



South African
BRICS Think Tank

Generating Economic Development From Renewable Energy: A City-Level Comparison of South Africa and China

Mr Krish Chetty

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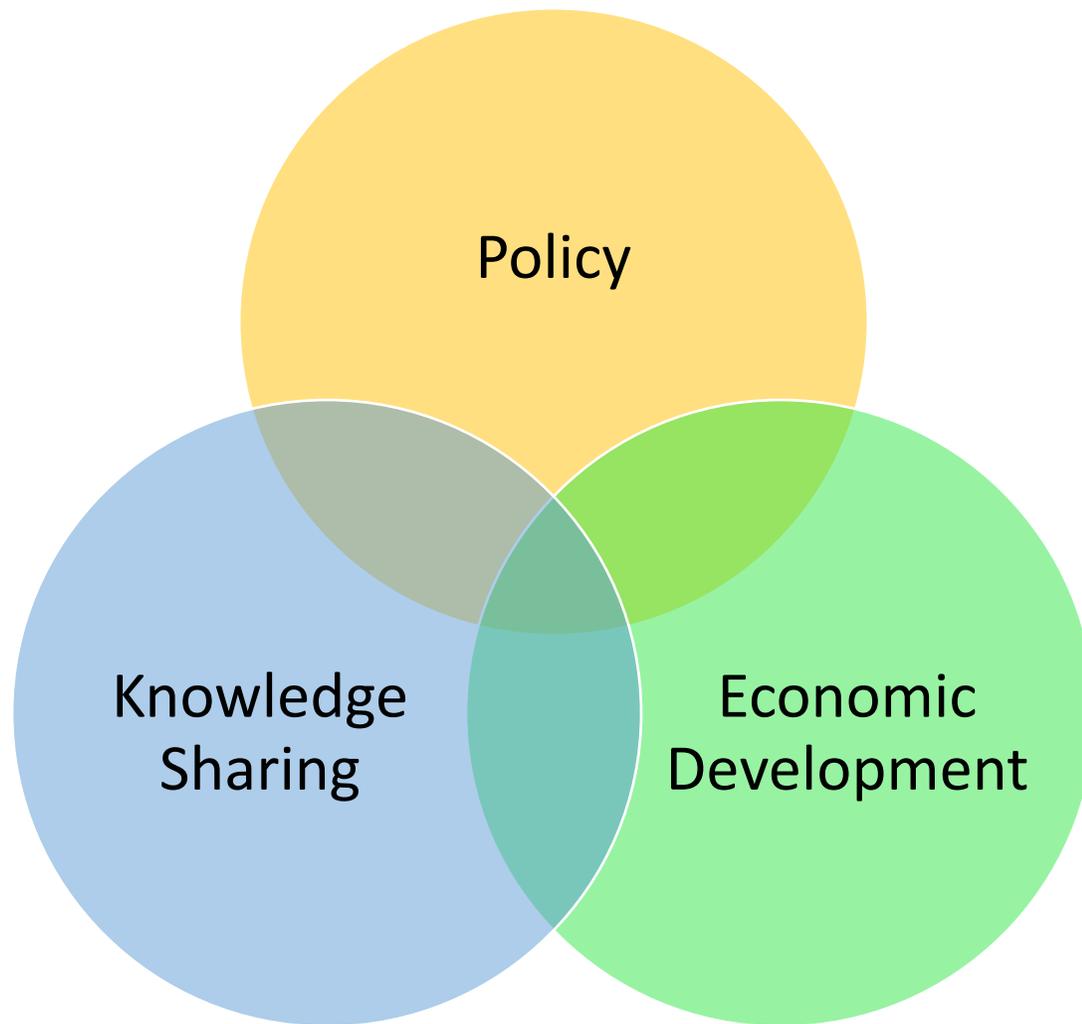
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Background

- Renewable Energy Rollout in SA has been slow
- Considerable Market Uncertainty
- Difficulties securing an IPP License
- Smaller municipalities tended to avoid generation or procurement entirely
- 2 Critical Changes
 - Electricity Regulations Act amended – allows procurement for < 100MW
 - Renewable Energy Generated Electricity is now cheaper than coal power

Findings



- Our findings are clustered into three categories
- Each point intersects and influences others



Policy

Political Support in South Africa

- Decreasing costs in RE electricity generation have made RE energy more attractive, requiring municipalities to accelerate RE policy implementation.
- Despite progress in developing policy frameworks, municipal councils have not prioritised approving RE procurement policies as they do not align with their political positions.
- Smaller municipalities tend to avoid climate mitigation, particularly electricity generation or power procurement
 - Sometimes called an unfunded mandate - meant for National Govt

China's Policy Approach

- China makes iterative revisions to its Five-Year Plans
- The 14th Five Year Plan began in 2021 (2021 – 2025)
 - The Five Year Plan is then crafted for each sub-national area, with appropriate targets
- Central govt sets targets for the environmental projects
 - Each Sub-National Government signs a liability statement agreeing to targets for their region
 - Targets and Agreements are set for each cascading geography level
 - Liability statement defines penalties for failing to achieve a target

China's 14th Five-Year Plan



Policy Uncertainty

- Was a disagreement about IPP requirements for a NERSA license
 - Led to the City of Cape v DMRE v NERSA court case
 - Prior to the ERA amendment, there were terrible delays in procuring power
- Some policies refer to the same terms with different meaning
 - Is some ambiguity in the ERA amendment about the registration process
- GreenCape has developed a 'Green Policy' unpacking how to handle procurement
- SALGA/GIZ also developed a Municipal Electricity Utilities Resource Pack to guide municipalities through the procurement process.
 - Addresses the legal complexity
 - Not widely shared

Municipal Power Procurement

- Large scale projects take several years before they show a return on investment.
- Long term projects need to be included in the city's plan a year in advance. Technology could change within a year making such plans outdated.
- New vendors with innovative products and no track record do not qualify for the REIPP bidding process.
- There is also a need to develop a standardised tariff structure to update IPPs and provide the municipal council with a proposal proving how such purchases could be lucrative for the municipality.

Municipal Capacity

- Smaller municipalities lack capacity and need technical experts within engineering, financial and legal backgrounds to implement a renewable energy programme.
- Renewable Energy studies are often technical, requiring municipal administrative staff to have some technical knowledge to interpret the results of these studies. Without such knowledge, municipalities risk getting manipulated by consultants.
- Some municipalities do not fill RE related positions, believing that Climate Mitigation/Adaptation is an unfunded mandate.
- SALGA's partnership with GIZ helped introduce specialised knowledge to municipalities related to Small Scale Embedded-Generation.

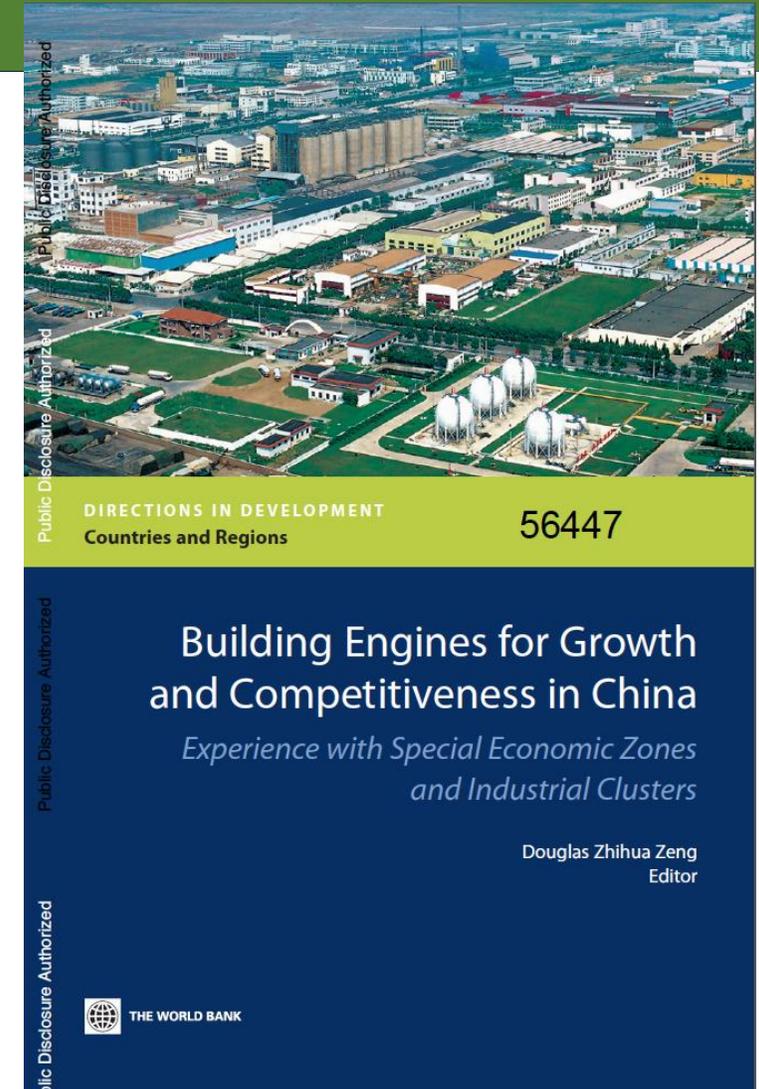
Economic Development

Promoting Industrialisation and Manufacturing

- The Green Economy creates new industries and new opportunities for work
- Recent REIPPP bidding windows required 40% of components sourced from local manufacturers
 - Can slow development or
 - Boost local manufacturing demand
- Consistent demand is key for investors
 - Govt must strictly follow published Bidding Window Timetable
- While local demand gradually increases, must prioritise exports
 - Introduce incentives for foreign markets to buy SA components to encourage competitiveness

Special Economic Zones

- Both SA and China have Special Economic Zones
 - Areas earmarked for manufacturing and other specialised economic activity
 - Benefit from special tax incentives, import subsidies and other non-financial incentives
 - Connected to ports and freight routes
 - Atlantis SEZ in Cape Town specialises in RE manufacturing
 - Coega SEZ in Nelson Mandela Bay develops a variety of products
- Chinese High Tech Industrial Development
 - Focus on High Tech including RE
 - Promotes innovations – brings together a variety of stakeholders
 - R&D, Incubators, Investors, Universities, Businesses
 - Drive new innovation in Solar and Wind – helps to bring down costs
- SEZ Policy must be meaningfully different from employment creation policy
 - Must prioritise SA's low skill base
 - Needs to be labour absorptive
 - SEZ must integrate technical skills development



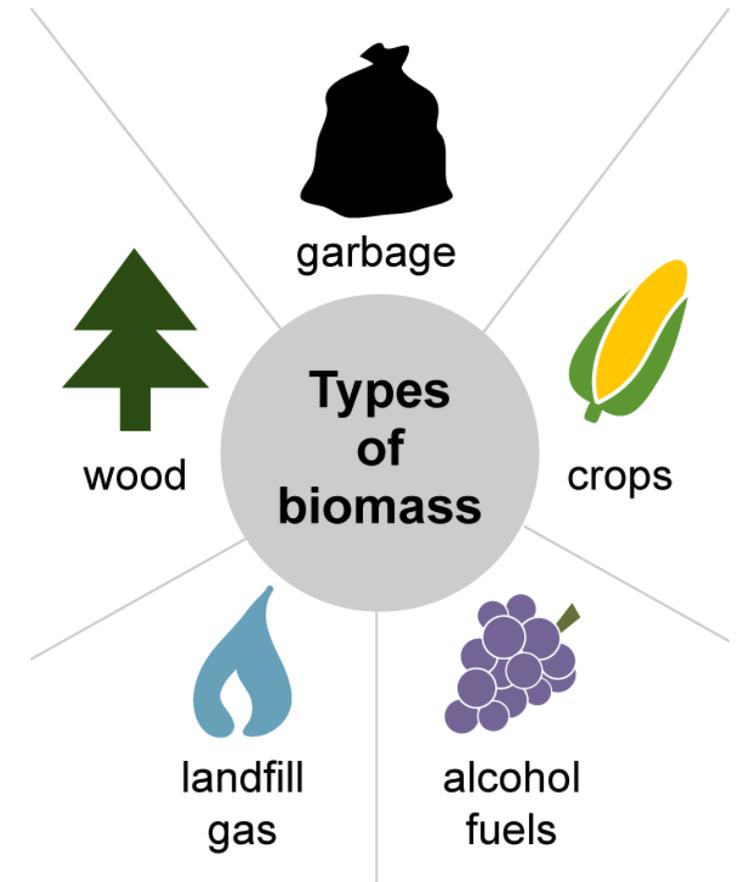
Skills Development

- SA has low skills base
 - TVET colleges have to be included in the skills development strategy
 - Must produce targeted certifications for the new Green Jobs
- Municipalities need these workers as they transition toward more energy-efficient devices.
- Workers in Coal Sector need to be trained to shift to RE work
 - Challenge in China and SA
 - Involves working with Steel or Concrete – linked to Wind Tower Assembly
 - Specialised electrical/chemical work – for Solar PV, Turbine and Battery assembly
 - Bioenergy Production
 - Unions are resistant to decommissioning coal mines
 - Coal mines not where wind/solar farms are located



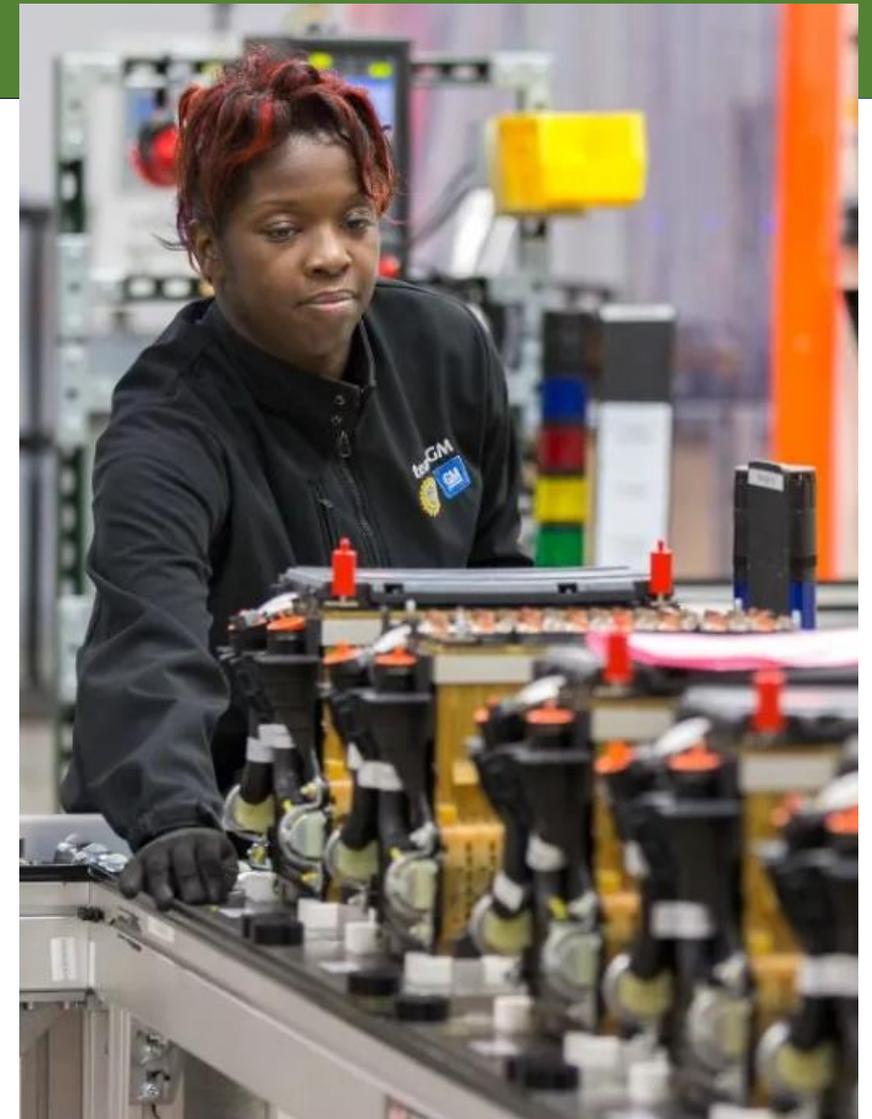
Biomass Energy Production

- Is the most human intensive renewable energy
- Creates most jobs for money spent
 - 224 Direct Jobs created in China for 1million USD
 - Solar and Wind produce 27 – 29 Jobs
- Biomass Energy Production can be distributed
 - Production can be located closer to workers
- Opportunity for Informal Waste Pickers
 - Is a need to formalise how Waste Pickers are organised
 - Have been organisational challenges
 - Need support in developing cooperatives, so their needs are better catered for by the Biomass production facility



Energy Storage Manufacturing

- SA has large stores of high-grade vanadium, platinum, palladium, nickel, manganese, rare earth, copper and cobalt needed by the global energy storage sector.
- SA possesses the metallurgical infrastructure needed to maximise local battery manufacturing.
- Should prioritise manufacturing of lithium-ion batteries



Community Development

- RE IPPs have been contributing to socio-economic development in rural communities
- Typical initiatives
 - 20 year lease with requirements to develop the community
 - Directs % of revenue to Socio-economic development initiatives
 - Part owned by a local trust
 - Invest in clinics, school nutrition programmes, skills development, sports programmes, free wifi
 - Majority of land still used for local agriculture



Knowledge Sharing

International Partnership Development

- China has followed a similar developmental path experienced by South Africa – countries share common values
- International Partnerships have tended to be more successful where partnership agreements are supplemented with funding – leads to concrete deliverables
- SALGA's GIZ partnership has contributed to building expertise in municipalities by seconding resources to the municipalities to help implement the municipality's RE agenda.
- City of Cape Town has partnership agreements in place with Brazilian, Russian, Indian and Chinese cities, but are dormant
- Embassies and consulate offices are ideal diplomat partners to strengthen partnership negotiations between cities. They have resources and can support language and cultural translations.

Forum on China Africa Cooperation

- 2009 – China committed to develop 100 small-scale energy plants in Africa
- Does so through Economic and Trade Development Zones (ETDZ)
 - Direct Chinese investment to the area
 - Promote knowledge transfer
 - Development done by Chinese Workers
- Chinese businesses incentivised to do business in ETDZ
 - Structure is strongly aligned to Africa's SEZ
 - SEZs could be marketed to Chinese investors
 - Agreements must balance skills and knowledge transfer, and employment of local workers



BRICS Energy Research Cooperation Platform

- Is a national platform
- Opportunity to include municipal staff and Renewable Energy Associations
- Platform can be used for international Partnership development, knowledge transfer
- Used to encourage people-to-people exchanges



Thank you

Krish Chetty – Research Manager

HSRC - Inclusive Economic Development

kchetty@hsrc.ac.za