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OVERVIEW OF MICROGRIDS IN LATIN AMERICA

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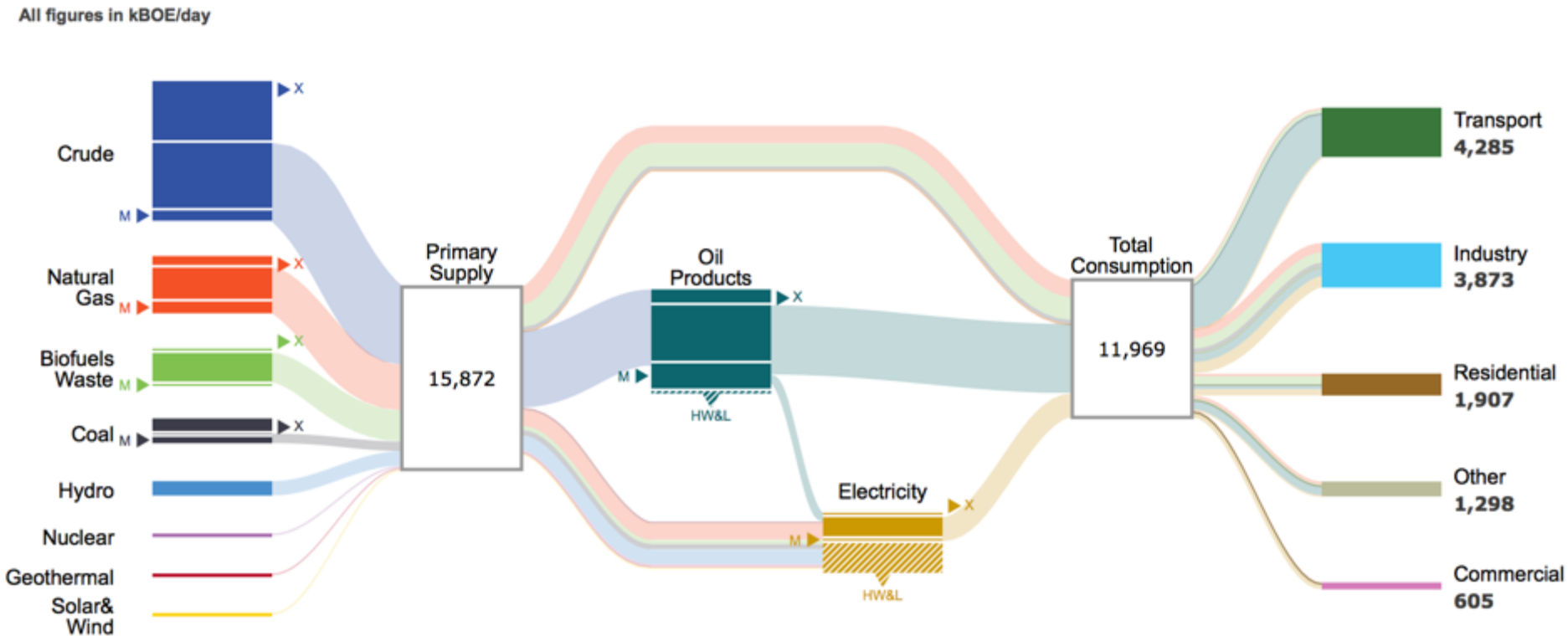
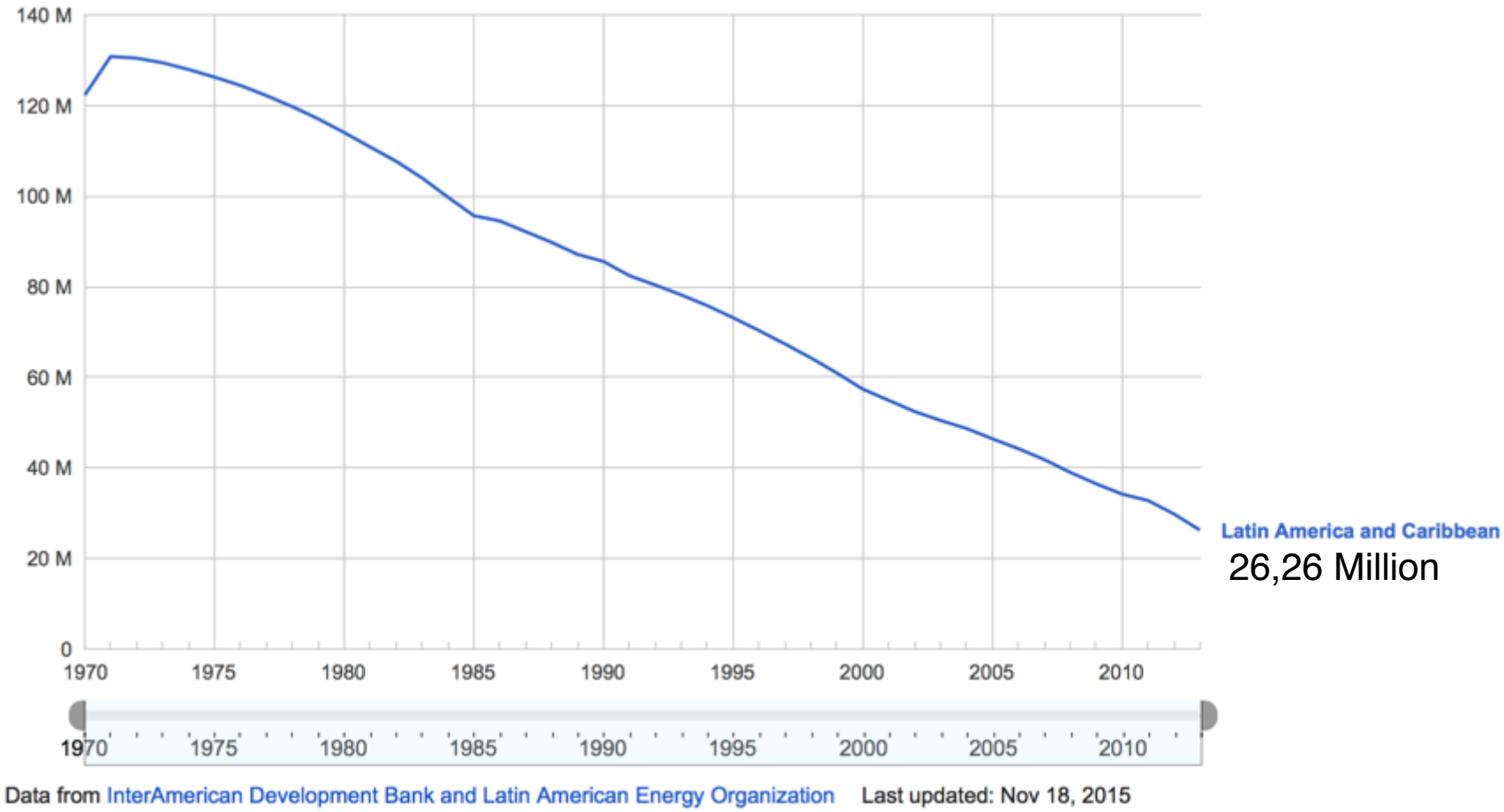
AGENDA

- **INTRODUCTION**
- CURRENT INITIATIVES
- FINAL COMMENTS

INTRODUCTION - LA ENERGY MATRIX



INTRODUCTION - ELECTRICITY ACCESS



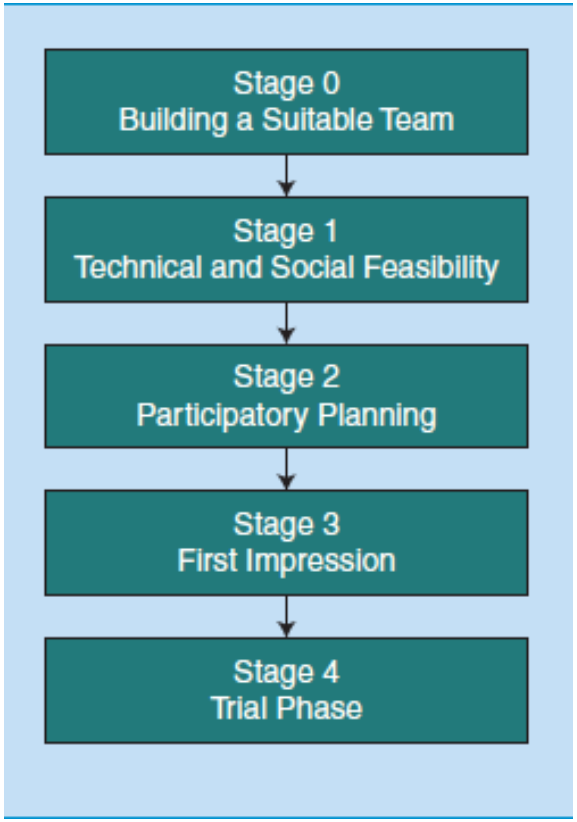
INTRODUCTION - FUNDING

Requerimientos de Inversión para Acceso Universal a Electricidad en América Latina & El Caribe, año base 2013					
País	% Cobertura Eléctrica Viviendas 2013 (Fuente OLADE)	Déficit de acceso # Viviendas 2013 (Fuente OLADE)	Inversión Total Requerida MMUS$ (BID)	Costo Unitario Promedio US$/Viv (BID)	Inversión anual requerida próximos 15 años MMUS$/año (BID)
Argentina	95.0%	594,407	891.6	1,500	59.4
Barbados	99.5%	454	0.7	1,550	0.05
Belice	93.0%	4,997	8.8	1,755	0.6
Bolivia	82.6%	435,907	629.3	1,444	42.0
Brasil	99.1%	517,617	1,766.3	3,412	117.8
Chile	98.0%	102,786	640.7	6,233	42.7
Colombia	96.5%	415,110	512.5	1,235	34.2
Costa Rica	99.4%	7,348	24	3,223	2
Cuba	98.1%	69,440	58	834	4
Ecuador	97.0%	119,671	384	3,209	26
El Salvador	92.5%	130,238	124	955	8
Granada	96.7%	962	2	2,272	0.1
Guatemala	89.6%	414,064	573	1,383	38
Guyana	80.4%	42,132	88	2,082	6
Haiti	28.0%	1,847,380	2,165	1,172	144
Honduras	89.2%	178,315	177	990	12
Jamaica	93.0%	59,276	171	2,887	11
México	98.7%	385,762	491	1,272	33
Nicaragua	73.7%	300,771	543	1,804	36
Panamá	91.1%	85,662	104	1,210	7
Paraguay	99.0%	14,941	24	1,587	2
Perú	90.3%	724,108	631	872	42
República Dominicana	94.0%	176,178	219	1,246	15
Suriname	90.3%	13,352	26	1,935	2
Trinidad y Tobago	96.6%	11,930	32	2,645	2
Uruguay	99.6%	6,434	2	310	0
Venezuela	99.7%	20,939	25	1,210	2
** Valores 2012.					
LAC	96.0%	6,680,182	10,312	1,544	687

SOURCE: IADB

INTRODUCTION - FUNDING

Funding in infrastructure is conditioned to an adequate social strategy, long term sustainability of remote locations projects is dependent on the community engagement strategy.



µGRIDS PROJECTS

Holbox Island,
Design
Yucatan, MX

Pepetshi,
Design
Guajira, CO

Puertecitos,
Operative
Baja Califonia, MX

Puerto Alcatraz, San Juanico
Operative
Baja Califonia, MX

Cocal Payanés
Design
Nariño, CO

Esmeraldas
Operative
Esmeraldas, EC

Huatacondo
Operative
Tarapacá, CH

Ollagüe
Operative
Antofagasta, CH

Easter island
Feasability
Easter Island, CH

Ayllu µgrids
Design
Arica, CH

Juan Fernández
Design stage
J. Fernández, CH

El Toqui
Operative
Aysén, CH

Micro-red UPB
Implementation
Medellín, CO

Silice Project
Pilot application
Bogotá, CO

Lencóis island
Operative
Maranhao, BR

Cemig µGrid
Pilot application
Belo Horizonte, BR

Trinidad island
Feasibility
Rio State, BR

Islas Desertores
Under execution
Chiloé, CH

INTRODUCTION

For the case of micro grid developments in Latin America, both remote locations and islands continue being the main focus related to this type of technological solutions.

Nevertheless, some regulatory modifications (integration of DG into grid (***net metering, net billing***)) have facilitated the introduction of new technologies and applications at Distribution System level (AMI, roof PV, etc). → These approaches may generate a next stage focused on promoting interconnected micro grids.

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MIGEDIR

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RENOVE- MICROGERAR

Renove
Rede Nacional de Organizações para as Energias Renováveis

RENOVE▼ ASSOCIADOS▼ PROJETOS▼ PLESE▼ MICROGERAR▼ ENGLISH▼ ESPAÑOL▼ CONTATO

microgerar
SEMINÁRIO E MOSTRA DE MICROGERAÇÃO DISTRIBUÍDA

2º Microgerar
http://rts.ibict.br/noticias/destaque-1/microgerar-2013-2o-seminario-e-mostra-de-microgeracao-distribuida/

3º Microgerar
http://microgerar.blogspot.com.br/2012/04/onjetivos.html

4º Microgerar
http://microgerar2013.blogspot.com.br/

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AYLLU

SERC CHILE
SOLAR ENERGY RESEARCH CENTER

bhpbilliton Foundation

ayllu solar

We seek to contribute to the **SUSTAINABLE DEVELOPMENT OF COMMUNITIES** from ARICA Y PARINACOTA

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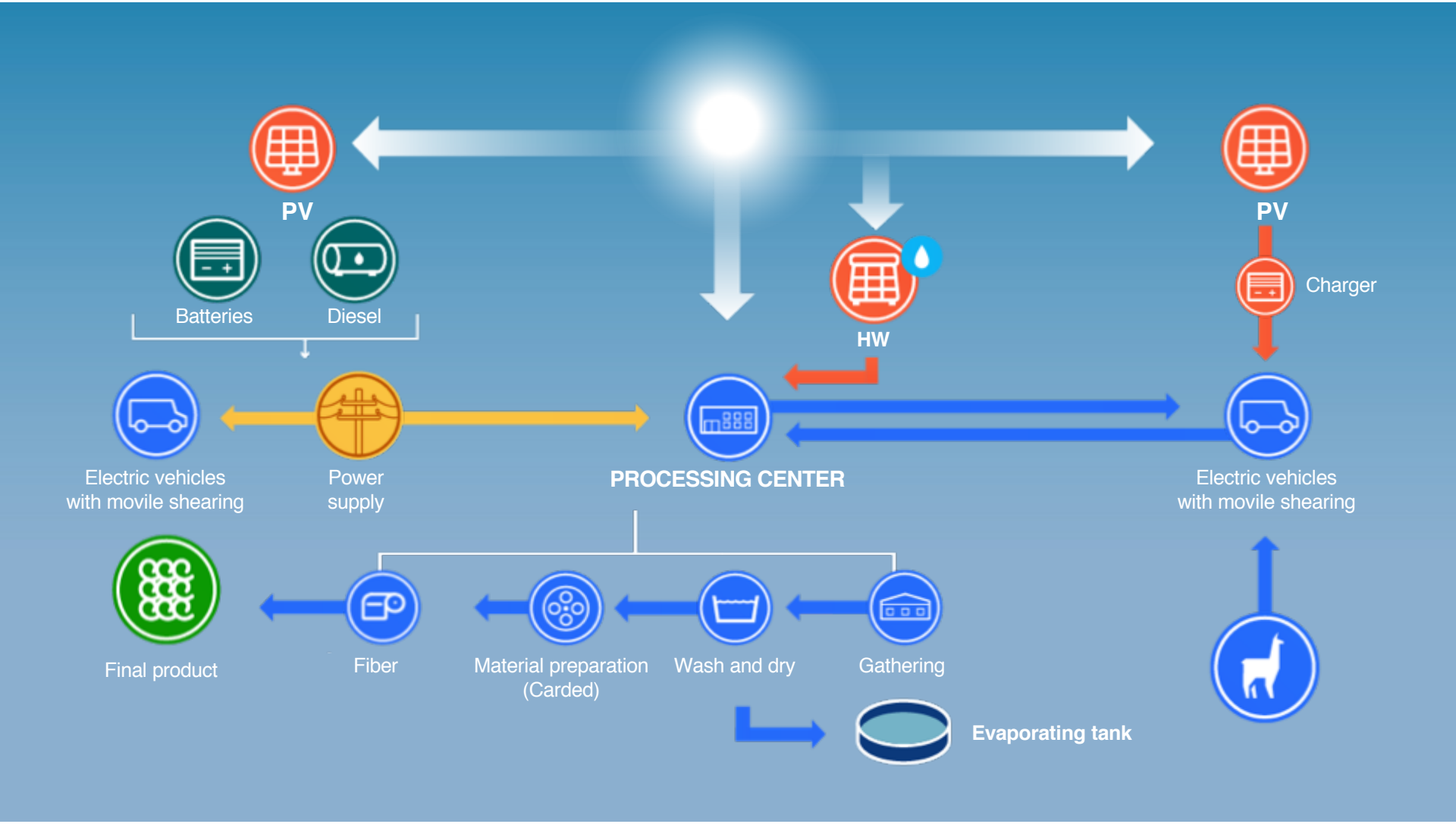
AYLLU

AYLLU


PV
Batteries
Diesel
HW
PV
Charger
Electric vehicles
with movile shearing
Power
supply
PROCESSING CENTER
Electric vehicles
with movile shearing
Final product
Fiber
Material preparation
(Carded)
Wash and dry
Gathering
Evaporating tank

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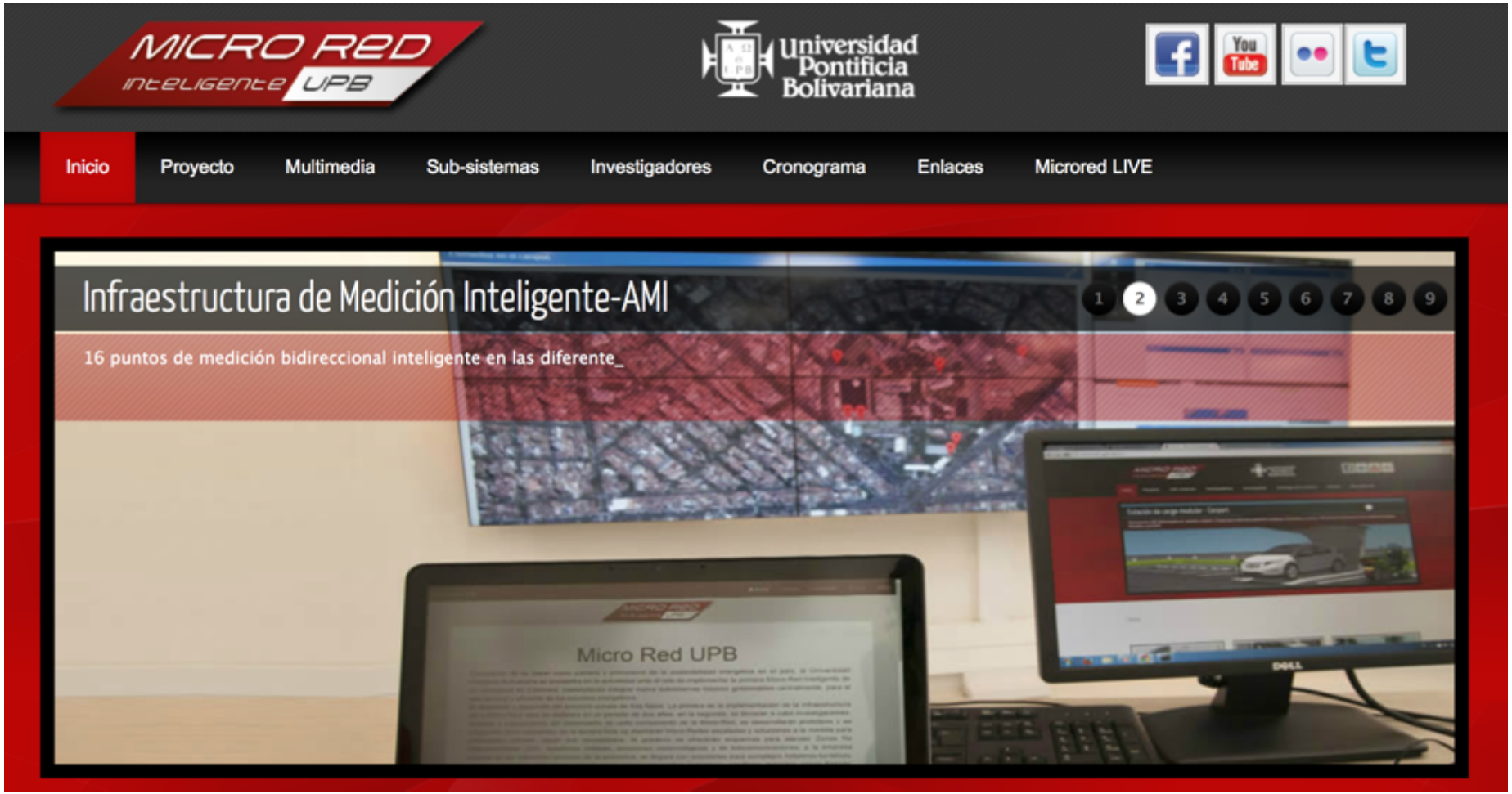
MICRORED UPB



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FINAL COMMENTS

- Remote locations and islands are the main target of microgrids projects in the region.
- Funding is based on private companies, even though multilateral organizations are also taking part of these initiatives.
- Most of microgrids projects are still led by Academic or NGO organizations.
- Community engagement → co-construction methodologies are a key element for a successful operation and maintenance of projects in remote locations.
- First initiatives at interconnected level are focused on campus microgrids → UPB case. (Single owner)
- Technological / academic research is pretty much focused on EMS, local management structures, business models and co-construction methodologies.