



# Financing energy transitions

*Theory & examples from South Africa*

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## **Finance experiences to now ...**

- Tax advisor
- Investment banker
- Failed entrepreneur
- Development/green banker
- Climate finance consultant
- Academic journey
- Energy transitions and finance work
- ...

## **My challenge and passion ...**

- Role for finance ministries in climate action became clearer
- Limited policy language that reflects role for finance beyond individual projects / instruments

# My concerns on transition-related finance issues

1. *Role for financial system limited to only securing more finance for projects*
2. Financiers driving new pathways based on their *return demands*
3. Shallow and short-term responses from financial system relative to new system needs
4. Premature or inappropriate adoption of financial options unsuited to country context
5. Financial innovations projectized, but lack transformational systemic impact
6. Risk of financial system creating *unsustainable* “sustainable pathways”

# Long association between finance and sustainability

Substantive literature base on finance and sustainability – growing since 1988 (post 1987 Brundtland Commission).

However, most exist outside mainstream finance research and theories – new ‘niche’ framings emerge.

→ Uncertain that past research on these topics are adequate for sustainability transition context

| Terms linking finance and sustainability | Scopus results | Publication period         | # Co-occurrence of “sustainability transitions” |
|--|----------------|----------------------------|---|
| Social finance                           | 99             | 1988, 1999, 2008–2019      | 0   |
| Environmental finance                    | 88             | 1989–2019                  | 1   |
| Responsible investment                   | 800            | 1991–1994, 1996–2019       | 3   |
| Socially responsible investment          | 609            | 1991–1994, 1996, 1998–2019 | 2   |
| Sustainable investment                   | 300            | 1992–1995, 1998–2019       | 6   |
| Sustainable finance                      | 129            | 1992, 2004–2019            | 1   |
| Green finance                            | 80             | 1997, 2005, 2011–2019      | 1   |
| Impact finance                           | 18             | 2000–2019                  | 0   |
| Carbon finance                           | 200            | 2002–2019                  | 0   |
| Climate finance                          | 323            | 2004–2019                  | 0   |
| Impact investing                         | 141            | 2011–2019                  | 0   |
| <b>Total papers</b>                      | <b>2,787</b>   |                            | <b>14</b>                                       |

# Emerging transition-related examples

- Provision of finance for transition-related activities to lower emissions or build resilience (<https://www.csagroup.org/news/defining-transition-finance-in-canada/>)
- Just Transition Fund to support shift away from coal to clean energy (<https://www.justtransitionfund.org/>; [https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/652063/EPRS\\_ATA\(2020\)652063\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2020/652063/EPRS_ATA(2020)652063_EN.pdf) )
- Finance for repurposing power utilities in countries such as South Africa, Poland and Indonesia away from coal towards clean energy (<https://mybroadband.co.za/news/energy/366574-eskoms-future-is-renewable-energy-ceo.html>)
- Banks taking action (Singapore, Canada, Japan): Transition finance taxonomies

# What does transitions mean?

Somewhere between the “old” and “new” system is the *interregnum\**, where morbid systems are bound to occur (paraphrasing Gramsci)



*interregnum\** = discontinuity, chaos, confusion, disruption, uncertainty, morbidity, no one leads

# Starting Q: what does finance need to respond to?

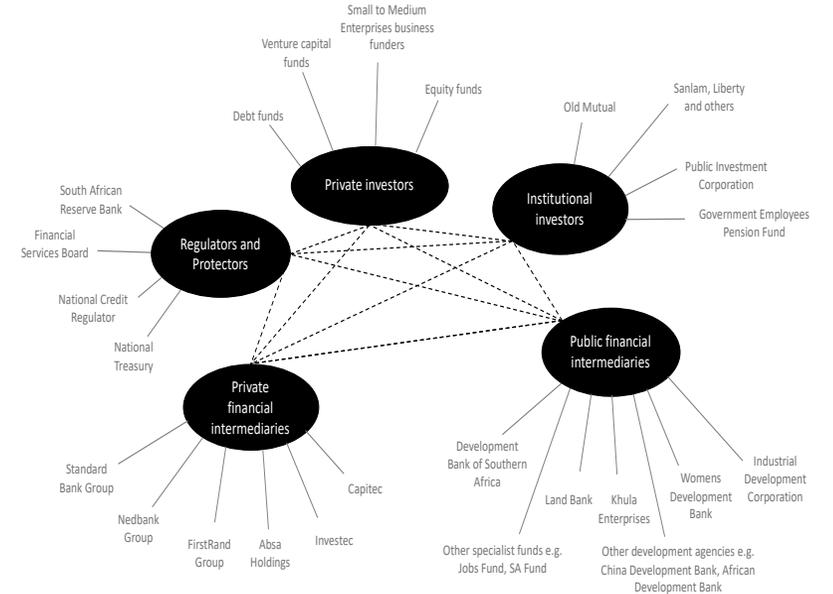
Hypothesis by Perez (2002) and O'Sullivan (2005) suggests that “*the characteristics of the innovation process informs the demand for finance*”. Other approaches are mainly risk and return focused, which limit systemic reflections



**Drivers**



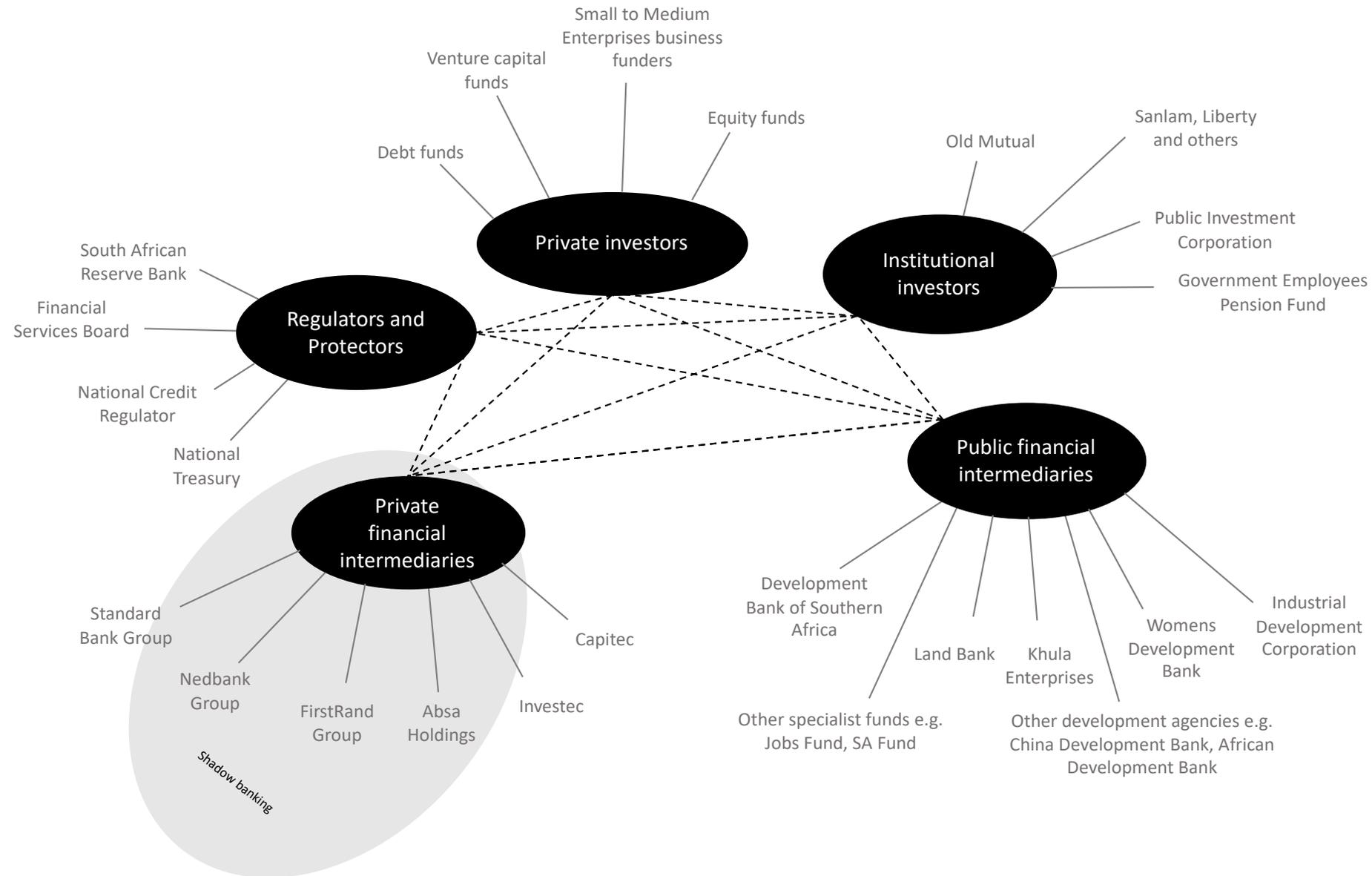
## **Respondents**



# Sustainability (and energy) transition processes have specific characteristics

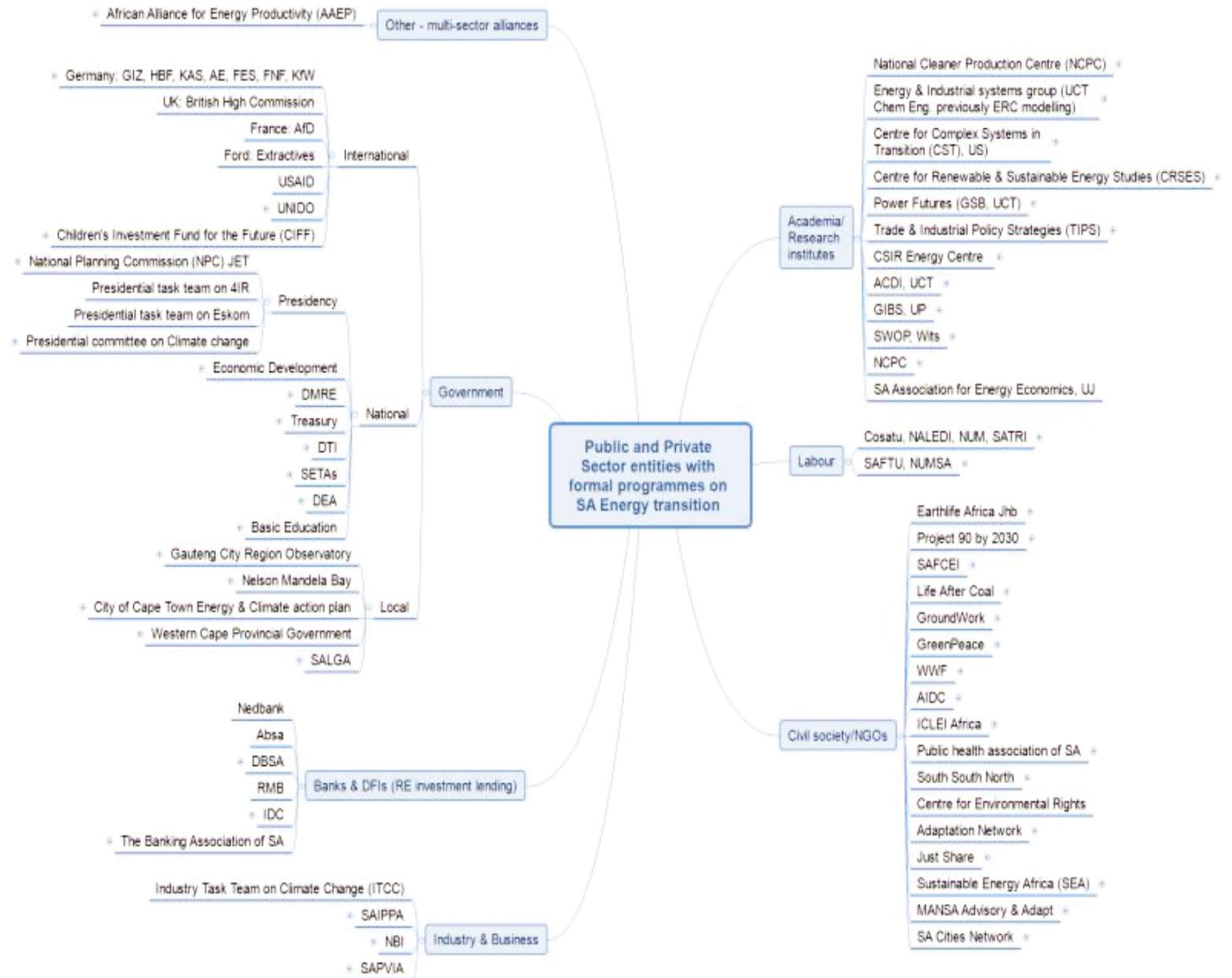
| Characteristics | Demands on finance  |
|-----------------|---|
| Direction       | Consistent shift away from unsustainable and to sustainability investment and practices |
| Temporality     | Accelerate response (not incremental, or gradual)                                       |
| System effects  | Create new, <i>and simultaneously</i> disrupt and de-stabilise old systems              |
| Social context  | Stakeholder rather than shareholder, justice, inclusivity                               |
| Experimentation | Adaptive, embrace uncertainty, no 'failed' investments only learning                    |

# Illustration of SA's financial system



# Case example: Financing South Africa's energy transition: From 1994 to 2019

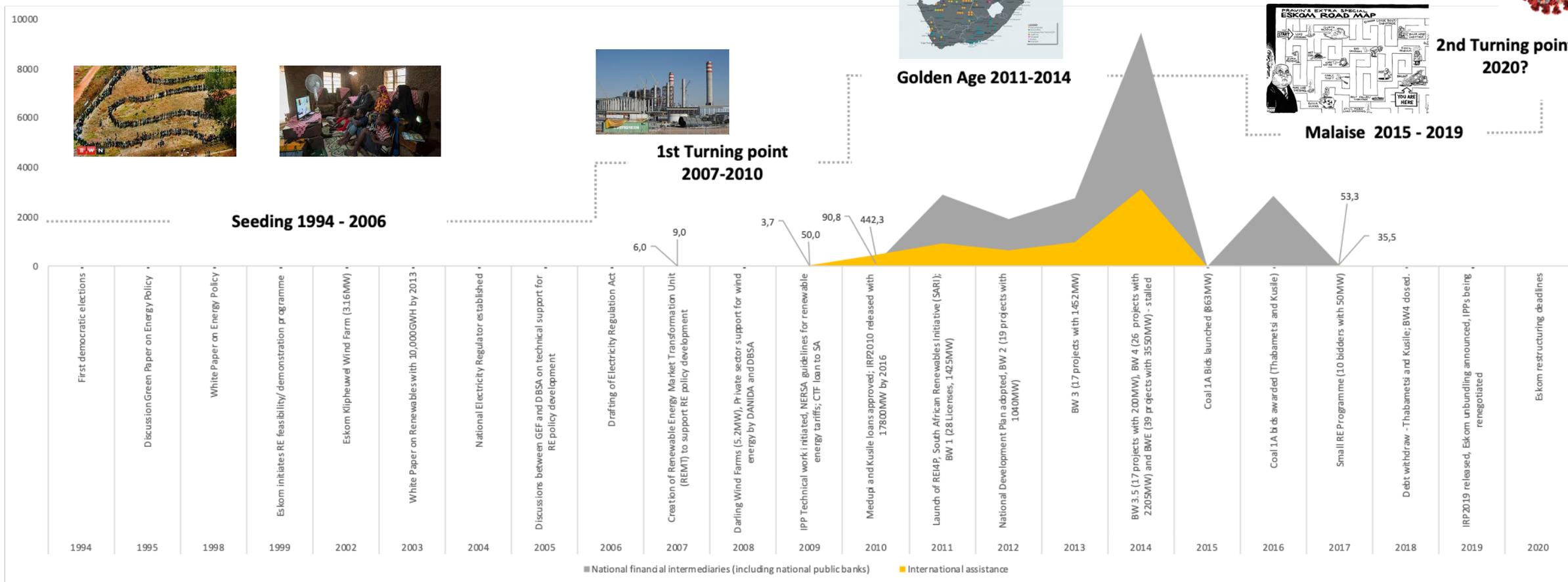
- Qualitative interviews
  - (30 key informants)
- Document analysis
- Quantitative analysis
- Access to confidential database
- My DBSA experience with REI4P





# South Africa's energy transition

**TEMPORALITY: Policy and finance milestones of SA energy transition (1994 to 2019) (Numbers in ZAR 'millions)**

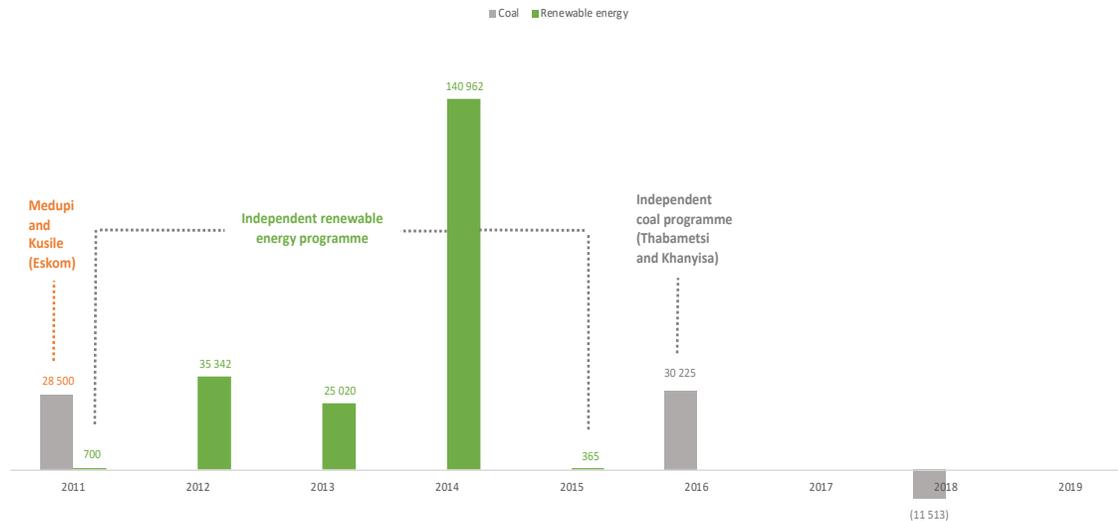


Source: Naidoo, C.P (2020) Energy transitions and financial intermediaries: The case of South Africa (1994 to 2019)

# Insights from data

## DIRECTION

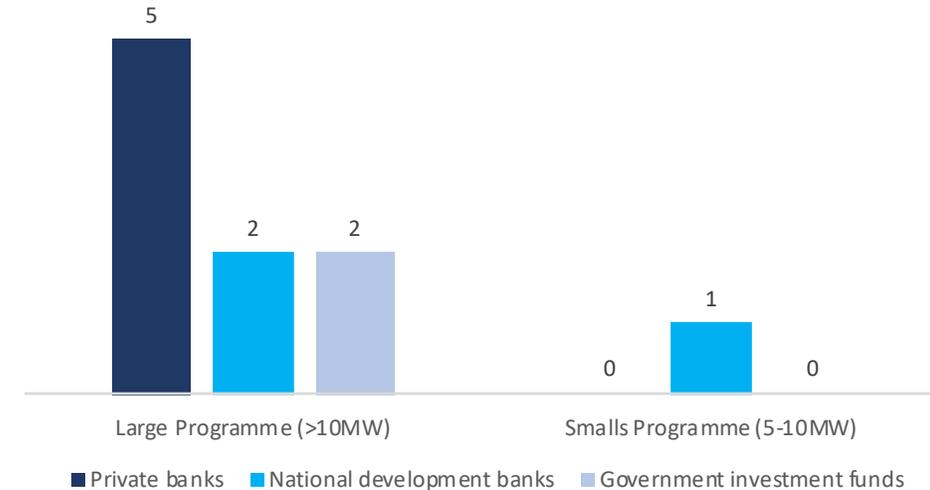
Coal and renewable energy investments



- Ambiguous investment agenda  
*“the greenness does not have much to do with it – it is a useful framing for unlocking funding from foreign development finance institutions, but any well-structured programme will get attention from the banks”*

## SYSTEM EFFECTS

Number of banks supporting IPPs (small and large)



*“in reality, the commercial banks paid very little attention to the Smalls as **they were spoilt by the Large programme**. There was nothing wrong with the structure or intention of the Smalls, and it would have gone a long way if it was launched first”*

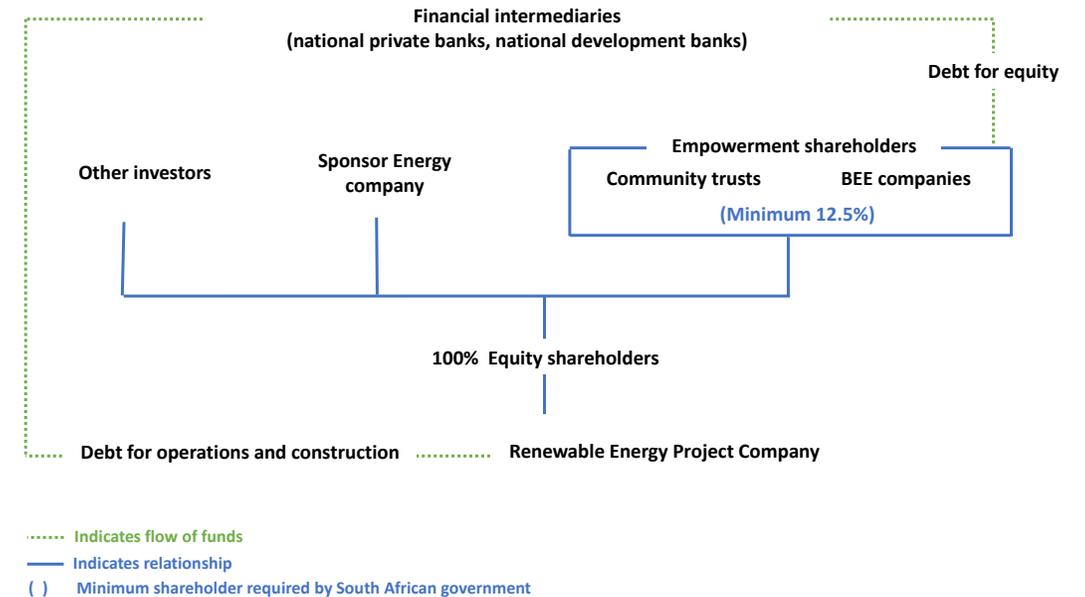
# Insights from data

## SOCIAL CONTEXT



- Civil action pushed for investment shifts
- Continued pressure for disclosure, consistency
- Landmark legal cases

## EXPERIMENTATION



- IPP Office maintained dialogue
- Impressive financial innovation over time
- Limited innovation for social / BEE funding

# What stood out from the data?

1. Dialogue helpful for programme design and ongoing learnings
2. Unspoken expectations, frustration and assumptions lurk below
3. Environment and social factors play limited role in investment decisions in SA
4. SA energy transition lacks precise framing
5. Investment models are unimaginative, lack equity and inclusivity
6. Quality and nature of the dialogue lacks focus on system effects

# Does structure of financial systems matter?

Large banks (4) holding roughly 92% of the finance flows (largely unchanged since early 1900s)

1. **Good examples of sustainability-related finance innovation** in some places but not joined or coherent
2. **Intensity** of environmental and social transition objectives limited by structure (large business concentration with limited access to finance for small, medium businesses and vulnerable groups)
3. **Relationship among actors in financial system** unclear – financial inclusion, access to finance, how DFIs relate to private banks, “who dunnit”, “whose role is it” (actors = public, private, national, international)
4. **Sophisticated capabilities but selectively applied** - innovations, greenwashing risks, financialisation (refinancing with no real economy impact),
5. **No guarantee** that coal or fossil fuel investment exclusion policies will deliver higher clean energy and energy efficiency investments, or similar climate related investments (resilience, biodiversity)

# Towards future financing SA energy transition

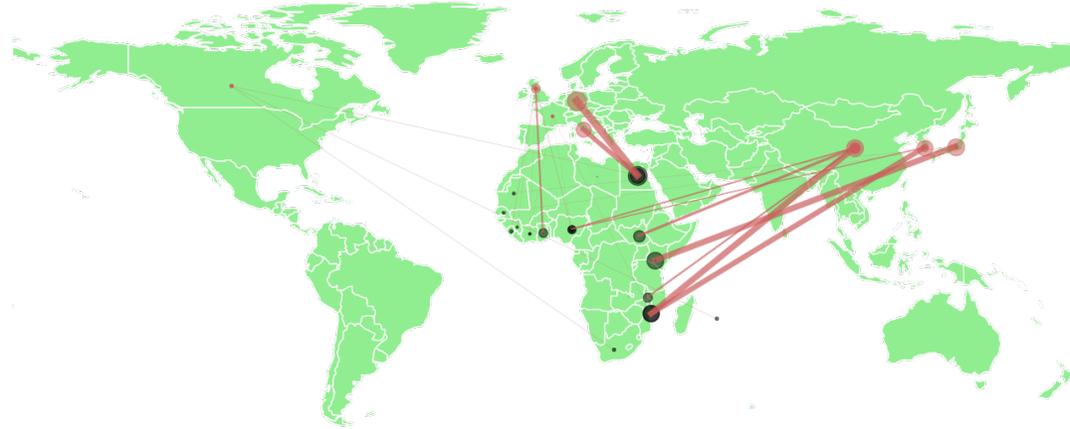
*Dialogue between policymakers and financial intermediaries was critical for introducing and evolving the energy transition to this point ...*

## **Deeper and honest dialogue addressing ...**

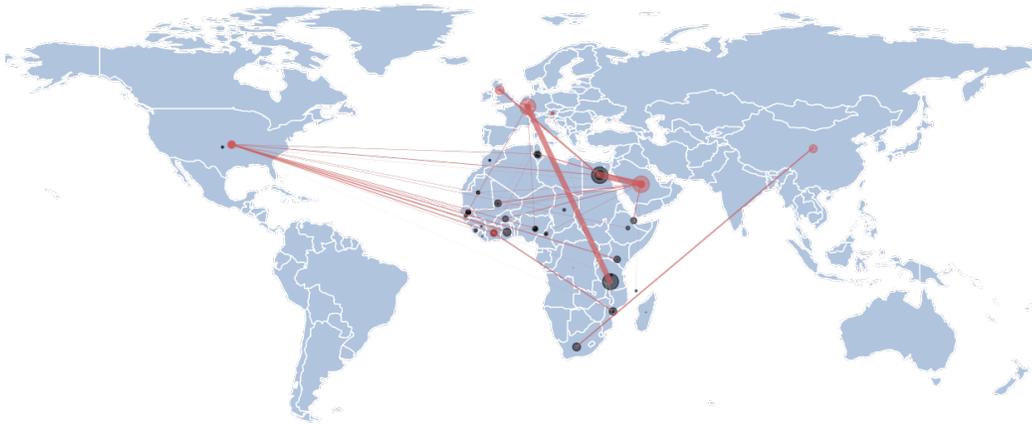
1. Systemic vs transactional issues
2. Social and just transition contribution
3. Relationships among funders (complementary)
4. Building diversity and inclusivity into financial system
5. Using international funds impactfully and equitably
6. Innovations to create and sustain transition over short, medium & long term
7. Whose responsibility is the energy transition? Waiting games vs act where one can

# Energy flows into region for fossil fuels

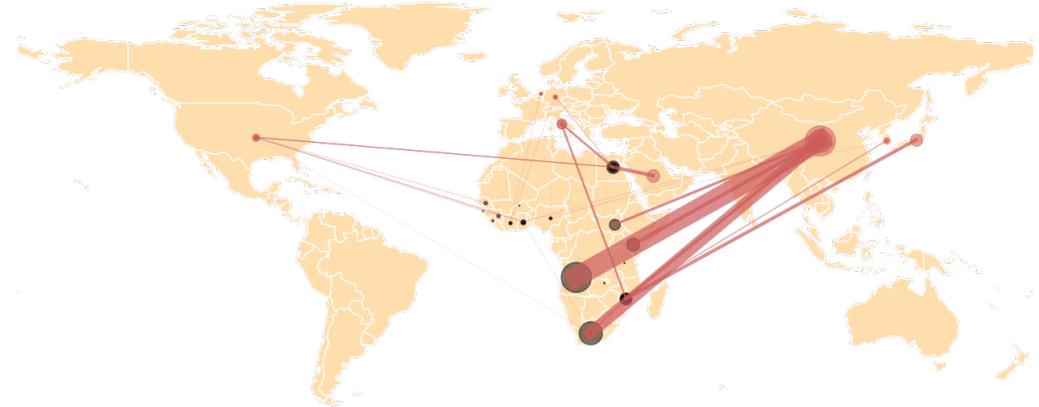
Export Credit FOSSIL FUEL



Multilateral FOSSIL FUEL



Bilateral FOSSIL FUEL



Source: Rempel, A (Forthcoming PhD thesis on energy financing flows into Africa)



# Relevance for rest of region

## Policymakers

1. What is the transition ambition?
2. What are its system level needs?
3. How can these needs be met?
4. In what ways can policy or regulation enable needs to be met?
5. Does the financial system support these needs?

Example: the investment model, sustainable energy system, the type of financial system needed to support transition and creation objectives

## Financial intermediaries

1. What do they understand needs doing?
2. What problems are the solutions solving for?
3. What governs the systems that govern finance flows?
4. How does government policy effect change to those systems?
5. Are financial system actors engaging to the extent of their mandate/ circle of influence?

Example: what problem does green bonds achieve in short, medium and long term? What incentives are bankers given to advance transitions?



# Relevance for future research

## Transition researchers

1. Analyse the framing of finance in sustainability transition studies
2. Examine the implicit assumptions underpinning existing framings
3. Engage with the transition demands framework as heuristic/ guidance
4. Conduct more empirical research on relating financial systems to sustainability transitions
5. Evaluate practice-based initiatives
6. Ambition of transition vs. expectations of financial system

## Finance researchers

1. Research origins and relationship among the 11 sustainability-related finance framings (and fast growing additions e.g. transformative, transition and regenerative finance)
2. Develop commonalities and outliers of approaches to create a unified narrative
3. Aim for developing a coherent alternative to orthodox finance approaches
4. Investigate the role of finance relative to the needs of the process it is engaging in (short and long term) – use transition demands framework
5. Re-assess the ‘holy cows of finance’ – are finance theories fit for purpose to meet demands of sustainability transitions – use design features



The purpose of life is  
evolution  
from lower to higher  
from ignorance to knowledge  
darkness to light.

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