

# **Fintech Data Infrastructure for Sustainable Digital Finance**

Randall E. Duran and Peter Tierney

# Background

- Industry experience with regulatory reporting
  - Derivative trade reporting requirements
  - Trade repositories
  - RegTech solutions to support trade reporting
- Similarities between sustainability disclosure reporting and other financial reporting
- Identify areas where existing infrastructure can be adapted or repurposed to support sustainability reporting needs

# Derivative Trade Reporting

- Requirements arose after the Global Financial Crisis
- Focused on Over-the-Counter derivative trading
- Agreement by regulators globally on the substance of the reporting
- Regulatory jurisdictions varied on reporting
  - Timing
  - Scope – participants and financial instruments
  - Mechanism

# Monetary Authority of Singapore Trade Reporting Timeline

<https://sso.agc.gov.sg/SL-Supp/S153-2018>

<i>First column</i>	<i>Second column</i>	<i>Third column</i>	<i>Fourth column</i>
<i>Class of specified derivatives contracts</i>	<i>Required information and reporting commencement date applicable to specified person mentioned in paragraph (a) or (c) of definition of "specified person" in section 124 of Act</i>	<i>Required information and reporting commencement date applicable to specified person mentioned in paragraph (b), (d), (e) or (g) of definition of "specified person" in section 124 of Act</i>	<i>Required information and reporting commencement date applicable to significant derivatives holder</i>
1. Interest rate derivatives contracts booked in Singapore	1 April 2014 for information mentioned in Parts I and II of the First Schedule	1 July 2014 for information mentioned in Parts I and II of the First Schedule	1 October 2014 for information mentioned in Parts I and II of the First Schedule
	1 November 2015 for information mentioned in items 1 to 5 of Part IA of the First Schedule	1 November 2015 for information mentioned in items 1 to 5 of Part IA of the First Schedule	1 November 2015 for information mentioned in items 1 to 5 of Part IA of the First Schedule
	1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule	1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule	1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule
2. Interest rate derivatives contracts traded in Singapore	1 November 2015 for information mentioned in Part I, items 1 to 5 of Part IA and Part II of the First Schedule	1 October 2019 for information mentioned in Parts I, IA and II of the First Schedule	1 October 2019 for information mentioned in Parts I, IA and II of the First Schedule
	1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule		
3. Credit derivatives contracts booked in Singapore	1 April 2014 for information mentioned in Parts I and III of the First Schedule	1 July 2014 for information mentioned in Parts I and III of the First Schedule	1 October 2014 for information mentioned in Parts I and III of the First Schedule
	1 November 2015 for information mentioned in items 1 to 5 of Part IA of the First Schedule	1 November 2015 for information mentioned in items 1 to 5 of Part IA of the First Schedule	1 November 2015 for information mentioned in items 1 to 5 of Part IA of the First Schedule
	1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule	1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule	1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule
4. Credit derivatives contracts traded in Singapore	1 November 2015 for information mentioned in Part I, items 1 to 5 of Part IA and Part III of the First Schedule	1 October 2019 for information mentioned in Parts I, IA and III of the First Schedule	1 October 2019 for information mentioned in Parts I, IA and III of the First Schedule
	1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule		

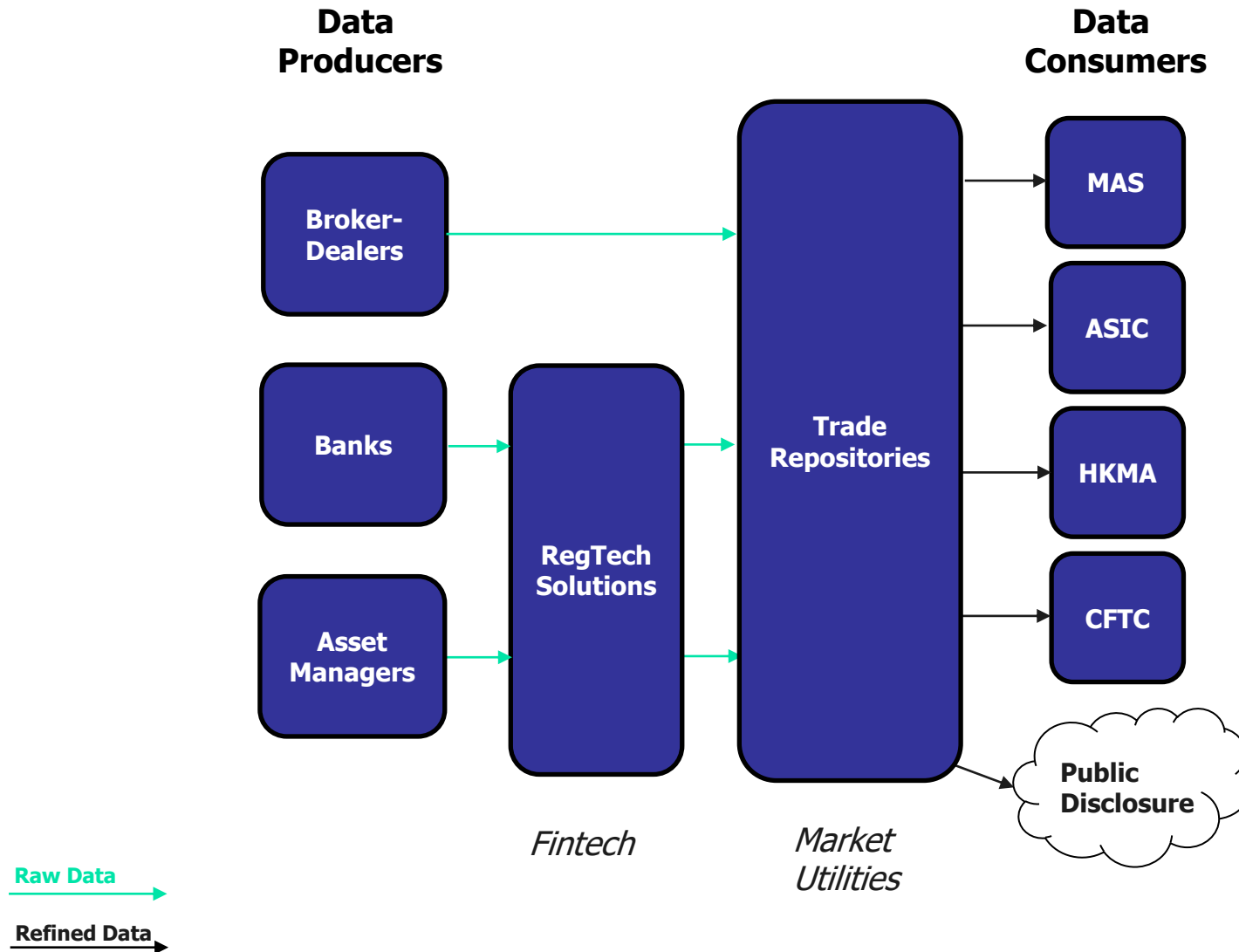
# MAS trade reporting timeline

5.	Foreign exchange derivatives contracts booked in Singapore	1 May 2015 for information mentioned in Parts I and IV of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and IV of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and IV of the First Schedule
		1 November 2015 for information mentioned in items 1 to 5 of Part IA of the First Schedule		
		1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule		
6.	Foreign exchange derivatives contracts traded in Singapore	1 November 2015 for information mentioned in Parts I, items 1 to 5 of Part IA and Part IV of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and IV of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and IV of the First Schedule
		1 October 2018 for information mentioned in item 6 of Part IA of the First Schedule		
7.	Equity derivatives contracts booked in Singapore	1 October 2018 for information mentioned in Parts I, IA and V of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and V of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and V of the First Schedule
8.	Equity derivatives contracts traded in Singapore	1 October 2018 for information mentioned in Parts I, IA and V of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and V of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and V of the First Schedule
9.	Commodity derivatives contracts booked in Singapore	1 October 2018 for information mentioned in Parts I, IA and VI of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and VI of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and VI of the First Schedule
10.	Commodity derivatives contracts traded in Singapore	1 October 2018 for information mentioned in Parts I, IA and VI of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and VI of the First Schedule	1 October 2020 for information mentioned in Parts I, IA and VI of the First Schedule

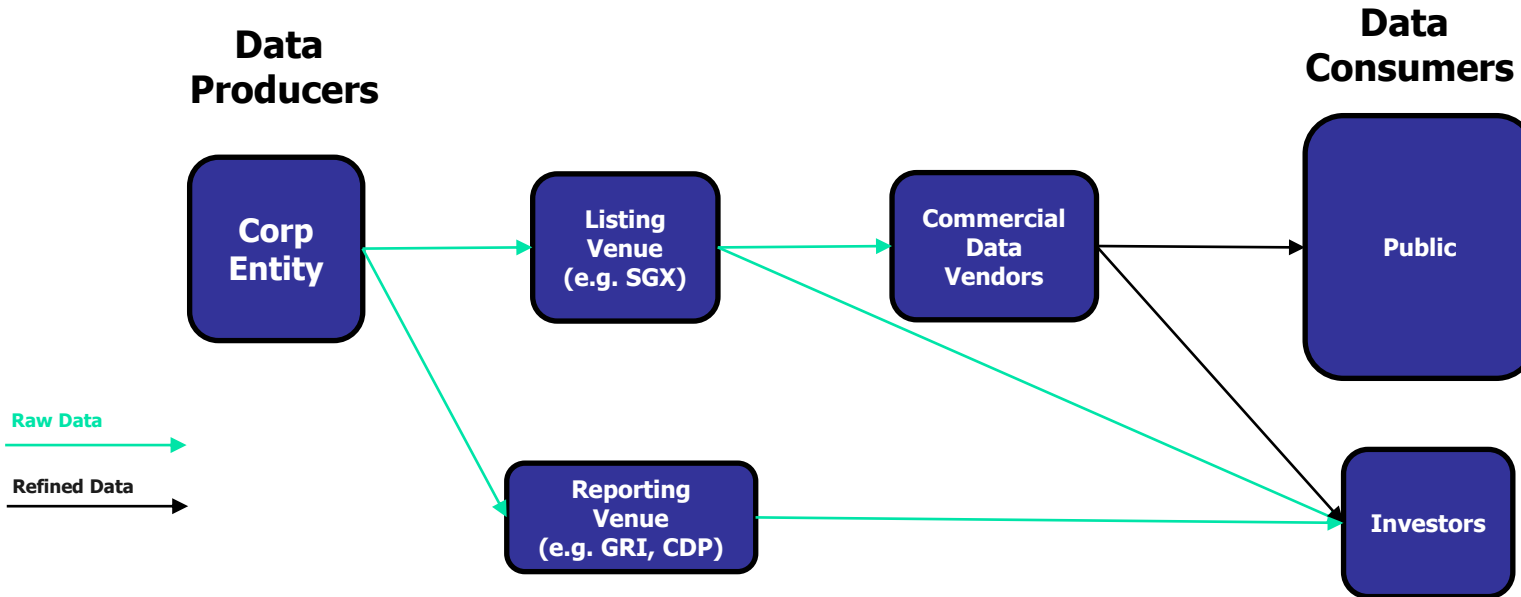
# Impact on Market Participants

- Emergence of market utilities
- Confusion about variations between requirements
- Struggle to meet deadlines
- Tactical solutions that were built in-house
- Extensive manual processes
- Costly to enhance as new requirements emerged
- Ultimately transitioned to RegTech solutions

# Fintech Data Infrastructure



# Sustainability Reporting



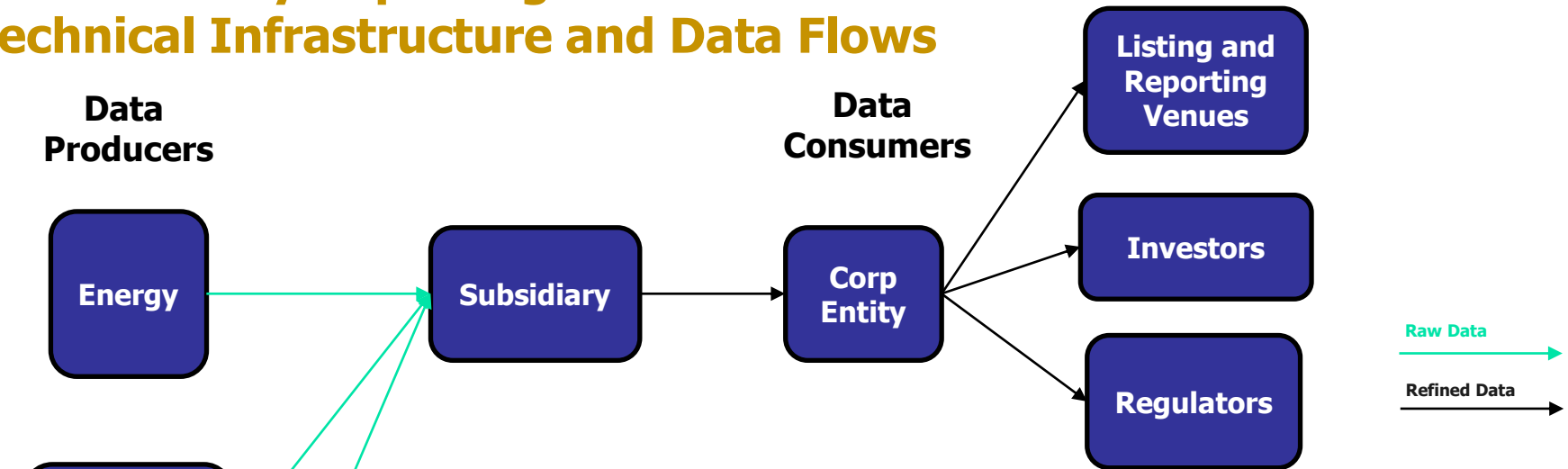
- CSR evolving to ESG over 20 years
- Focus on the publicly listed corporate entity to produce data
- Traditional (listing venues) and non-traditional reporting venues (CDB and GRI)
- Voluntary to “Report or Explain” evolving to mandatory disclosure

- Emerging standards and guidelines
  - UN SDGs
  - Materiality Topics (SASB)
  - Science-based targets (SBTI)
  - Principles for Responsible Investing (UN PRI)
- Global awareness
  - Climate-related Environmental and Social events
  - COPs



# Sustainability Reporting

## Technical Infrastructure and Data Flows

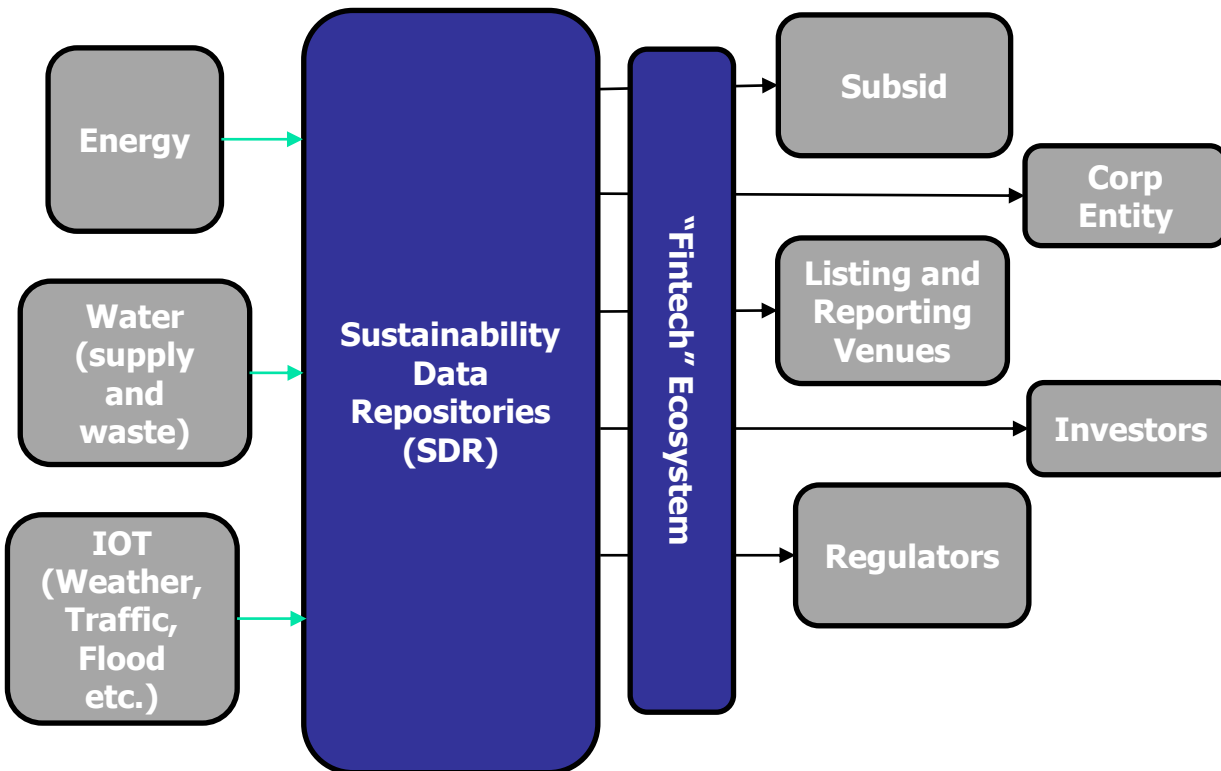


- Current Data Gathering for Fundamental Sustainability Data Sets
- Upstream “raw” data is typically external to the subsid entity collecting the data (e.g. Scope 1, 2, and 3 data)
- “Raw” data collection, validation, aggregation and conversion tasks completed by individual corp. entities
- Responsibility for onward distribution of “refined” data also rests on a single consumer

# Sustainability Reporting - Technical Infrastructure Opportunity

## Data Producers

## Data Consumers



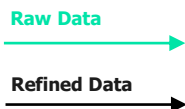
## Sustainability Data Repositories (SDRs)

- Leadership on standards and protocols
- Economies of scale aggregation and validation technology
- Higher quality and consistency in refined data
- Platform for ecosystem of industry-specific “Fintechs”

## Policy and Regulation

- SDR regulation
- Data sharing mandates (e.g. as in Open Banking)
- Harmonization of SDR standards

Financial community did exactly this for OTC data, across the largest 7 G20 economies and in <5 years!



# Case Study – Property Fund

## Background

- Built env accounts for 39% of annual GHG emissions - 28% operational and 11% construction
- Majulah ICAV (Irish Collective Asset-Management Vehicle) – regulated by Central Bank of Ireland
- >1m sq ft of Commercial Real Estate (15 Office Parks)
- Government and MNC tenants
- Portfolio Sustainability Manager has been appointed
- Significant voluntary effort

## Motivations

- Tenant (Scope 1, 3 and 3)
- First regulatory obligation approaching (SFDR)
- Emerging green financing arrangements

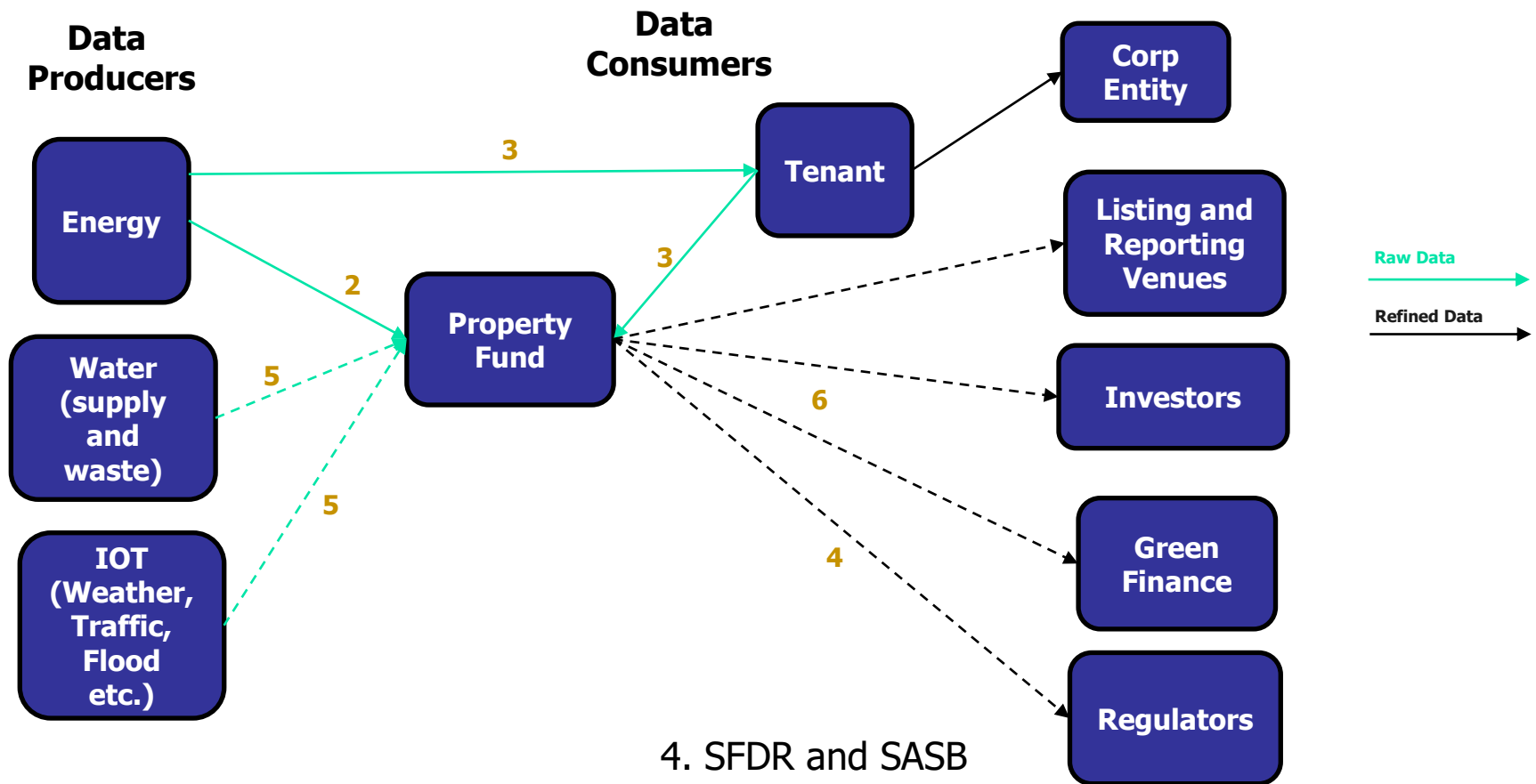
## Sustainability Accounting Standards Board (SASB)

- Material industry-specific disclosure topics
- Voluntary
- SICs # IF0402
- 4 topics, 17 quantitative metrics and 4 metrics for discussion/analysis and 4 activity/scale metrics

## Sustainable Finance Disclosure Regs (SFDR)

- Mandatory rules governing the labeling of investment products
- 2 mandatory Primary Adverse Indicators (PAIs) and 1 Voluntary stipulated for RE investments

# Case Study – Observations



1. Sustainability as a competitive differentiator

2. Energy data gathering prioritized and immediate costs savings realized

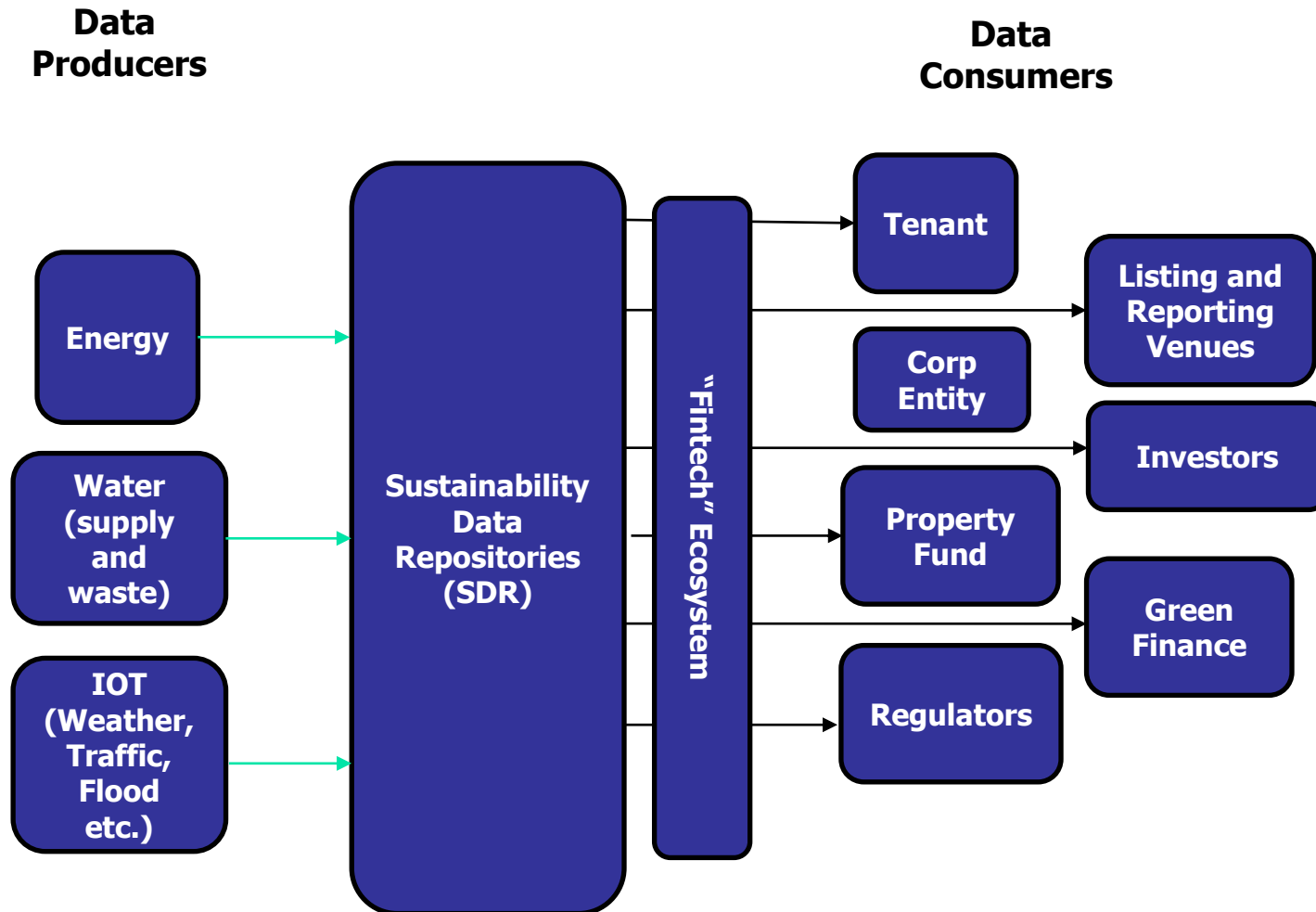
3. Complexity of tenant-sourced and landlord-sourced energy

4. SFDR and SASB calculations relatively easy

5. Rate of progress on raw data gathering sits with individual property managers

6. Lack of scale and standards for a “fintech” firm to add value

# Case Study – SDR Potential



Raw Data →

Refined Data →

# Summary

- Opportunity to accelerate the adoption and compliance with sustainability reporting/disclosure
- Existing financial regulatory reporting data infrastructure frameworks can be leveraged
- Policymakers will need to help guide the industry to to develop data utilities