



**Facilitating access to renewable energy
for only USD 5 per newly connected person**

A business development approach



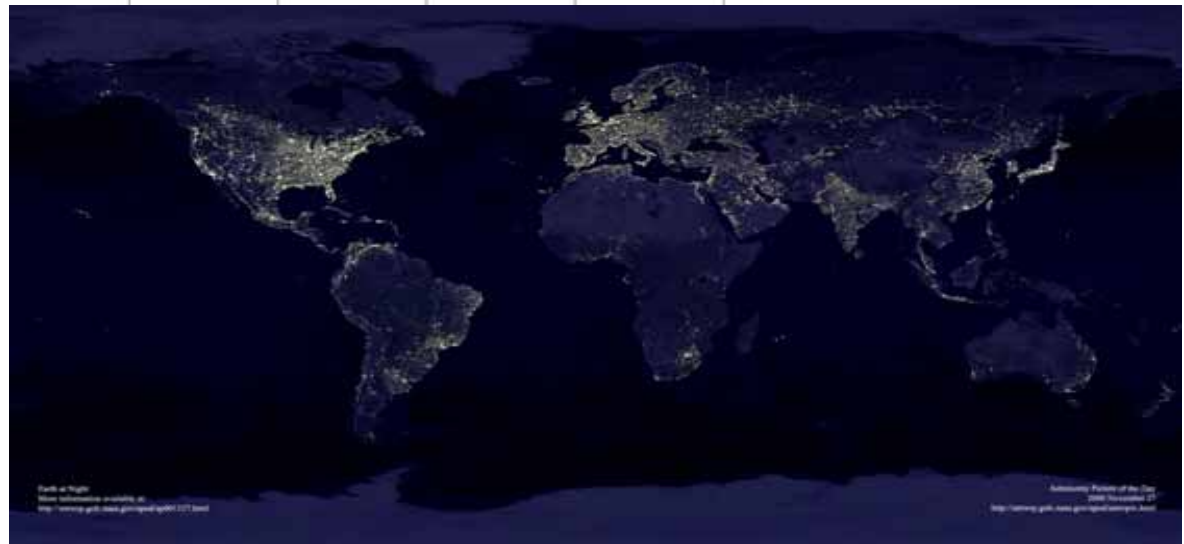
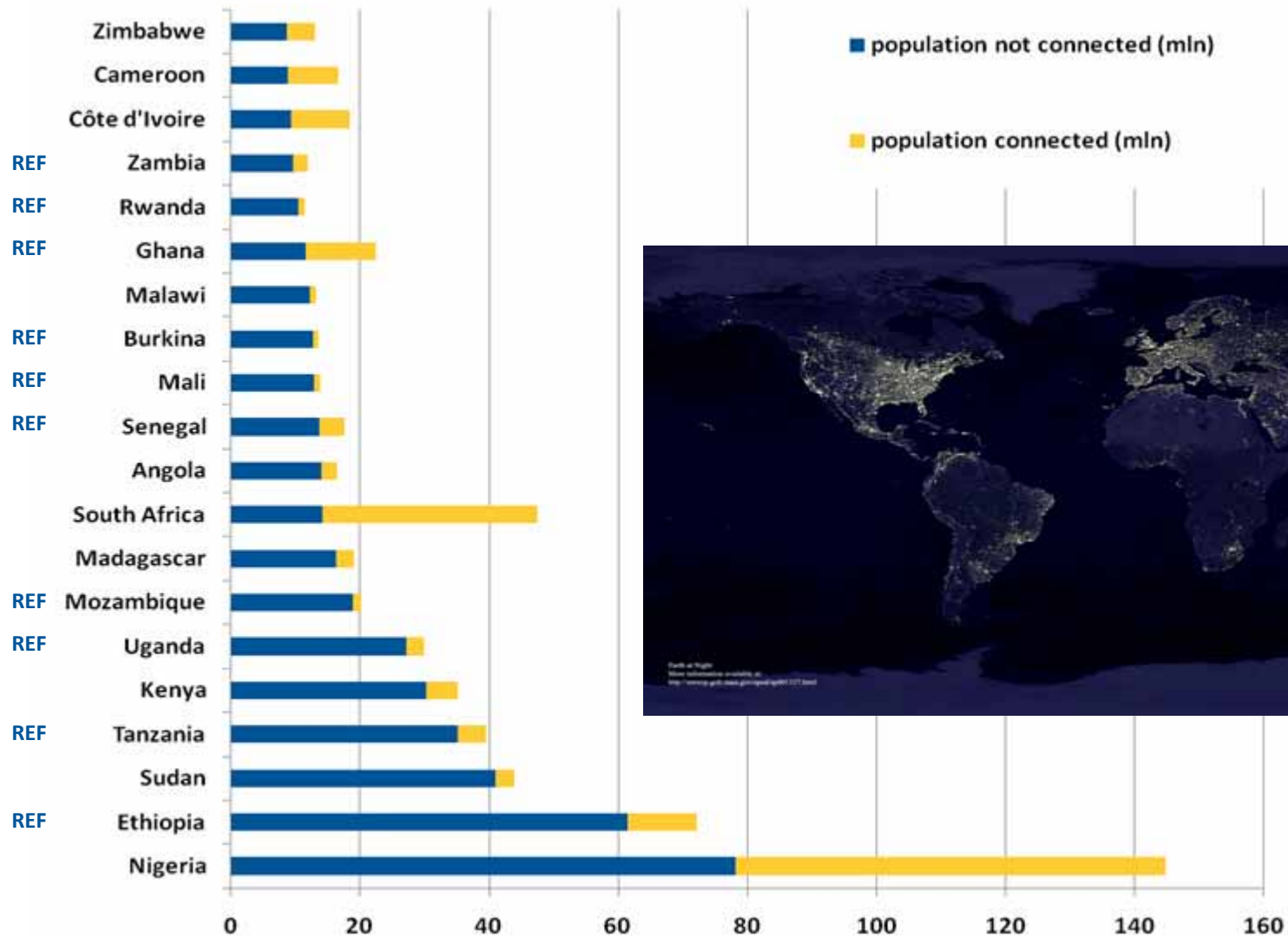
Martin van Dam
Country Coordinator Burkina Faso
Accra, June 22, 2010

Executive Summary

- **Access to energy accelerates socio-economic development in rural areas**
- **Market development of renewable energy household solutions is the most sustainable and affordable approach to creating access to energy**
 - Good, affordable solutions exist (solar home systems, solar lanterns, pico-hydro, etc.);
 - Costs of energy reduce by 40-60% - no need for expensive (mini-) grids
 - Household ownership results in good maintenance
 - Rapid diffusion possible through sustainable supply chains
 - Entrepreneurship is sustainable and replicable
- **However..**
 - Only limited number of skilled retailers
 - Population not sufficiently aware of benefits of renewable energy
 - Low-income households need spread payment schemes
- **REF stimulates market development**
 - Establish, train and coach retailers
 - Awareness campaigns and village demonstrations
 - Facilitate end-user finance schemes
- **REF is successful**
 - 192 “Solar.Now!” shops in 9 countries
 - Facilitated access to 332,000 people
 - Costs per connected person: USD 5
 - Winner 2010 EU Sustainable Energy Award; nominated for 2010 Ashden Awards



72% of Africa off-grid (UNDP)



Project versus Market – Project Development

Decentralized electrification projects (e.g. mini-grids):

■ Pros

- Limited or no end-user investments
- No need for end-user maintenance

■ Cons

■ Expensive

- High external upfront investments required; not easily replicable
- Costs per connected household very high in low-density and scattered rural zones
- End-users lack ownership incentives; limited maintenance of equipment

■ Not sustainable

- Most projects remain dependent from external subsidy flows
- High risk of fraud and corruption

■ Slow

- Problematic legislation (e.g. feed-in tariffs)
- Hard to mobilize funding

Project versus Market – Market Development

Market development of household renewable energy solutions

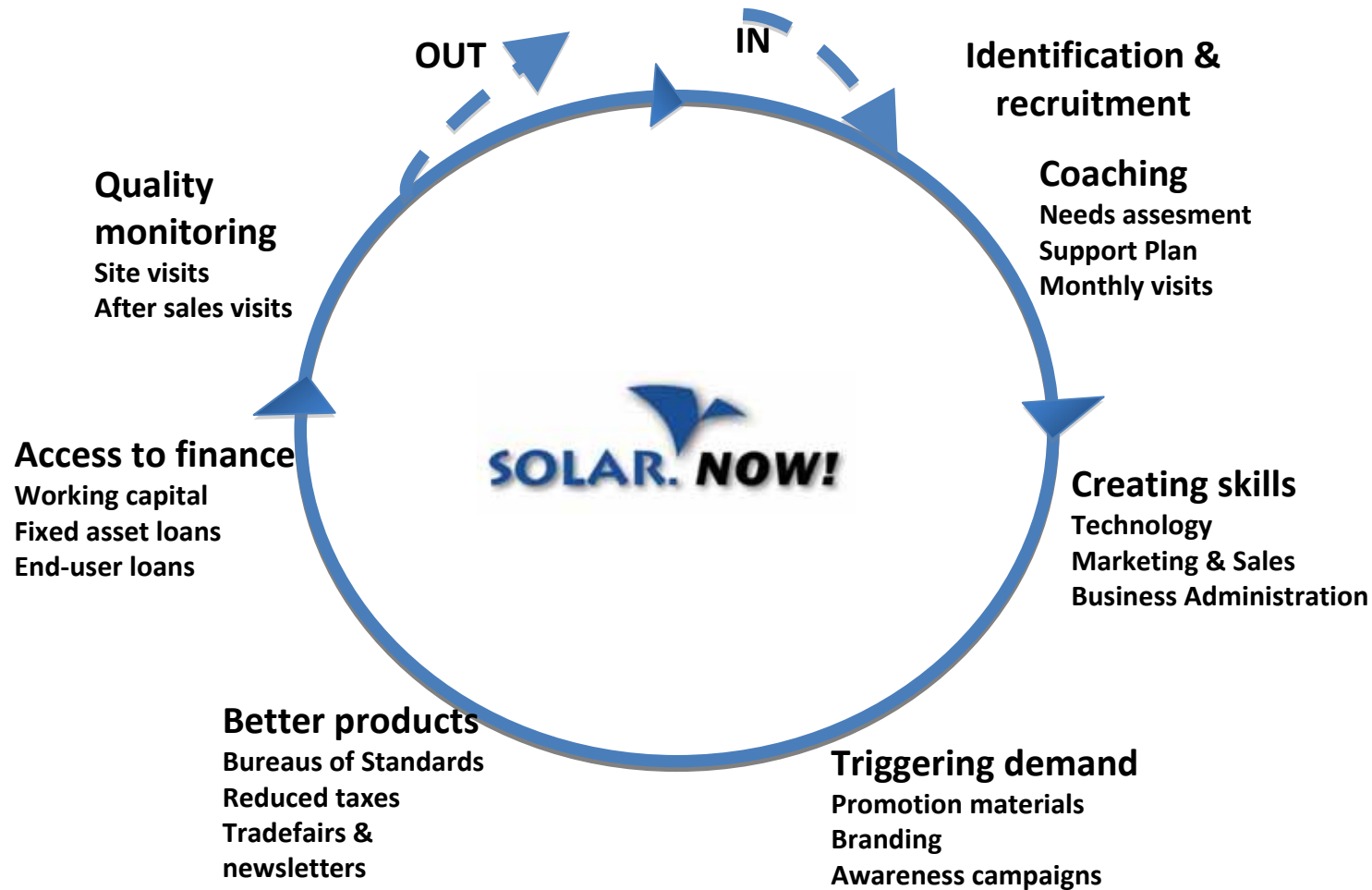
■ Pros

- Most affordable solution
 - No need for mini-grid
 - Affordable solutions exist (SHS, Solar lanterns, pico-hydro, etc.)
- Sound maintenance guaranteed
 - Retailer with service agreement and guarantee
 - End-user as owner has strong incentive to maintain products well
- Rapid diffusion possible
 - For-profit supply chain ensures sustainability
 - Solar.Now! Network: 192 retailers sold 83,000 solar home systems (costs: USD 19 per SHS)

■ Cons

- In many areas skilled retailers with a service approach do not exist (yet)
- Lack of awareness amongst end-users
- Lower-income people need external finance

REF stimulates market development



REF stimulates market development



REF's approach is successful

Country	2007 sales	2008 sales	2009 sales	Cum. sales	Energy shops	People reached
Burkina Faso	-	376	5,681	6,057	24	24,228
Ethiopia	500	1,494	4,413	6,407	24	25,627
Ghana	1,084	255	1,188	2,527	8	10,106
Mali	780	7,332	6,384	14,496	22	57,984
Mozambique	-	-	29	29	2	116
Senegal	-	-	58	58	7	232
Sudan	-	500	0	500	0	2,000
Tanzania	10,000	6,949	12,008	28,957	39	115,828
Uganda/Rwanda	500	5,976	9,264	15,740	40	62,958
Zambia	821	2,230	5,206	8,257	26	33,026
Total	13,685	25,112	44,229	83,026	192	332,105
Expenses (€)	335,000	379,000	477,109	1,191,109		
Cost per SHS (€)	24.48	15.09	10.79	14.35		
Cost/connected person (€)	6.12	3.77	2.70	3.59		

Winner of the 2010 EU Sustainable Energy Award (March 2010)
Finalist of the 2010 International Ashden Awards (July 2010)

The future (2011-2013)

■ Target

- Access to renewable energy to 2 million people
- Capacity building: 400+ well-trained energy shops in 10 countries
- Awareness: 20 million people reached
- Finance: effective end-user credit schemes for low-income population
- Increased focus on stimulating solar business applications (battery charging, etc.) to provide energy services to the very low-income

■ Needs

- Grant: USD 3 million for supporting the establishment of energy shops and awareness campaigns
- Loan: USD 10 million for re-financing end-user finance schemes

■ Key attractions

- Solar energy effectively contributes to development of rural areas
- Proven and award-winning approach
- Strong network of currently 192 “Solar.Now!” retailers
- Low-cost but professional organization – good value for money

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