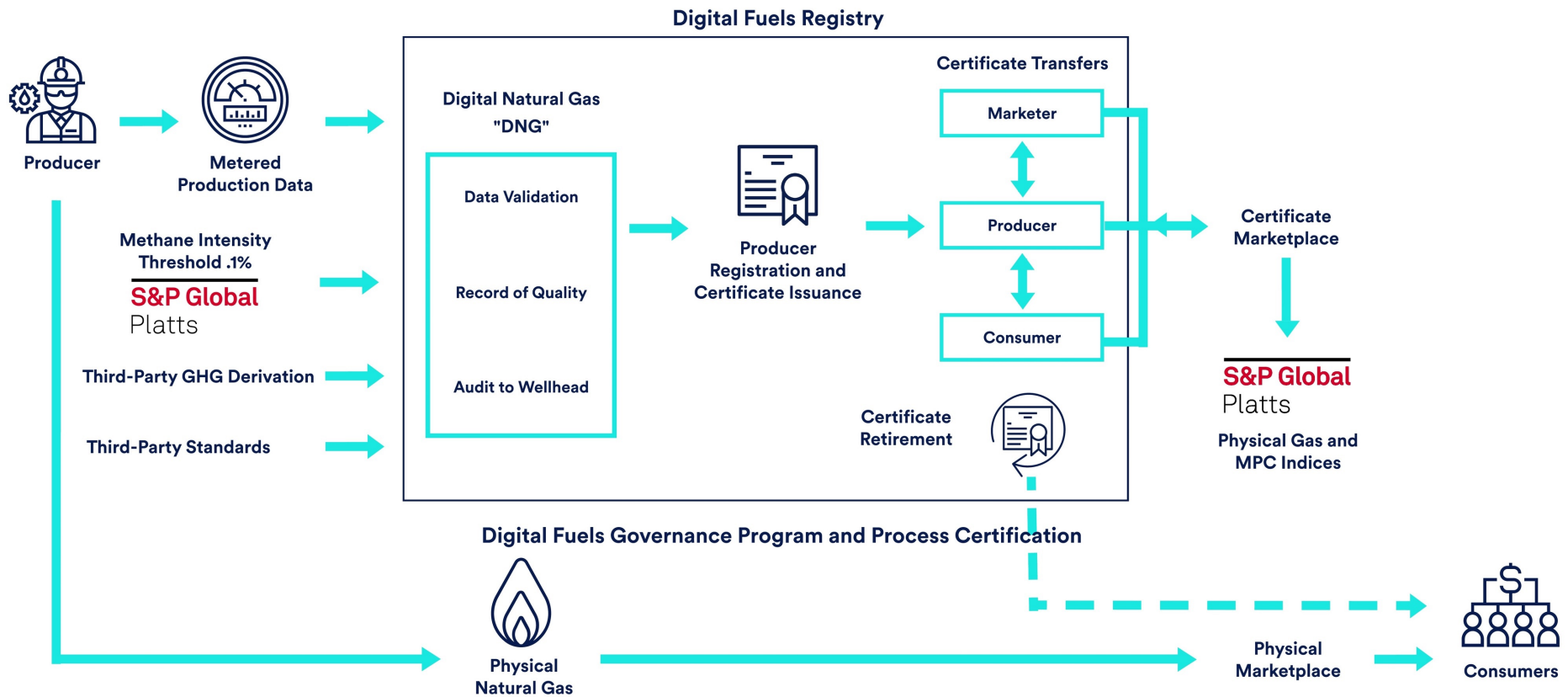# Digital Natural Gas

Xpansiv
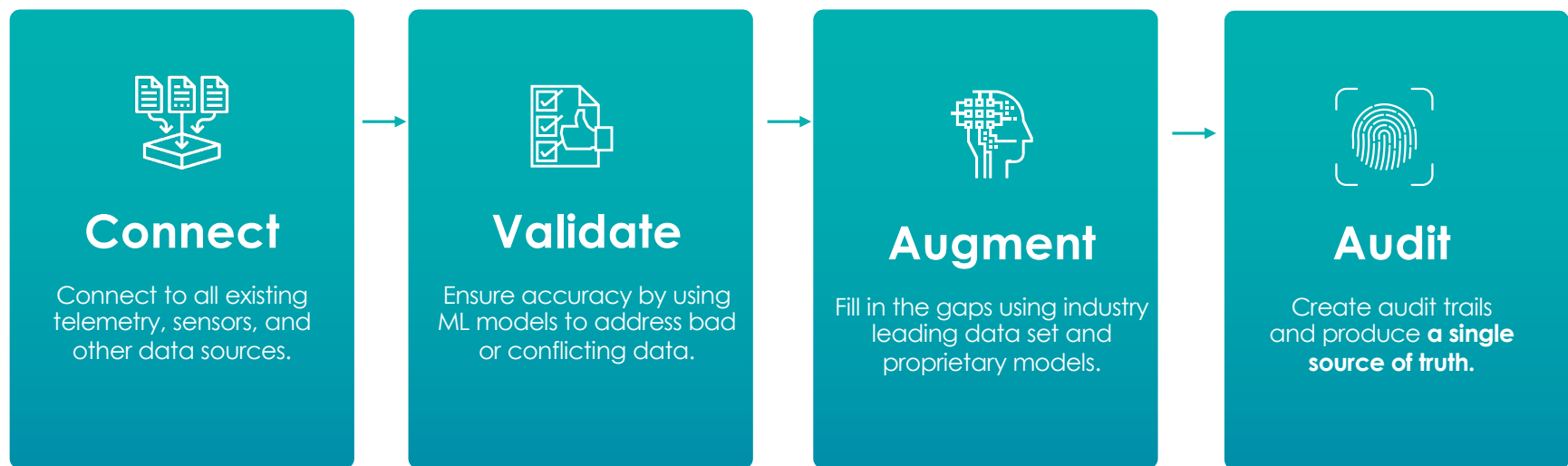
Principles of Environmental Markets Integrity
Production Measurement, Validation, and Audit Capability

- **Real Data**– Requires continuous production data collection at the unit level (e.g. MMBtu)

- **No double counting** - Secure registration, issuance, transfer, and retirement of digital assets

- **Third-party validation** – Eliminates the opportunity/perception of fraud from attestation models

- **Full audit capability** - Requires immutable data collection and preservation

- **Transparency** – Enables end-users to get a certificate AND review the data back to the point of production

- **Reporting** - Standardized reporting capabilities for retired ESG assets

Xpansiv Market Infrastructure

Digital Fuels Registry

Producer

Metered Production Data

Digital Natural Gas "DNG"

Data Validation

Record of Quality

Audit to Wellhead

Methane Intensity Threshold .1%

S&P Global Platts

Third-Party GHG Derivation

Third-Party Standards

Producer Registration and Certificate Issuance

Certificate Transfers

Marketer

Producer

Consumer

Certificate Marketplace

S&P Global Platts

Physical Gas and MPC Indices

Certificate Retirement

Digital Fuels Governance Program and Process Certification

Physical Natural Gas

Physical Marketplace

Consumers

Continuous Collection of Quality Production Data*

Connect
Connect to all existing telemetry, sensors, and other data sources.

Validate
Ensure accuracy by using ML models to address bad or conflicting data.

Augment
Fill in the gaps using industry leading data set and proprietary models.

Audit
Create audit trails and produce **a single source of truth.**

* Independently collected and verified by Validere's machine learning models trained using its industry-wide datasets and its physical science expertise.

Continuous Independent GHG Derivation*

- Commodity Path

- Infrastructure Data

- Emissions Source and Control Data

- Process Metering & Emissions Monitoring Data

- Regulatory Reporting

- Royalty Flows & Ownership Proration

- Emission Factors

- Mass/Mole and Energy Balancing

- Simulations/Corrections

- Uncertainty Analyses

*Independently computed utilizing Clearstone Engineering LTD.'s ClearTrackerTM

Digital Fuels Registry

- Provides a trusted, secure platform for onboarding, issuing, tracking, and retiring digital environmental assets based on immutable data.

- Collects detailed attribute information which provides greater contextualized production profile and asset transparency.

- Tracks entire digital-asset lifecycle—from production to retirement (asset claim).

- Provides Proof of State auditable record for digital assets and their attributes.

- Independent: Supports multiple standards as well as independent verification and certification.