DECODING INDIA'S CARBON MARKET

Understanding CCTS, Carbon Credits and Emerging Opportunities for Professionals

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World Environment Day Webinar

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SIRC of ICAI
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Sustainability is no longer only an environmental issue.

It is increasingly influencing:

Business strategy	**Capital allocation**	**Regulatory compliance**
Corporate reporting	**Global trade**	

Carbon markets have emerged as one of the most important market-based instruments for accelerating the transition to a low-carbon economy.
India's Carbon Market is a significant step in this direction.

THREE QUESTIONS

1. Can emissions become a cost?

2. Can reducing emissions generate revenue?

3. Can sustainability create competitive advantage?

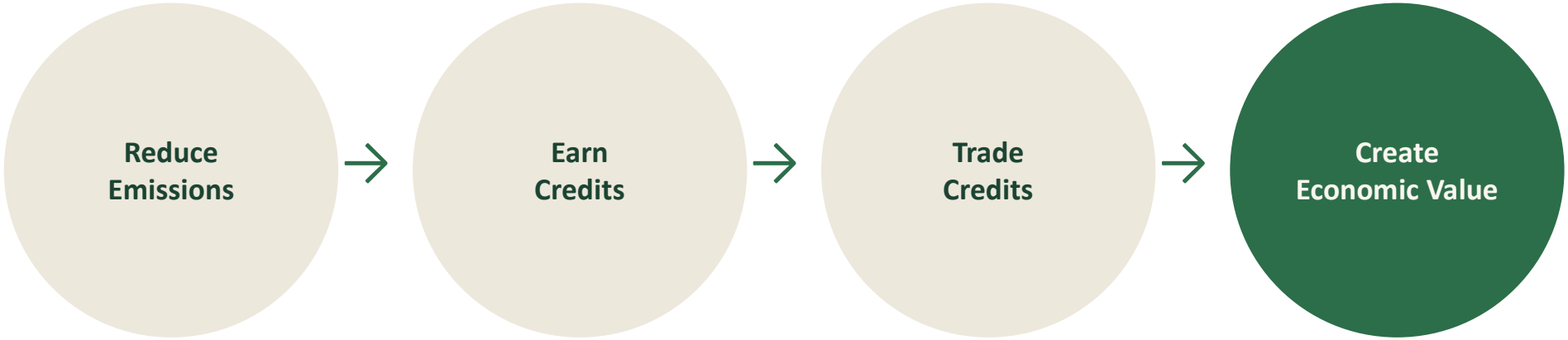
If the answer is "Yes", carbon markets become a powerful economic instrument.

Agenda

1. Carbon Markets – A Quick Refresher
2. India's Journey Towards Carbon Pricing
3. Legal Foundation of India's Carbon Market
4. Carbon Credit Trading Scheme (CCTS)
5. Market Architecture and Operation
6. Opportunities and Challenges
7. Role of Chartered Accountants
8. Quiz & Discussion

What is a Carbon Market?

A Carbon Market is a system where greenhouse gas emissions or emission reductions are measured, valued and traded.



One Carbon Credit

= One tonne of CO_2 equivalent (tCO_2e)

Why Carbon Markets Exist

Traditional Regulation
Reduce emissions.

Carbon Markets
Reduce emissions **AND** get rewarded.

Benefits

- Cost-effective emission reductions
- Encourages innovation
- Creates economic incentives
- Supports climate objectives
- Facilitates investment in low-carbon technologies

Compliance vs Voluntary Carbon Markets

	Compliance Market	Voluntary Market
Participation	Mandatory	Voluntary
Governance	Government regulated	Market driven
Obligation	Legal obligation	ESG objective
Instrument	Allowances / Credits	Offsets
Examples	EU ETS, China ETS, Indian Carbon Market	Verra, Gold Standard

India's Climate Commitments

Nationally Determined Contributions (NDCs)

- ✓ Reduction in emissions intensity of GDP
- ✓ Expansion of non-fossil fuel capacity
- ✓ Creation of carbon sinks

Long-Term Goal

Net Zero Emissions by 2070

Challenge

Balancing: Economic Growth + Energy Security + Climate Action

Why India Needs a Carbon Market

- Rapid industrial growth
- Rising energy demand
- Climate commitments
- Need for decarbonisation
- Global competitiveness
- Investor expectations

Objective: Align economic incentives with environmental outcomes.

Why Carbon Markets Matter Beyond Climate

- CBAM
- Investor Expectations
- Global Supply Chains
- Sustainability Linked Finance
- Corporate Net Zero Commitments
- Regulatory & Disclosure Requirements

Effect : Carbon Markets are emerging at the intersection of climate policy, capital markets, global trade, supply chains, and corporate strategy.

India's Carbon Market Journey

Phase 1

Renewable Energy Certificates (REC)

Renewable Attributes

Phase 2

Perform Achieve Trade (PAT)

Energy Efficiency

Phase 3

Carbon Credit Trading Scheme (CCTS)

Carbon Emissions

Indian Carbon Market

Evolution:
Renewable Attributes → Energy Efficiency → Carbon Emissions

Indias Market Based Mechanisms

REC	PAT	CCTS
Renewable Energy	Energy Efficiency	Carbon Emissions
RECs	ESCerts	Carbon Credit Certificates
Promote Green Power	Save Energy	Reduce GHG Emissions

Key Transition

Renewable Energy → Energy Efficiency → Carbon Reduction

Renewable Energy Certificates (REC)

Objective

Promote renewable energy generation.

Mechanism

Renewable generators receive RECs. Obligated entities purchase RECs to meet Renewable Purchase Obligations (RPOs).

Significance

India's first large-scale environmental trading mechanism.

Perform Achieve Trade (PAT)

Objective
Improve energy efficiency in energy-intensive industries.

Instrument
Energy Saving Certificates (ESCerts)

Coverage

Cement	Steel	Aluminium
Fertilizers	Thermal Power	Other designated consumers

Significance: India's first market-based energy efficiency programme.

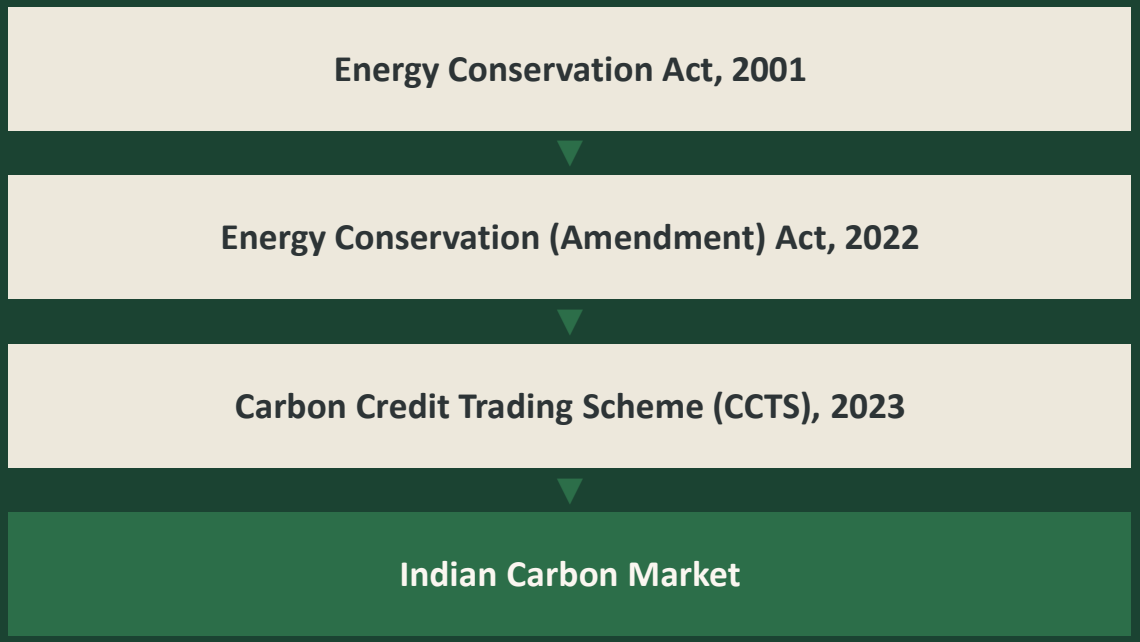
From PAT to CCTS

	PAT	CCTS
Focus	Energy Efficiency	Carbon Emissions
Instrument	ESCerts	Carbon Credit Certificates
Metric	Energy Intensity	Emission Intensity
Coverage	Designated Consumers	Wider Industrial Coverage

Key Transition

Energy Efficiency → Carbon Efficiency

LEGAL FOUNDATION OF INDIA'S CARBON MARKET



Energy Conservation (Amendment) Act, 2022

The amendment empowered the Central Government to:

- Establish a Carbon Credit Trading Scheme
- Issue Carbon Credit Certificates
- Designate administrators
- Create a framework for carbon trading

Significance: Provided statutory backing for India's Carbon Market.

Carbon Credit Trading Scheme (CCTS), 2023

Purpose
Create a national framework for trading carbon credits.

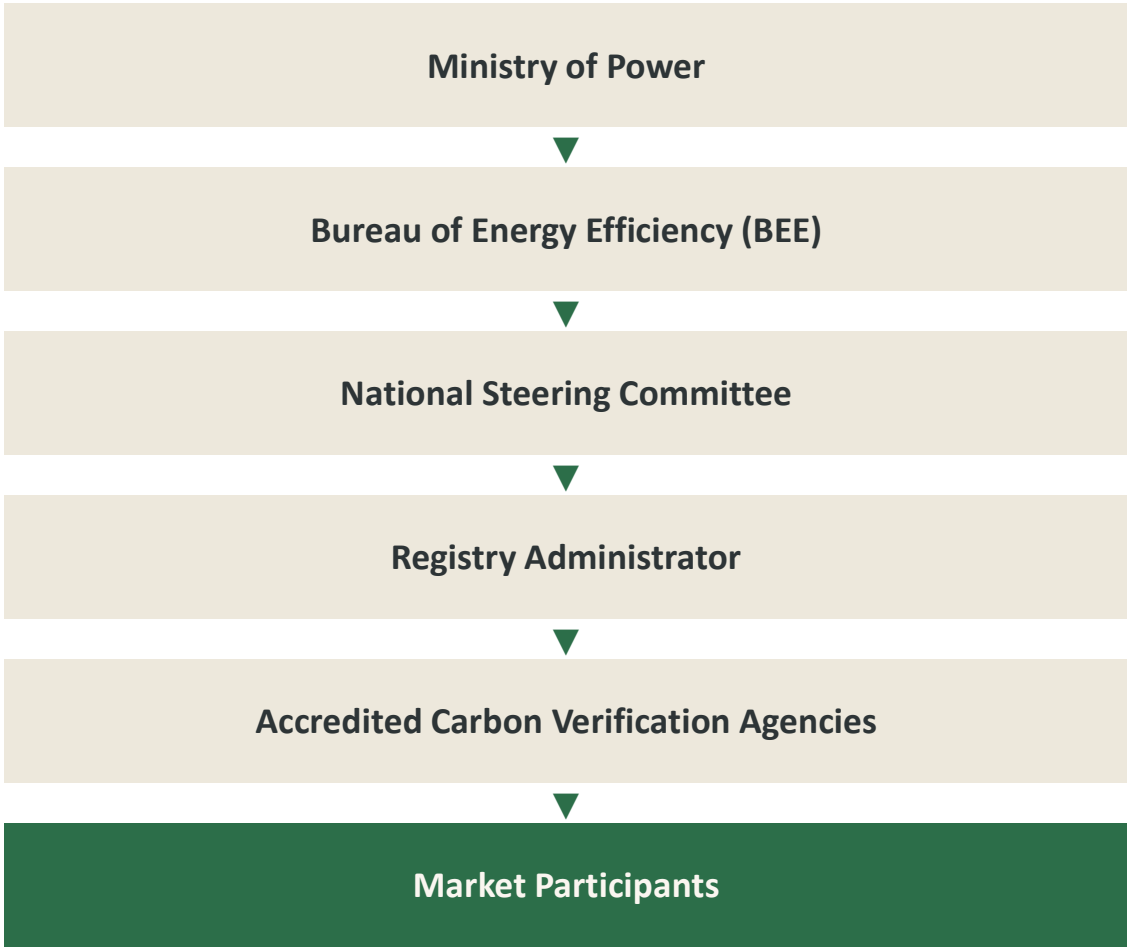
Objectives

- Reduce emissions
- Encourage decarbonisation
- Facilitate carbon trading
- Support climate commitments

Key Features of CCTS

1. Compliance-based carbon market
2. Sector-wise implementation
3. Emission intensity approach
4. Carbon Credit Certificates (CCCs)
5. Monitoring, Reporting and Verification (MRV)
6. Trading through recognised platforms

Governance Structure



National Steering Committee

Functions

- Recommend sector coverage
- Determine targets
- Oversee implementation
- Recommend market design improvements
- Support policy coordination

Carbon Credit Certificates (CCCs)

What are CCCs?

Tradable certificates issued under the Carbon Credit Trading Scheme.

Purpose

Reward entities that achieve emissions reductions beyond prescribed targets.

Key Feature

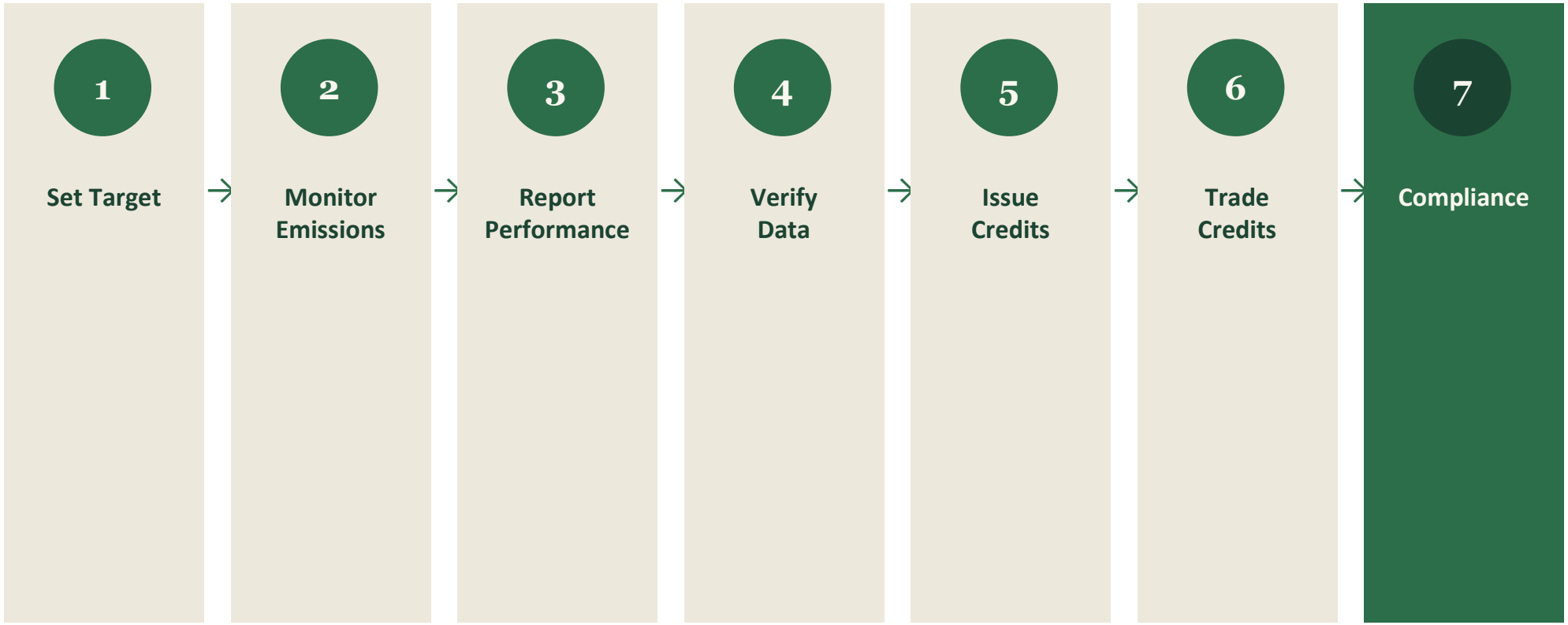
Can be traded within the Indian Carbon Market

Target Sectors

Potential sectors include:

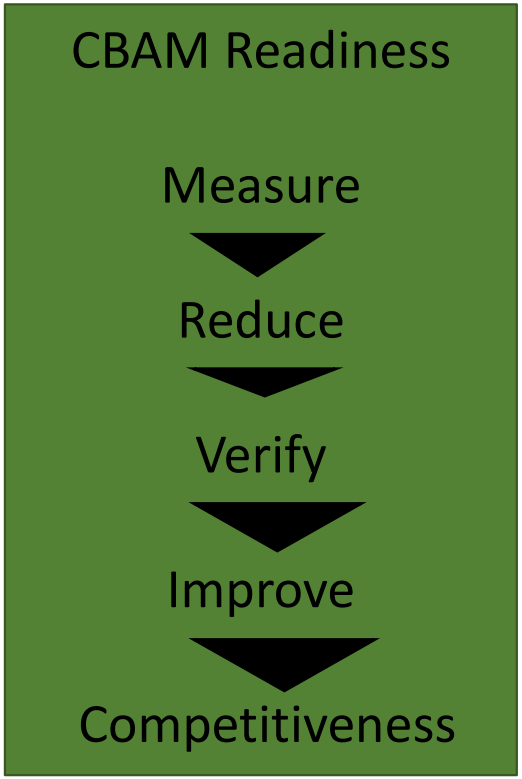
- **Aluminium**
- **Cement**
- **Chlor-Alkali**
- **Pulp & Paper**
- **Textile**
- **Iron & Steel**
- **Petrochemical**
- **Refinery**

How the Indian Carbon Market Works



Why CCTS Matters for Exporters – The CBAM Connection

- Encourages emissions measurement and reporting
- Creates incentives to reduce carbon intensity
- Builds carbon management capabilities
- Prepares companies for carbon-priced markets
- Supports CBAM readiness



Illustrative Example

Cement Company

Target Emission Intensity

0.60 tCO_2 per tonne

Actual Emission Intensity

0.52 tCO_2 per tonne

Reduction Achieved (13.33%) → **Eligible for Carbon Credit Certificates** → **Potential Revenue Opportunity**

Monitoring, Reporting and Verification (MRV)

M

Monitoring

Collection of emissions data

R

Reporting

Submission of emissions information

V

Verification

Independent validation of data

Importance

Credibility and market integrity

Registry and Trading Platform

Registry

- Maintains ownership records
- Tracks issuance, transfer and retirement

Exchanges

- Trading
- Liquidity
- Price discovery

Key Principle

Transparent, secure, and efficient trading infrastructure for India's carbon market.

Opportunities from India's Carbon Market

For Industry

- Revenue generation
- Decarbonisation incentives
- Technology upgrades
- Improved competitiveness

For Investors

- Sustainable investments
- Green finance opportunities

Key Challenges

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Data quality

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MRV readiness

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Carbon pricing uncertainty

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Market liquidity

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Sector preparedness

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Capacity building

Carbon Market and Economic Transformation

Cleaner production	Innovation	Green jobs	Sustainable growth	Climate resilience

Long-Term Vision

Low-carbon economic development.

EMERGING OPPORTUNITIES FOR CHARTERED ACCOUNTANTS

- Carbon Accounting
- ESG Reporting
- Sustainability Assurance
- Carbon Credit Valuation
- Internal Carbon Pricing
- Climate Risk Advisory
- Sustainability Consulting

Role of Chartered Accountants

Measurement	Reporting	Assurance	Advisory	Finance
Carbon Accounting	ESG & Sustainability Reporting	Verification & Controls	Strategy & Compliance	Valuation & Sustainable Finance

Chartered Accountants are uniquely positioned to lead the measurement, reporting, and assurance of carbon performance.

Future Practice Areas

ESG + Carbon Markets + Assurance + Technology

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Future-Ready Chartered Accountant

Beyond carbon Markets – India’s Green Credit Program

- Launched in 2023 to support Life Movement
- Reward – Positive Environmental Actions
- Focus – Nature
- Carbon Credits reward reducing greenhouse gases
- Green Credits reward broader environmental stewardship

Examples of GCP

Afforestation
Water Conservation
Mangrove Restoration
Biodiversity Enhancement

Questions for the future

- Will Indian Carbon cost recognised in EU in future?
- How will timing differences between CCTS and CBAM be addressed?
- Can Green Credits complement Carbon Credits?
- Will carbon become a new factor of competitiveness?
- What role will finance professionals play?

KEY TAKEAWAYS

- ✓ Carbon is becoming measurable
- ✓ Carbon is becoming reportable
- ✓ Carbon is becoming tradable
- ✓ Carbon is becoming auditable
- ✓ Carbon is becoming a business consideration

Conclusion

India's Journey



Final Thought

India is moving from pricing renewable attributes to pricing energy efficiency, and ultimately to pricing carbon itself.

Quiz

1. What is the legal foundation of India's Carbon Market?
2. What is the primary instrument issued under CCTS?
3. What is MRV?
4. How does PAT differ from CCTS?
5. Name two opportunities for Chartered Accountants in carbon markets.

THANK YOU

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"The future will be shaped not only by those who innovate, but also by those who measure, report and account for impact."