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sustainable energy for everyone

Case Study: Self supply renewable energy NAMA Chile

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Key features of the NAMA

- > Objective:
 - Promote the incorporation of renewable energy systems for self-supply. All non-conventional renewable energy projects qualify as long as 50% of the generated energy is consumed onsite.
- > Target group
 - Industry sector, mainly agroindustry, retail, tourism
- > Government entities involved
 - Centro de Energias Renovables (CER) – renewable energy agency
 - Ministry of Energy
 - Ministry of Environment
- > Timeframe/ Status
 - Applying for implementation funding to the NAMA Finance Facility

NAMA development process

- > Stakeholder driven process involving government, private sector, e.g. various ministries, ESCOs, industry sector

- > Detailed analysis of cross section of RE projects in Chile
 - Deep understanding of barriers
 - Understand companies' needs

- > Design NAMA components and activities

- > Detailed analysis of financial component
 - Close involvement of national experts (e.g. CORFO, banks)
 - Dialogue with international funders early on

Barriers – renewable energy

Financial

- Payback periods of RE vs. core business investments in the sector
- Banking institutions not accustomed to small-scale RE project finance
- Unwillingness to invest in pre-feasibility studies when outcomes are uncertain

Capacity

- Access to qualified installers and consulting companies to deliver projects
- Access to qualified technicians to operate and maintain equipment

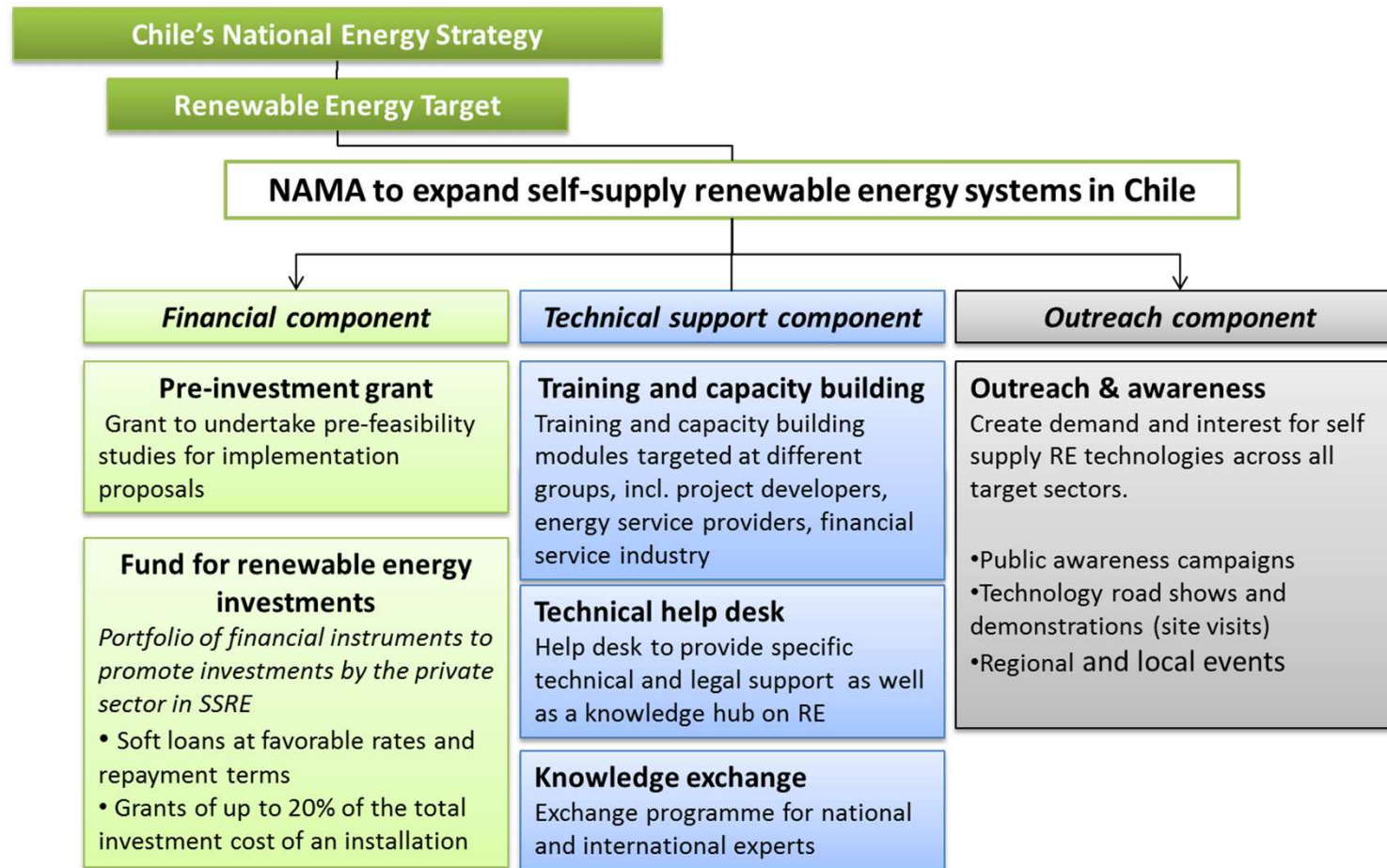
Awareness

- Lack of understanding of technologies and benefits
- Lack of trust

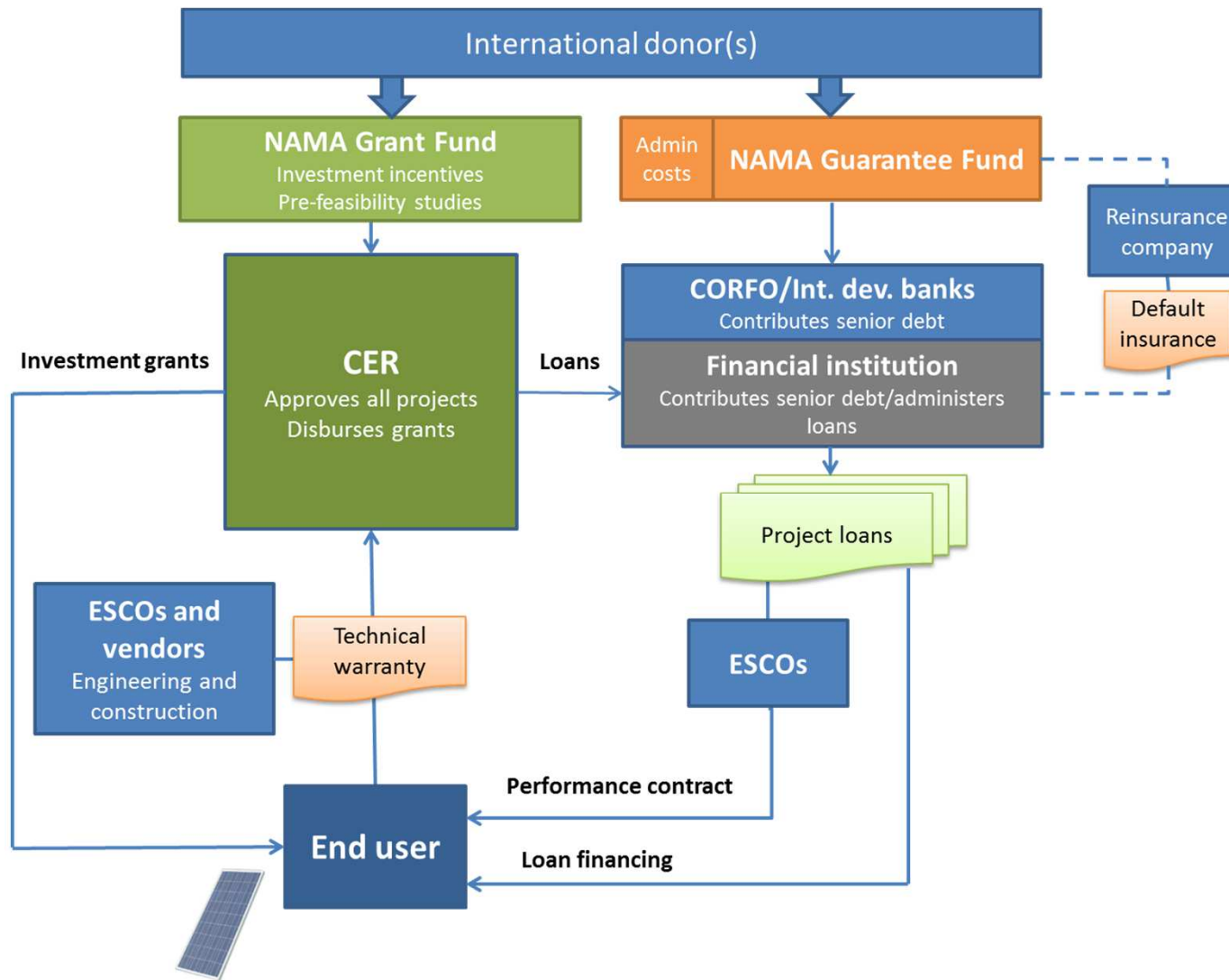
Regulatory

- Long and difficult process to gain approval for injecting electricity to the grid

NAMA Components



Implementation framework



Example guarantee fund

The guarantee funds are granted and set aside to cover loan defaults. Guarantee funds are invested in a low risk investment like govt. treasuries

NAMA Guarantee Fund		
Portfolio loss allocation	80%	
Total contribution:	\$10	million
Non recoverable funds (losses):	-\$6.40	million
Years to depletion:	23	years
Leverage on non-recoverable funds:	15.63	
Leverage including recoverable funds (worst case scenario):	10.00	

Funds from the commercial financial institution and development bank are used for the actual loans

CORFO+Int. development bank		
Portfolio loss allocation	0%	
Total contribution:	\$50	million
Leverage	2.00	

Commercial Financial Insitution		
Portfolio loss allocation	20%	
Total contribution:	\$30	million



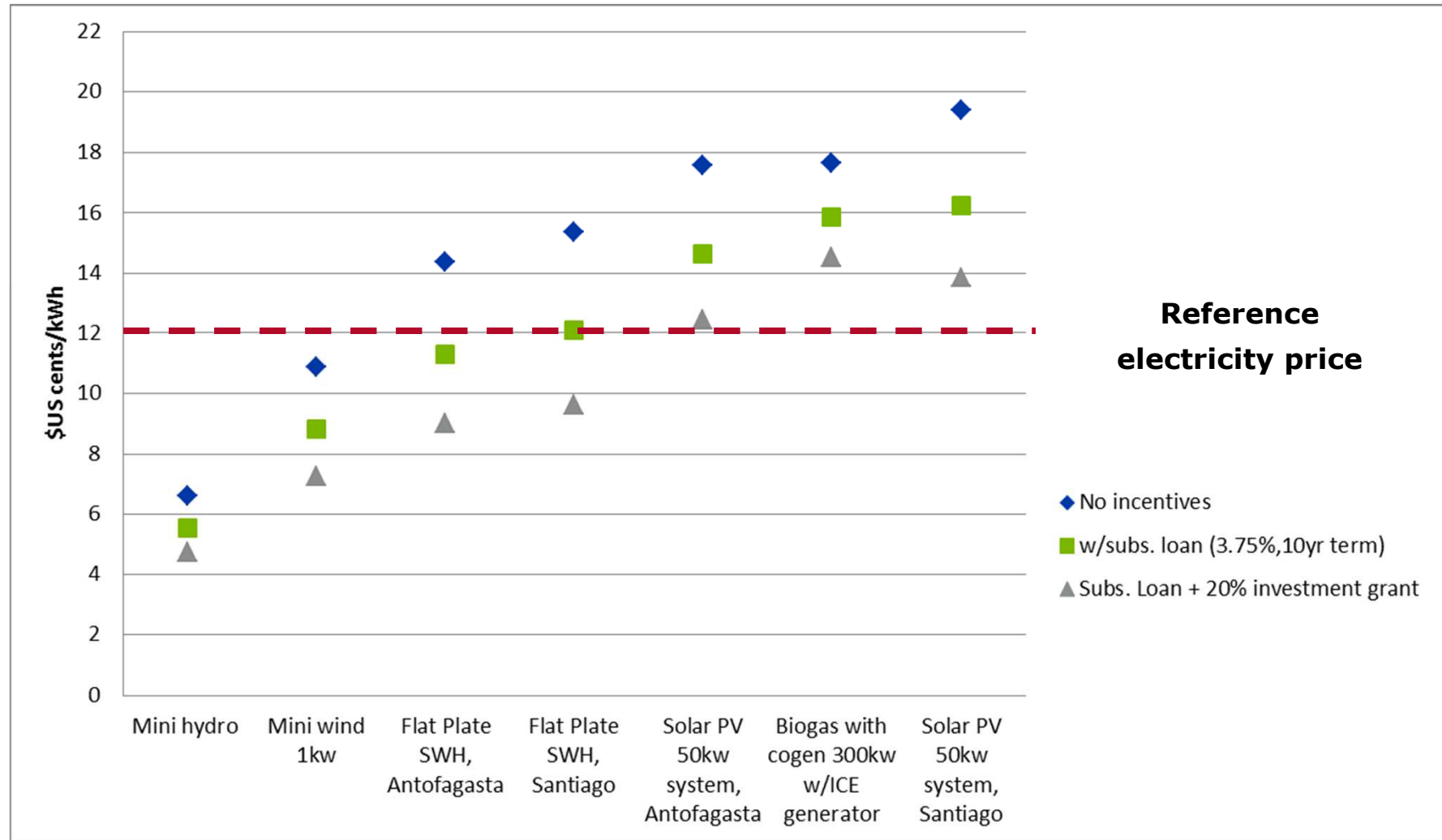
Share financing	
Equity	20%
Loans	80%

Terms	
Int. rate	3.75%
Tenor	15 years

Defaults	
Exp.rate	10%

Projected volume of loans	\$80 million
Total projected investments	\$100 million

Current costs of producing SSRE



Thank you!



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Leverage ratios

Instrument	Leverage ratio	Assumptions
Subsidized loan	6-12	NAMA funds would be granted to the programme to be used as a loss reserve to protect against defaults from project loans. With this loss reserve, the programme could raise a much larger pool of capital from development banks and commercial banks to provide low-cost project loans. Our leverage calculations consider a 10-15% default rate on the loans. Leverage ratios can be improved by lowering administrative costs and by decreasing loan defaults through good loan origination and management practices.
Grant	3-4	The grant would pay for up to 20% of the total investment cost of the project. Leverage ratio considers the cost of the grant itself plus the opportunity cost of using funds for grants instead of loans.
Subsidized loan and grant together	2-3	A grant and a subsidized loan together would be available during the first phases of the programme. This is to provide a bigger incentive at the beginning of the programme, when uncertainty and perceived risks are high.

Example guarantee fund

Institution contributing to fund	Gross fund returns			Risk adjustment			
	Contribution (000s)	Gross rate of return	Gross annual return (000s)	Portfolio loss allocation	Annualized default losses (000's)	Net annual return	Risk adjusted rate of return
Guarantee fund	\$10,000	0.00%	\$0	80%	-\$427	-\$427	-4.27%
Int./nat. development bank	\$50,000	2.25%	\$1,125	0%	\$0	\$1,125	2.25%
Commercial financial institution	\$30,000	6.25%	\$1,875	20%	-\$107	\$1,768	5.89%
Total lent	\$80,000	3.75%	\$3,000	100%	-\$533	\$2,467	3.08%