

Workshop

Project Findings, Challenges and the Way Forward for local solar SMEs in Kenya

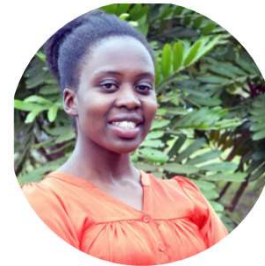
June 24, 2020

TEMARIN

TEMARIN Project Team



Mathilde Brix Pedersen, Project Manager,
UNEP DTU Partnership



Hope Njoroge, Project Consultant,
Strathmore University



Padmasai Lakshmi Bhamidipati, Project
Associate, UNEP DTU Partnership



Louise Strange, Project Assistant,
UNEP DTU Partnership



Sammy Mwiti, Independent Consultant

Today's Agenda

Time	Agenda Item	Speakers
		Hope Njoroge, Strathmore University
10am-10:30am	Welcome note and brief round of introductions	Mathilde Brix Pedersen; UNEP-DTU Partnership. Representatives from the Mol, MoEP, EPRA and, KERIA (TBC)
10:30am-10:45am	Presentation on key findings from the interviews with domestic solar MSMEs in Kenya, including: <ul style="list-style-type: none"> - SME characteristics and business strategies - Global value chains and upgrading pathways 	Lakshmi Bhamidipati, UNEP-DTU Partnership
		Louise Strange, UNEP-DTU Partnership
10:45am to 11:50am	Presentation and discussion of preliminary findings within the three themes Finance, Skills & Competencies, and Policies & Regulations and related challenges and action points to take forward	Hope Njoroge, Strathmore University Lakshmi Bhamidipati, UNEP-DTU Partnership
11:50 am to 12 noon	Wrapping up	Mathilde Brix Pedersen; UNEP-DTU Partnership.

OUR FOCUS AREAS



Climate Planning and
Policy



Climate Transparency
and Accountability



Business Models and
Markets

UNEP DTU Partnership is a UN Environment Programme and Technical University Denmark Collaborating Centre and a leading international research and advisory institution on energy, climate and sustainable development.

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MINISTRY OF FOREIGN AFFAIRS OF DENMARK
DANIDA INTERNATIONAL DEVELOPMENT COOPERATION



1. analyse successful case studies of market-led interventions of climate technologies in Kenya, and identify key learnings

Technology, Markets and Investment for Low Carbon and Climate Resilient Development (2018-2021)

2. support technology transfer partnerships in select climate mitigation and adaptation technologies in Uganda



3. understand how domestic solar PV companies/SMEs can increase their share of the global value chain and how challenges and needs specific to domestic firms can be addressed in Kenya and Uganda

Keynote Speakers



Boniface Nyongesa Wafula, Deputy Director, Enterprise Development, State Department of Industrialization, Trade and Enterprise Development Ministry of Industry

Role of Ministry of Industry in Enterprise Development



Nickson Bukachi, Senior Renewable Energy Specialist, Energy & Petroleum Regulatory Authority (EPRA).

Policy and Regulatory aspects of Local solar companies



Paul Mbuthi, Deputy Director of Renewable Energy, Ministry of Energy and Petroleum

Role of Ministry of Energy and Petroleum in facilitating local companies inclusion in the PV value chain



Shaleen Wangui, Administrator, Kenya Renewable Energy Association (KEREAA)

Role of Industry Associations in enhancing local companies participation in Solar PV value chain

Attending firms

- Automax
- Solar Poa
- Solarfrique
- Mwangaza Light
- Ofgen
- Questworks
- Power Point Systems
- Skynotch
- Kensen
- Knights Energy
- Multilink
- Harmonic Systems
- Go Solar
- Epicenter



A few **practical things** before we begin...

- The discussion points made during this workshop will be included in the final report. Thus, participants are to **refrain from sharing any inputs from the discussion** until the report is released.
- Your statements and discussion points will be anonymized in the report. Notes taken from this workshop will only be shared internally within the TEMARIN Project Team.
- Covid-19

And lastly, please remember to:

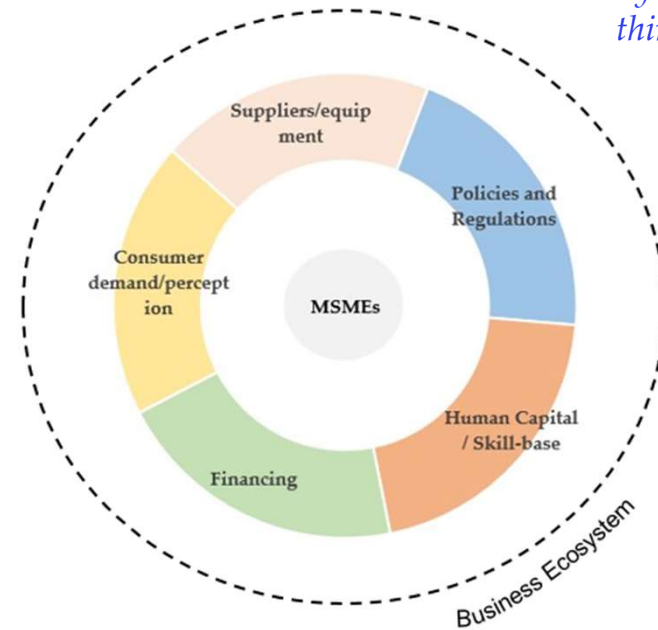
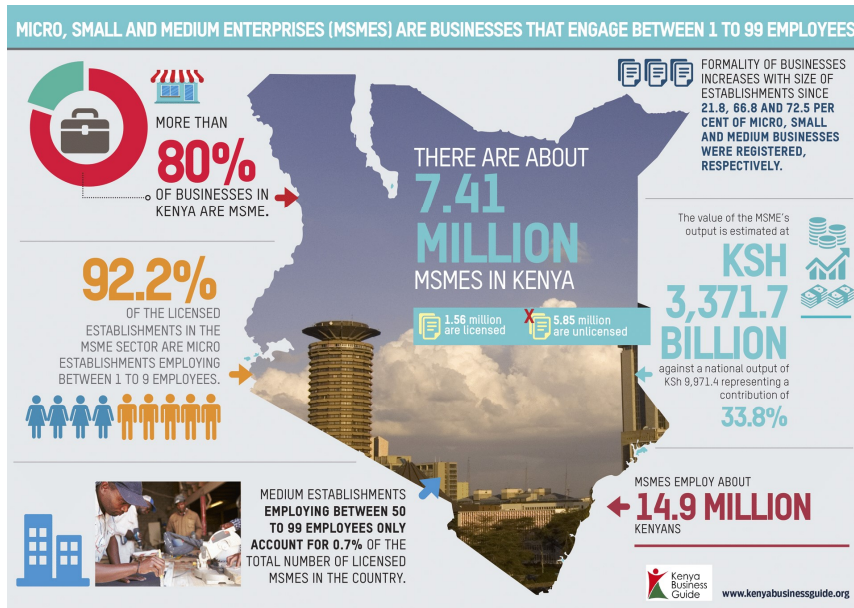
- Mute yourself
- You can raise your hand in Zoom to ask questions
- You can always write your comments and inputs in the the chat box.

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11:50 am to 12 noon	Wrapping up	

Business Strategies of Kenyan Domestic MSMEs in the Solar PV sector

Padmasai Lakshmi B

**Research Fellow (Postdoc)
UNEP-DTU Partnership**



How did local domestic MSMEs in the solar sector in Kenya become competitive over time?

Framing & Contextualizing



- Kenya has a high density of solar PV - development of an industry - many MSMEs and new jobs
- Solar PV market penetration is largely dependent on international linkages whether it be in terms of finance, hardware, and knowledge.
- Domestic businesses operate alongside international companies in a highly dynamic market.
- Global Value Chain - different activities are distributed across regions - localized product distribution/sales, engineering, procurement, installation and operation, maintenance.
- In this - domestic business grow - move towards higher value-added activities and gain larger market shares - this process can be referred to as Upgrading
- But.... this is dependent on business-internal and external factors

....how can we move from here to address our question

Overall Design and Approach

How did we arrive at the 14 companies we interviewed?

- Mapped list of registered companies (with licenses) from EPRA + a list from KEREK of all its members + companies with whom SERC has surveyed in past projects
- Tried to disaggregate the companies - off-grid, mini-grid, C&I, utility-scale
- Employed a mix of purposive sampling (to include at least 1 company from each market segments) + random sampling + availability
- Scope: Business journey, Experiences, Enablers, Milestones and Challenges

Companies	Age	Staff size	Main market focus
Automax	4	7	General electricals, Solar C&I systems, and Energy management
Solar Poa	4	10-15	Sale of SHS, Solar water pumps, C&I systems, Mini-grids
Solafrigue	6	4	Sale of PV-gensets, Solar water pumps, to Providing Services (energy audits, energy planning, project development, installation, O&M).
Mwangaza Light	6	15	Sale of Solar Pico and SHS, Sale of Cook stoves, Electric Pressure Cookers
Ogen	6	15	Energy Audits, Captive PV for C&I users, Sub-EPC for Utility-Scale projects
Questworks	7	100	Construction/design company, Solar C&I systems, Energy Efficiency services
Skynotch	7	3	Sale of Pico solar/SHS, Mini-grids Mini-hydro
Kensen	7	2	Project Development for a Utility-Scale project
Epicentre Africa	8	40	Water solutions, solar water pumps, solar water purifiers and water treatment
Knights Energy	9	30	ICT, Energy audits, Captive C&I PV systems, Electric Vehicles, Smart Home Systems
Multilink	10	28	Sale of Pico PV and SHS, Sale of Cook stoves, Developer for a Utility-Scale project
Harmonic Systems	11	11	Small-scale installations for refugee camps, Grid-tied C&I systems, Battery Storage, Solar Water Pumps, Solar Heaters and Heat Pumps
Go Solar	15	34	Small-scale solar installations - for mostly NGO and govt. contracts, Street lighting, Sales and Product Distribution
Power Point Systems	18	30	Sale of Electrical Appliances, Solar Home Systems, Small-scale Installations for Govt./donor contracts and C&I systems

.....What characterises local businesses?

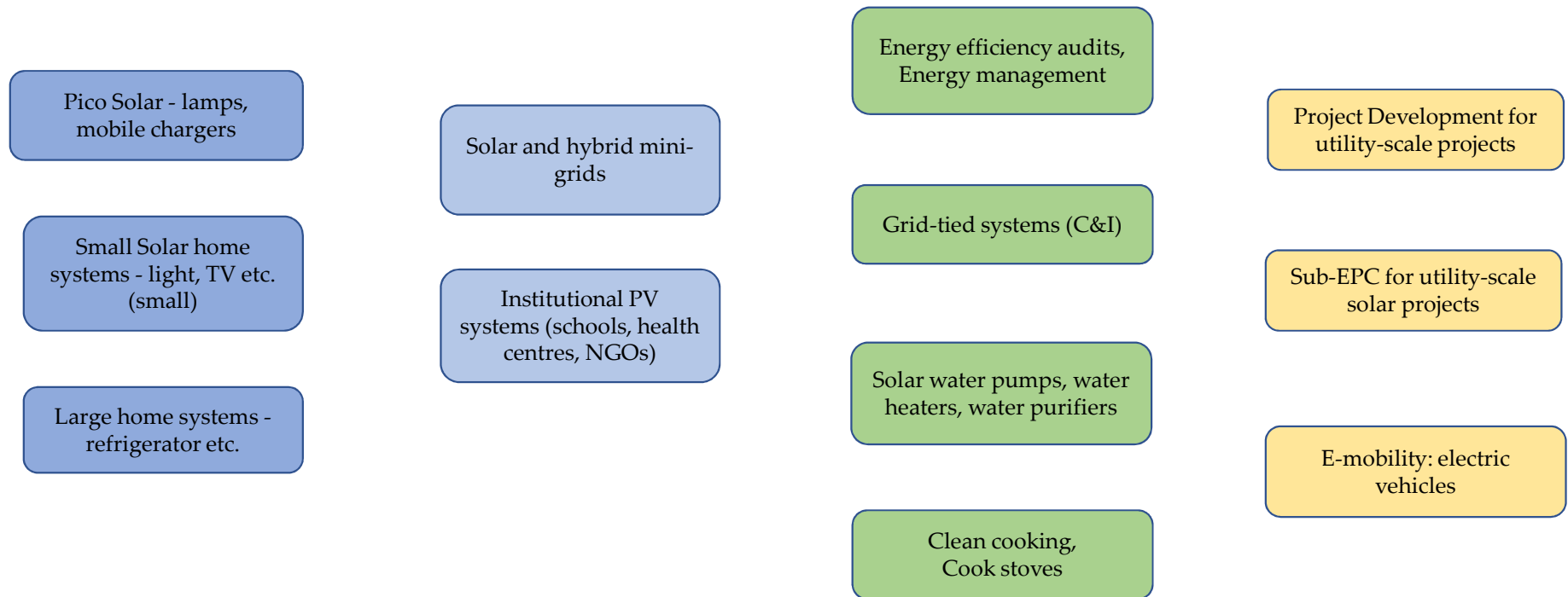
Comparative Advantages

- strong local contacts/linkages
- easy access to an informal networks of technicians and labourers
- word-of-mouth referrals & trust
- goodwill with suppliers + training support

Comparative Disadvantages

- limited access to finance
- limited skill resource base
- lower bargaining power with suppliers
- less resilience

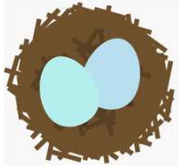
Market segments and market evolution



..... multiple market segments and fragmented nature of operations

Strategies pursued among Solar MSMEs

1



NICHE SPECIALIZATION

2



DIVERSIFICATION

3



NEW FUNCTIONS / SERVICES

4



SPATIAL/REGIONAL
EXPANSION

5



INTER-SECTORAL

..... which partly explains the variation

The four types...

Analyzers / Prospectors

- Operate in multiple product/service market domains, searching for new opportunities to specialize, first-movers and risk-takers.

Defenders

- Operate in narrow product/service domains, operate in specialized areas, not risk-takers, not aggressively pursuing new opportunities, stable and perform similar activities over a long period of time.

Strategists/Planners

- Operate in two stable product/service domains but relatively stable, less aggressive, but invest resources to stay long-term.

Reactors / Opportunists

- Operate via constantly exploring product/service market domains, less experience in the field, lack consistent strategy.

Background Factors

Owner's education & experience

Firm competences

Firm linkages & networks

Firm age & size

..... which also explains why some companies are more competitive than others

....Some final remarks

- Certain firms are more competitive than others - there are underlying factors explaining the varying competitiveness of these companies
- These business strategies pursued by the companies, combined with the influencing factors, and the external factors - overall shapes the competitiveness
- There are indicators to measure this competitiveness - annual turnover, portfolio of projects, landmark deals, new partnerships, mergers/acquisitions etc.
- There are also several bottlenecks which hinder competitiveness and resilience - that prevent local businesses from scaling-up.....

Thank You!

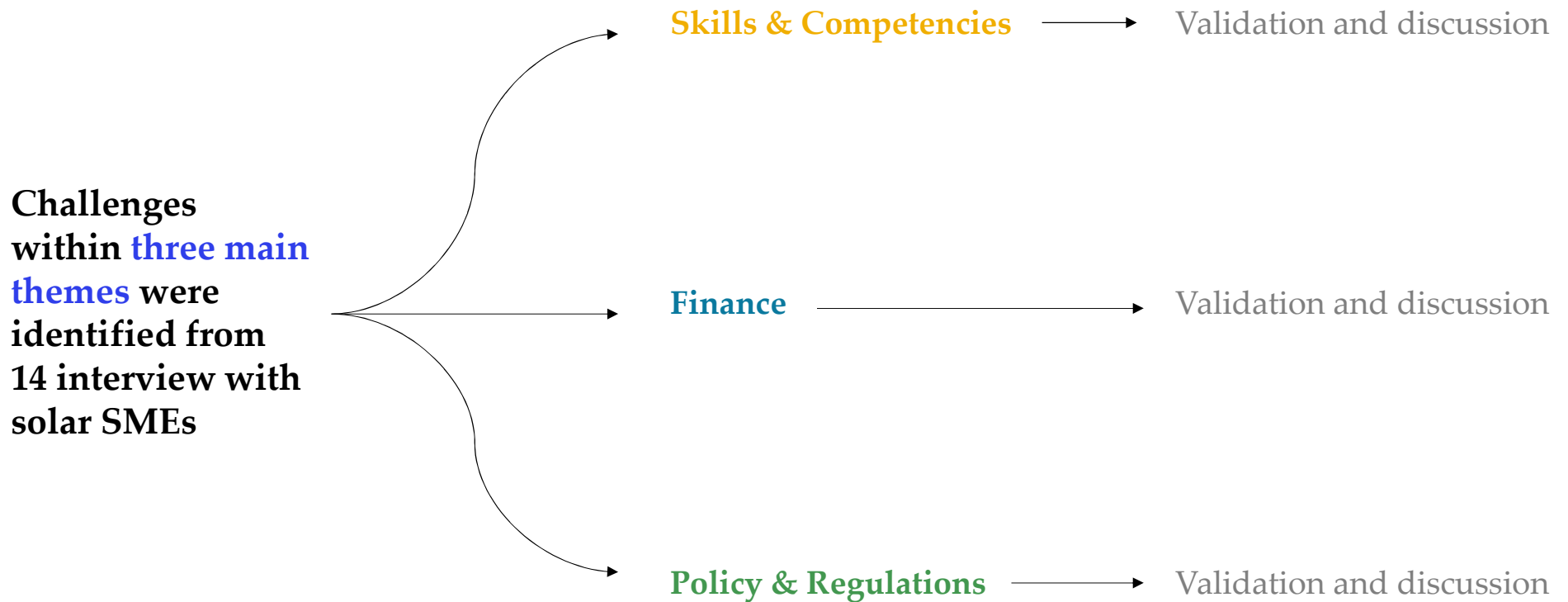
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Preliminary Findings and Discussion of challenges for local MSMEs

Louise Strange

Project Assistant
UNEP-DTU Partnership

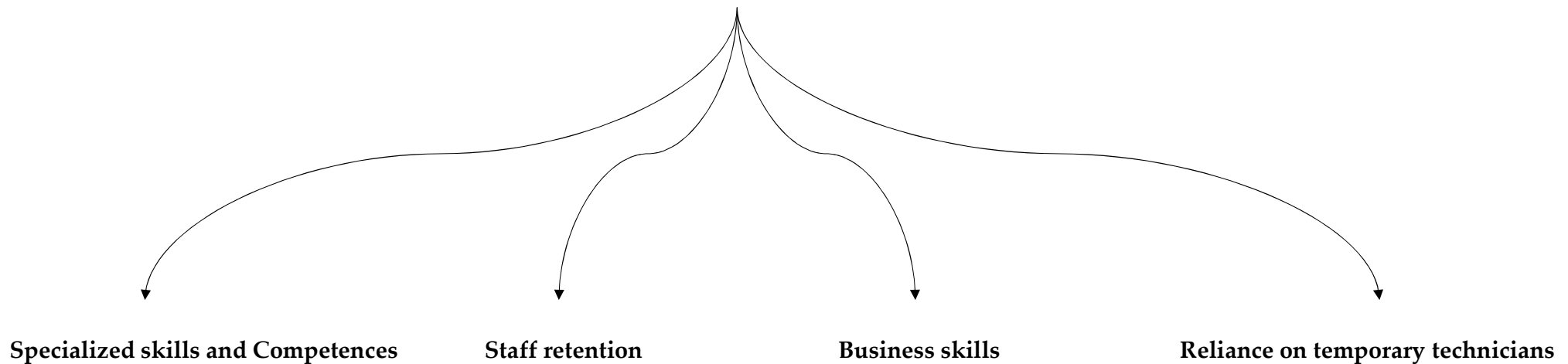
Preliminary findings – Challenges for local firms



1. SKILLS & COMPETENCES

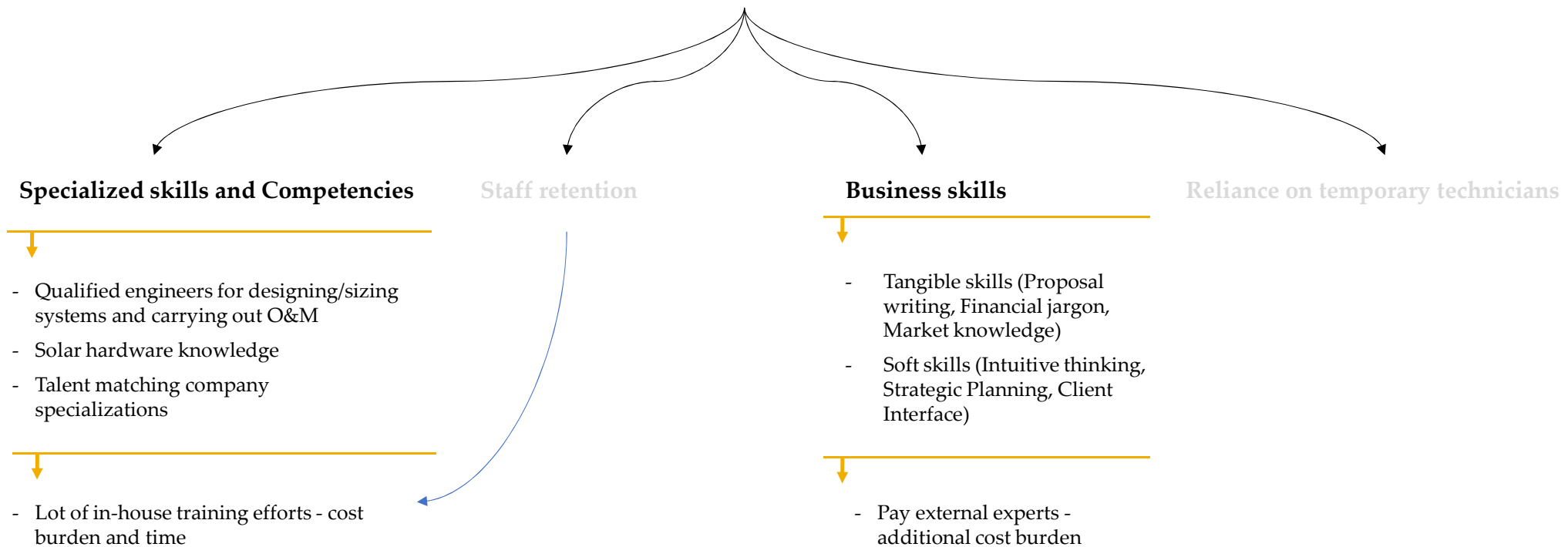
Four different main challenges were mentioned during interviews

Skills & Competences



Zooming in – Specialized skills & Competencies, and business skills were highlighted the most during interviews

Skills & Competencies



Validation session

Q1: Is your experience represented in these findings - Are there any critical points missing here which you would like to add?

Q2: Most basic skills (ex: technicians for installation) are adequate in the sector and only certain specialized skills/competences (designing systems, handling complex hybrid systems, various O&M tasks, installing solar water purifiers, water pumps etc.) are lacking. Is this correct?

Q3: In a similar way, is our understanding of the limitations in the broader business skills also correct?

Discussion

Q1: Proactive Role: Is there a more structured way for solar companies to proactively support institutions in designing/assessing shorter courses to address the point of lacking specialized skills and competences?

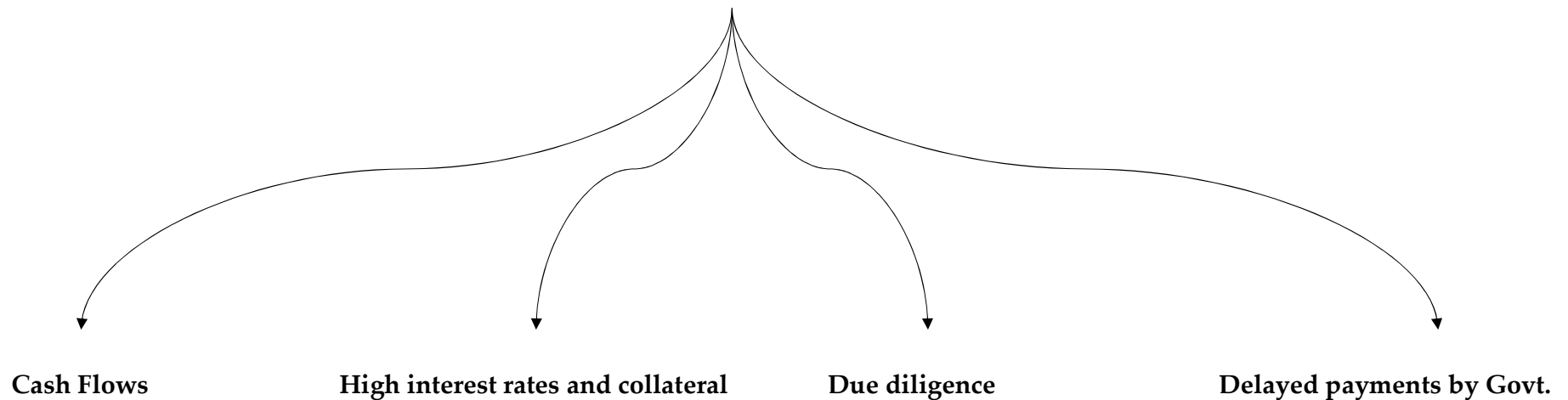
Q2: Business Skills: What are the avenues or effective ways in which you have acquired broader business skills?

Q3: Common Good: Is it correct to assume that a generally improved skills base in the sector would benefit everybody? Perhaps there are certain positive lessons/ideas, which can be scaled-up at the industry level?

2. FINANCE

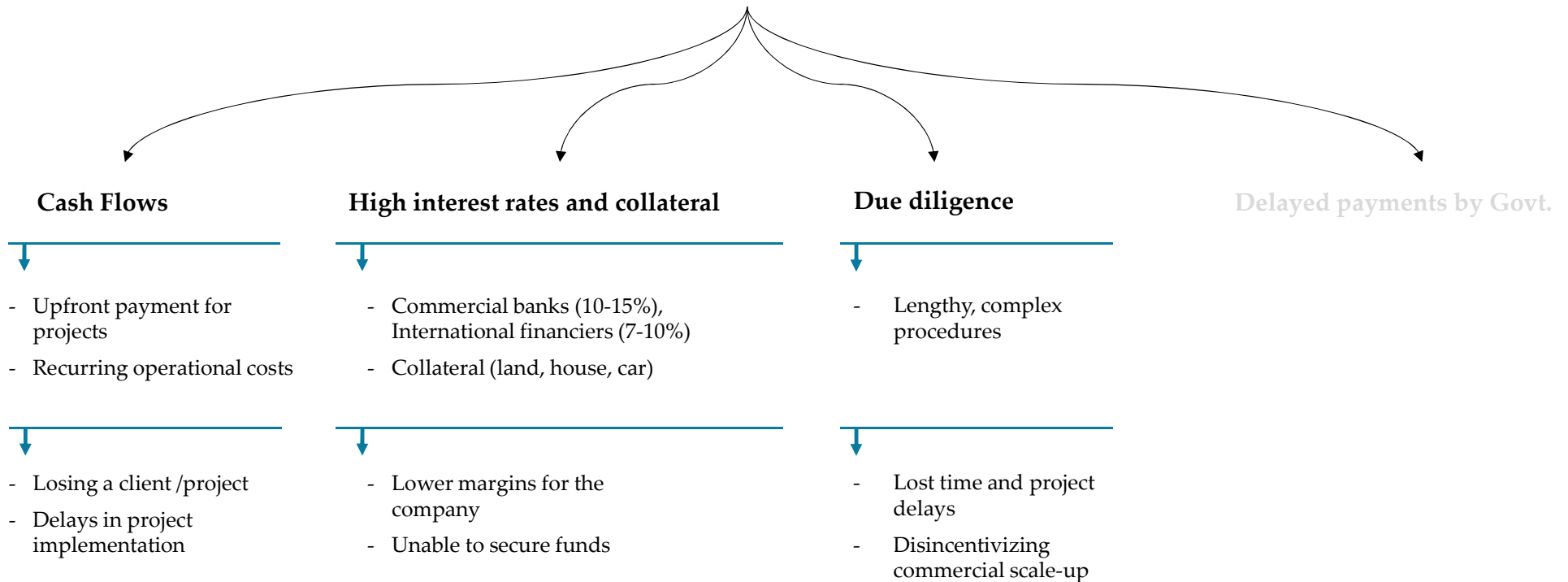
Four different main challenges were mentioned during interviews

Finance



Zooming in – Working capital, high interest rates and collateral, and complicated due diligence procedures were highlighted the most during interviews

Finance



Validation session

Q1: Is your experience represented in these findings - Are there any critical points missing here which you would like to add?

Q2. Commercial banks have a limited understanding of the different segments and business models in the solar PV market. Is this correct?

Q3. From our interviews we understand that *cash flows needs range anywhere from a 100,000 USD to 1 mn USD on an annual basis*. Does this spectrum capture the needs of MSMEs?

Q4. Could you also help us distinguish between the needs for short-term cash flows (liquidity) (6 months or 1 year) vs long-term (3-5 years)?

Discussion

Q1: Local Banks: How can the risk perception be differentiated further based on the market segments, business models, collateral, client and contract types etc.?

Q2: Due Diligence: Both international financiers and local bank lending involve a lot of requirements (ex) which are complicated and time-consuming. What type of criteria would in your opinion be well suited for the Kenyan context?

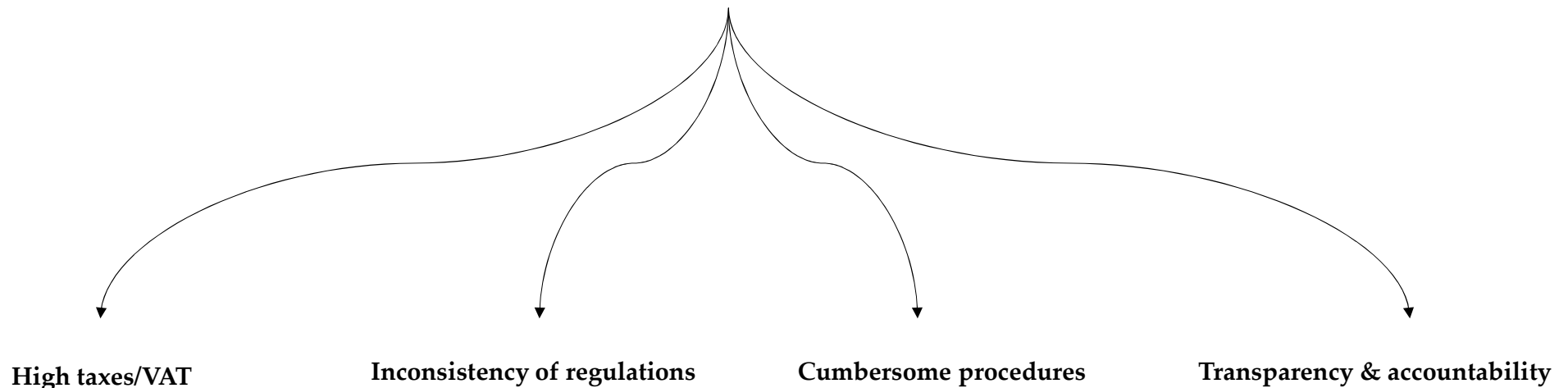
Q3: Transparency: How can you make your business more transparent to support financiers in better understanding your needs? Would the table be a way to do this.

	Market Focus	Business models	Short-term cash flows	Long-term cash flows	Collateral
Micro enterprise & Small enterprise	Pico/SHS				
	Mini-grid				
	C&I systems				
	Utility-scale				

3. Policy & Regulations

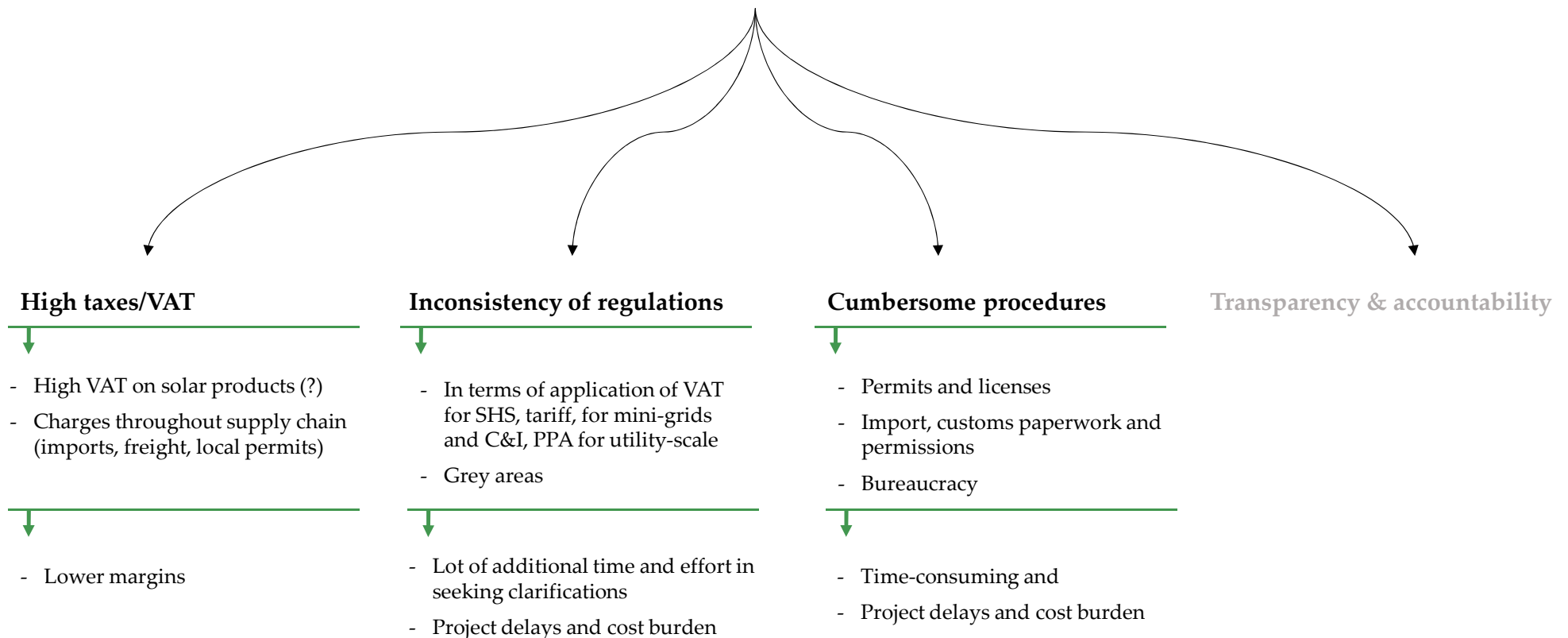
Four different main challenges were mentioned during interviews

Policy & Regulations



Zooming in – High taxes, inconsistent regulations and cumbersome procedures were highlighted the most during interviews

Policy & Regulations



Validation session

Q1: Is your experience represented in these findings? Are there any critical points missing here which you would like to add?

Discussion

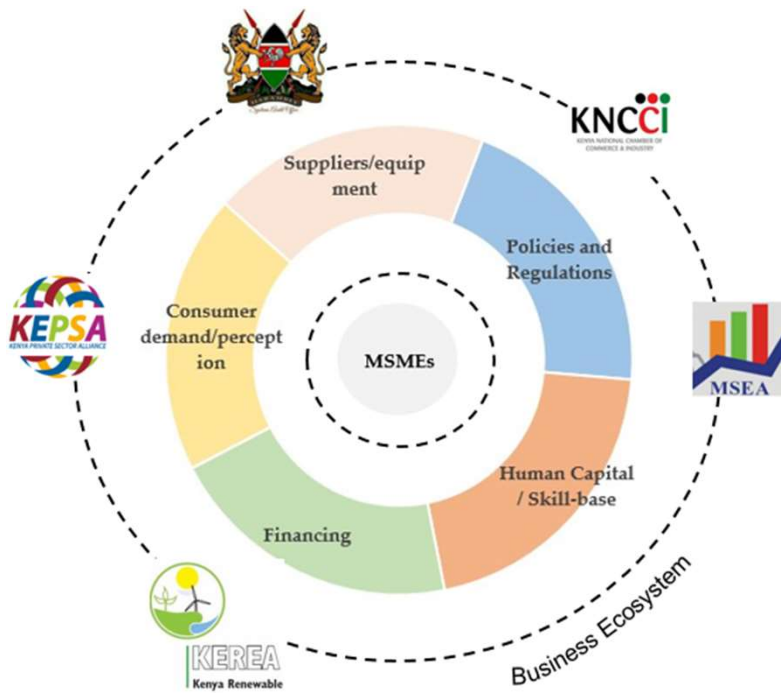
Q1. What is the way forward for the grey areas in the regulations, during the interim period?

Q2. Could there be a standardized online portal for clarification on specific regulations and how certain charges are applied?

Q3: Would it be an idea to set up a regional warehouse for solar equipment as inventory/stock? Is this something that's thought of already in the sector?

Wrapping up

BUSINESS ECOSYSTEM



How is the Ministry of Industry currently supporting/targeting the solar PV sector?

And how can local solar companies be better informed or avail services from the support institutions such as KNCCI, MSEA?

Thank you attending!

More information about the TEMARIN project [here](#).

If you have any question or comments in relation to this project or work, feel free to contact the project team members:

Mathilde Brix Pedersen at brix@dtu.dk
Padmasai Lakshmi Bhamidipati at lakpa@dtu.dk
Hope Njoroge at hnjoroge@strathmore.edu
Sammy Mwiti at mwitikazungu@gmail.com
Louise Strange at lbst@gmail.com

COVID-19 Relief Response For SDG 7 - <https://www.energyaccessrelief.org/>

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