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CEADIR
Climate Economic Analysis for Development, Investment, and Resilience

Discussion Series

Navigating the Climate Economy: Investing for Growth and Resilience

Private Sector Investment in Clean Energy in Central America

March 24, 2016
Crown Agents, Washington, DC

Moderator:
David Ross
U.S. Trade and Development Agency

Speakers:
Gwendolyn Andersen,
Abt Associates

Francisco Acuña,
InTrust Global Investments, LLC

Agenda

Welcome and Introduction

Dr. Marcia Trump, *Chief of Party*, CEADIR project

Project Development in Central America

David Ross, *Country Manager, Latin America*
Renewable Energy Worldwide Team Lead,
U.S. Trade and Development Agency (USTDA)

Clean Energy Investment in Central America

Gwendolyn Andersen, *Senior Climate Energy Economist,*
Abt Associates

Energy Development in Central America: Dealing with Social Risk

Francisco Acuña, *CEO,* InTrust Global Investments, LLC

Open Forum

Project Development in Central America

David Ross

Country Manager, Latin America and Renewable Energy Worldwide Team Lead

U.S. Trade and Development Agency

- Mr. Ross is responsible for developing and supervising USTDA's activities in Colombia and the Caribbean
- Leads USTDA's worldwide renewable energy sector team, and educates and advises Agency staff on current technology trends and market opportunities
- Prior to USTDA, worked for the U.S. Department of Treasury, in the Office of the Comptroller of the Currency

Clean Energy Landscape in Central America

U.S. Trade and Development Agency (USTDA)

Our mission

USTDA helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies.

USTDA links U.S. businesses to global infrastructure opportunities.

Priority Sectors

Transportation

Energy

Telecommunications

Project Planning

- Feasibility Studies
- Technical Assistance
- Pilot Projects

Reverse Trade Missions

USTDA brings foreign project sponsors to the United States pending upcoming procurements to observe the design, manufacture, and operation of U.S. products and services.

USTDA evaluates projects based on:

- Development priority
- Financial viability
- U.S. export potential

Clean Energy Finance Facility for the Caribbean and Central America (CEFF-CCA)

Eligible Projects: Renewable Energy and Energy Efficiency

- Develop clean energy projects in the Caribbean and Central America
- $20 million allocated for grants to support project planning

Eligible Countries

- **Caribbean**: Antigua and Barbuda, Barbados, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines
- **Central America**: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama

USTDA in Clean Energy

Central America Project Examples

- El Salvador: Ilopango Hydro and CEL Solar Pilot
- Honduras: IDB Platanares Geothermal
- Panama: ENSA Smart Grid Pilot and Anton Valley Geothermal
- Regional: Energy Efficiency RTM for Water Utilities

Areas of Interest

- Geothermal
- Solar
- Wind
- Energy Storage
- Landfill Gas
- Smart Grid
- Energy Efficiency

How to work with USTDA

- Propose potential projects
- Participate in Reverse Trade Missions
- Follow opportunities on www.fbo.gov
- Obtain reports from USTDA's library

Connect with us

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Clean Energy Investment in Central America

Gwendolyn Andersen

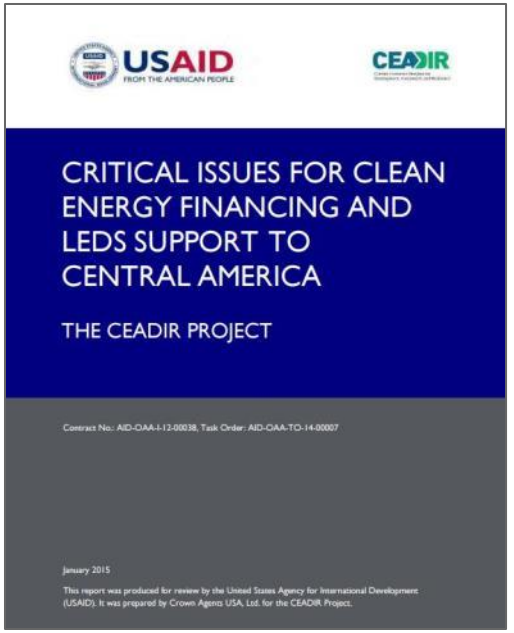
Senior Clean Energy Economist

Abt Associates

- 25+ years experience in renewable energy and climate change
- Senior energy economist with the CEADIR project at Abt Associates
- Managed a renewable energy non-profit, educating stakeholders, conducting financial analysis, and fostering development of a $55 million wind farm

Summary: CEADIR Phase I Analysis of Clean Energy Investments in El Salvador, Guatemala and Honduras

- CEADIR and USAID/El Salvador's Central America Regional Program objectives: mobilize and scale up private sector clean energy (CE) investments
- Assessment of CE investments, which are again on the rise in these countries
- Excess electricity demand and current policies promote expanding renewable energy (RE)
- Energy efficiency (EE) not well supported by financing institutions

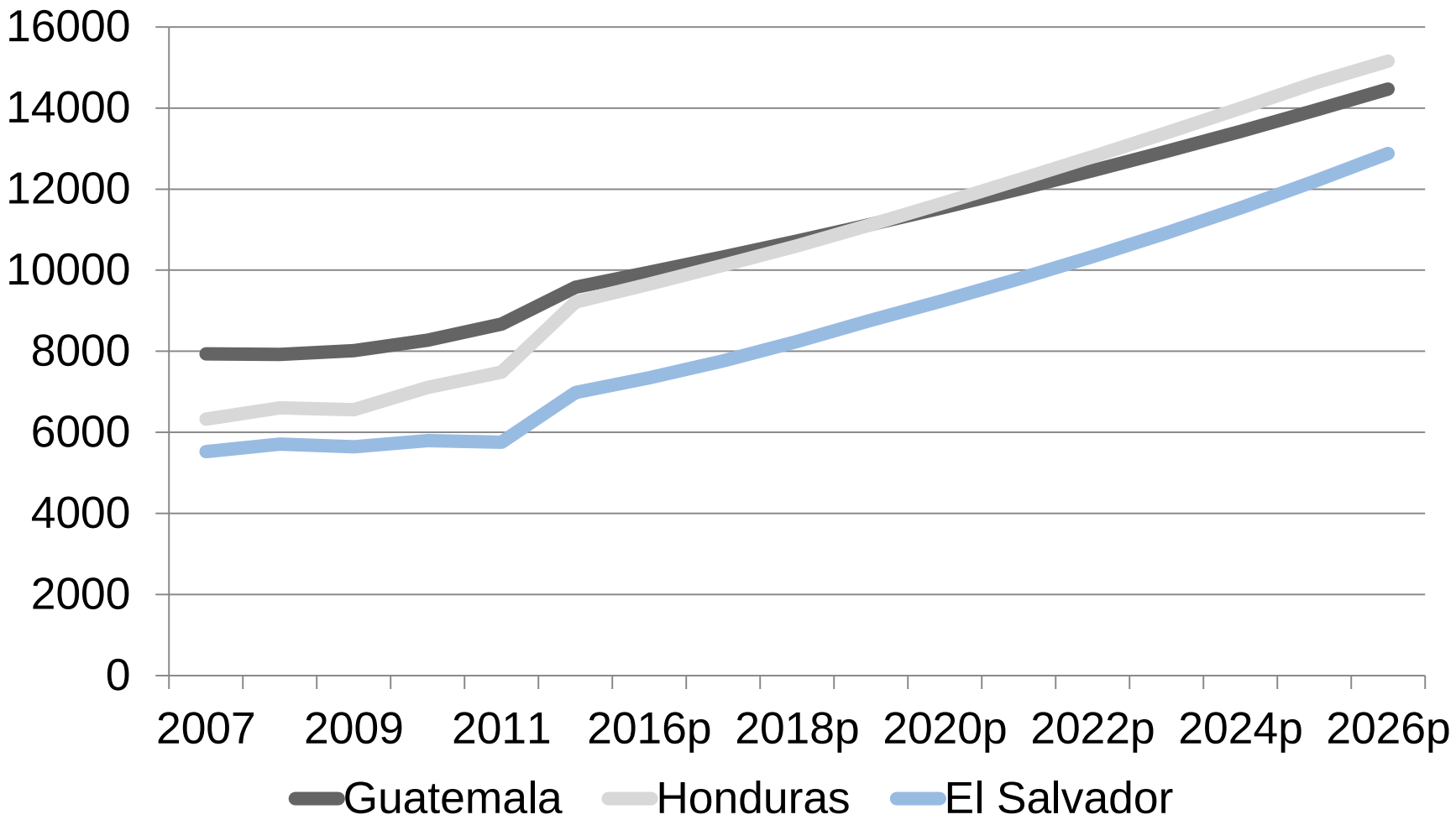


Read report on Climatelinks

Research for Phase I

- Desktop study with secondary sources
- Interviews with experts from OPIC, IADB, World Bank, GEF, InTrust, and Sustainable Energy – Central America
- Scoping mission interviews with financial institutions, utility personnel, government officials, renewable energy developers, and equity investors

Projected Electricity Consumption (GWh/yr)

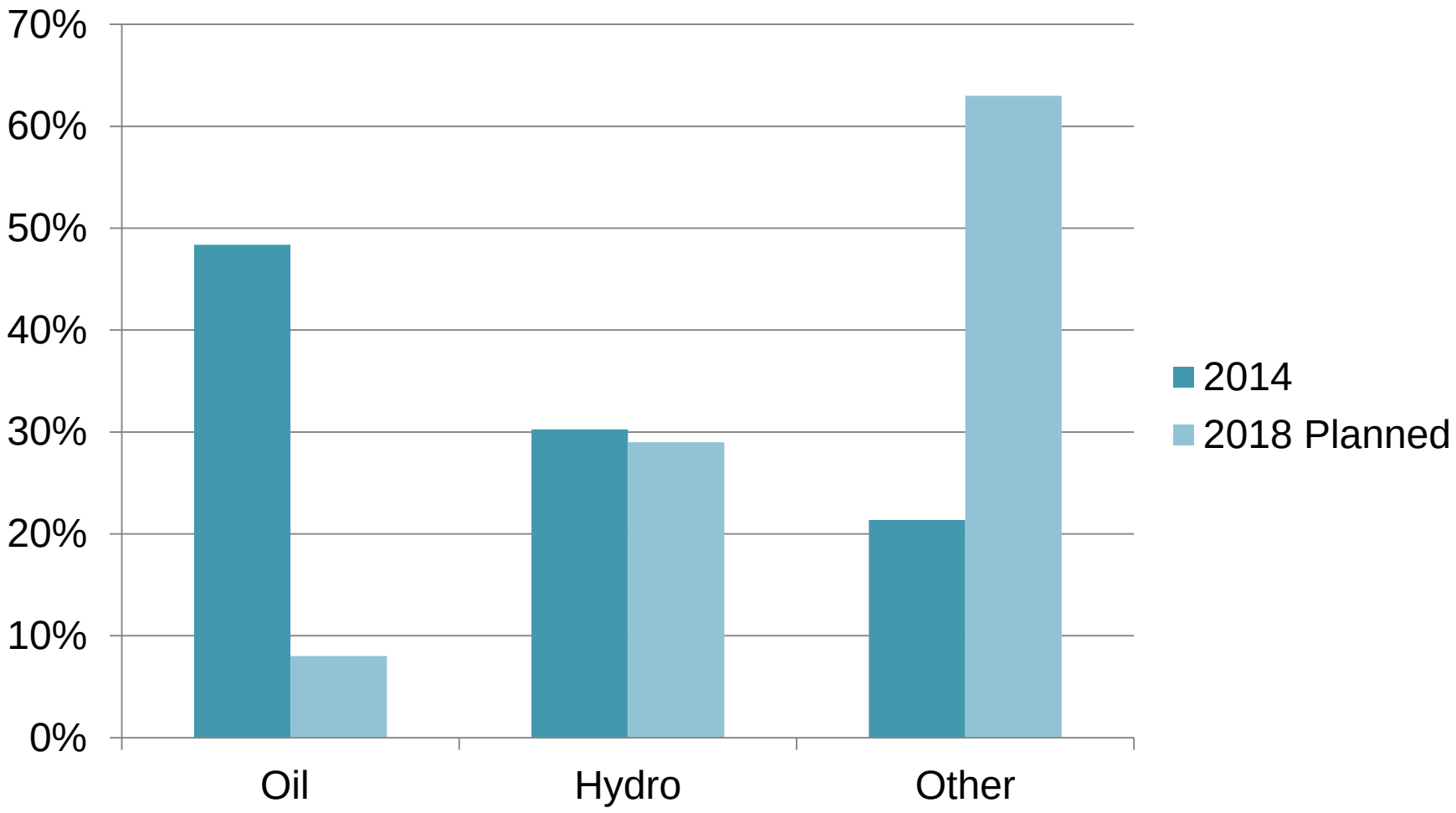


Source: *Plan Indicativo Regional de Expansión de la Generación. Periodo 2012-2027.* San Salvador: *Consejo de Electrificación de América Central*

Trends Encouraging Investment in Clean Energy in El Salvador, Guatemala, and Honduras

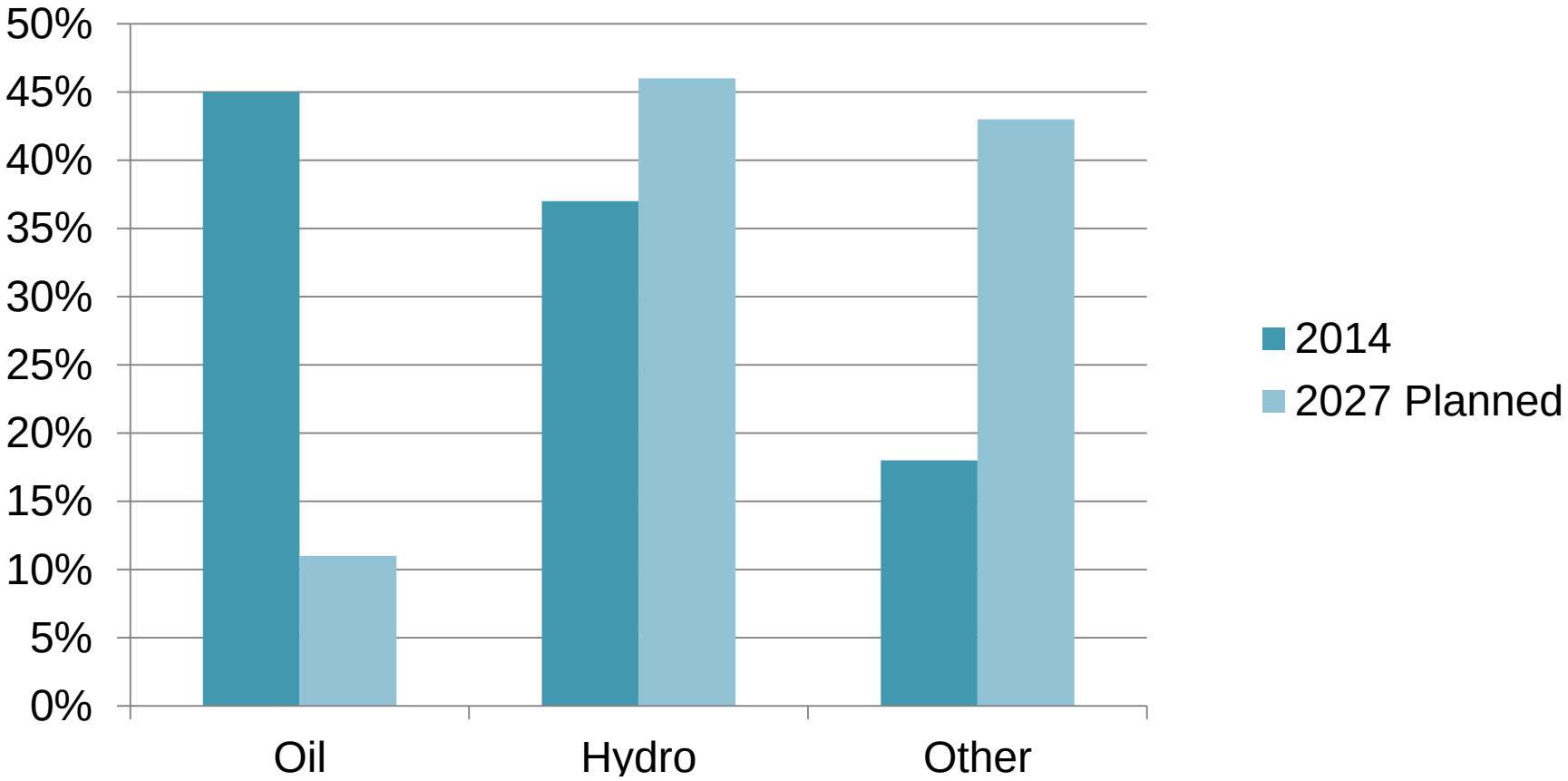
- Increasing demand for electricity
- Decreasing cost for wind and solar
- Countries promoting RE with fiscal policies
- Donor support

Historic and Planned RE Electricity Mix in El Salvador



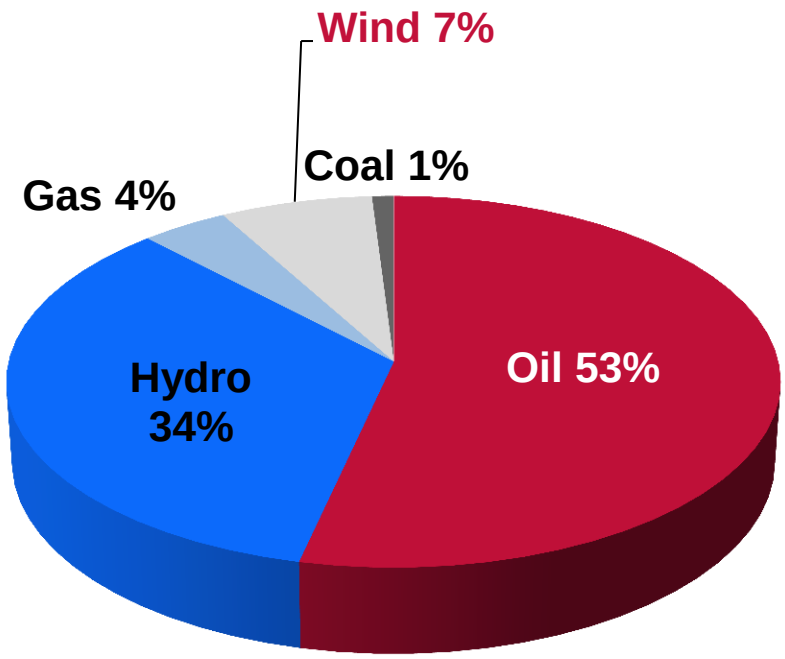
Source: BNEF, CEADIR desktop study

Historic and Planned RE Electricity Mix in Guatemala



Source: BNEF, CEADIR desktop study

Historic and Planned RE Electricity Mix - Honduras



2014 MIX

Generation Expansion Plan 2008-2022 Goals:

- Reduce reliance on hydrocarbons
- Renewable energy provides 60% of electricity by 2022 and 80% by 2038
- Expand electricity access to 85% by 2015 and 90% by 2020
- Invest US$1.5B in renewable energy (e.g. hydroelectric power) by 2022

Source: BNEF, Worldwatch Institute

CEADIR Clean Energy Financing for Central America: Phase I Needs Assessment Findings

- Installed capacity expected to double, requiring investments of US$24-27 billion, 2012-2027 (CEAC, 2012)
- $597 million in clean energy investment last year (BNEF)
- Clean energy lending is moving but far larger investment potential
- Local finance generally only balance sheet finance, most local financial intermediaries (FIs) offer no special purpose vehicle finance
- FIs have limited understanding of EE financing mechanisms and market

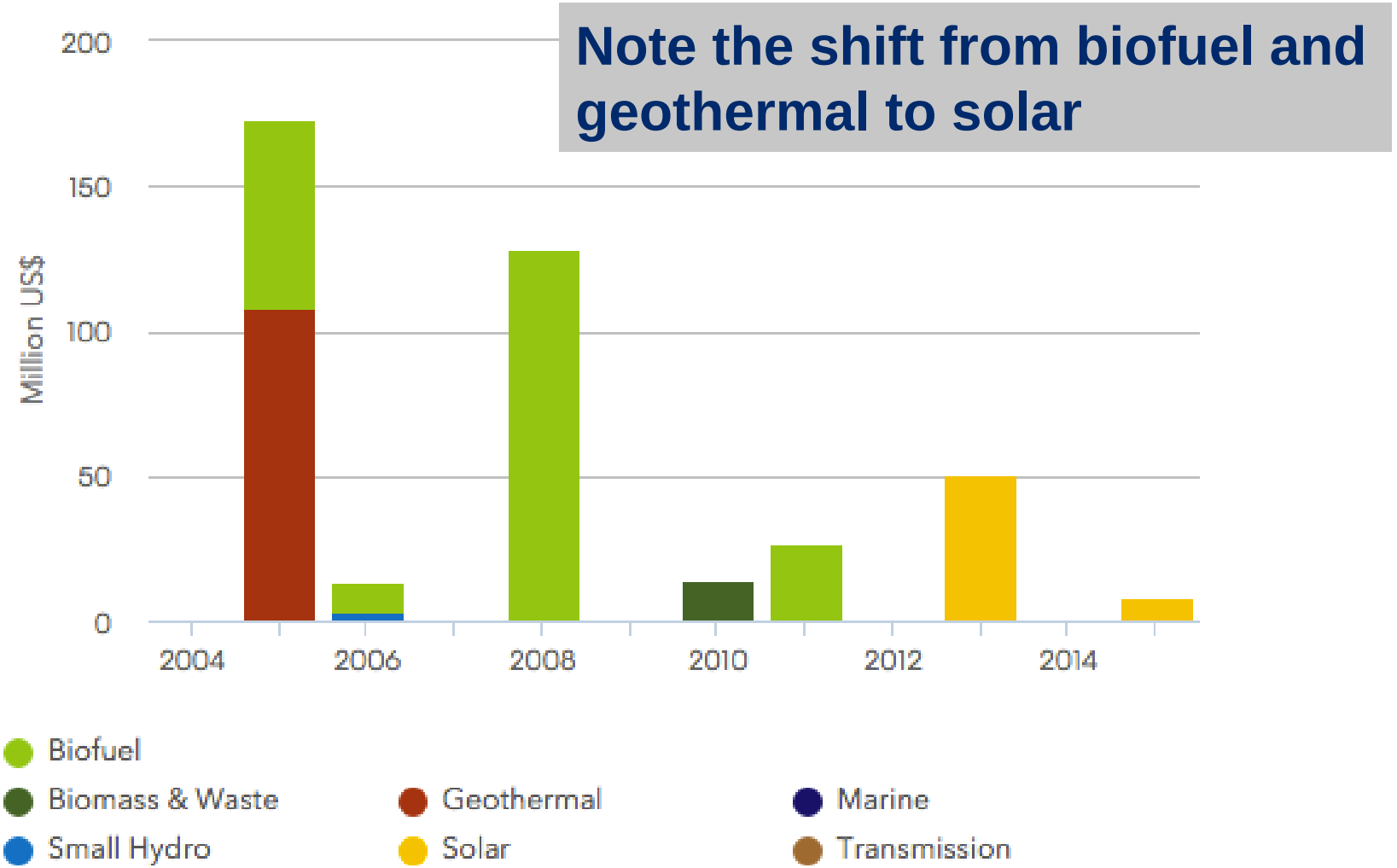
Source: Wikimedia Commons

Recent Clean Energy Investment (2006-2013)

Country	Total Clean Energy Investment, 2006-2013 (US$ B)	Installed Power Capacity (GW)	Renewable Share (%)	Total Clean Energy Generation (GWh)
Belize	0.2	0.16	56	**308**
Costa Rica	1.7	3	31	**3952**
El Salvador	0.2	2	22	**1691**
Guatemala	0.6	3	23	**2031**
Honduras	0.8	2	22	**1196**
Nicaragua	1.6	1	31	**1442**
Panama	1.3	2	8	**685**
Totals	**6.4**	**13.2**		**11,305**

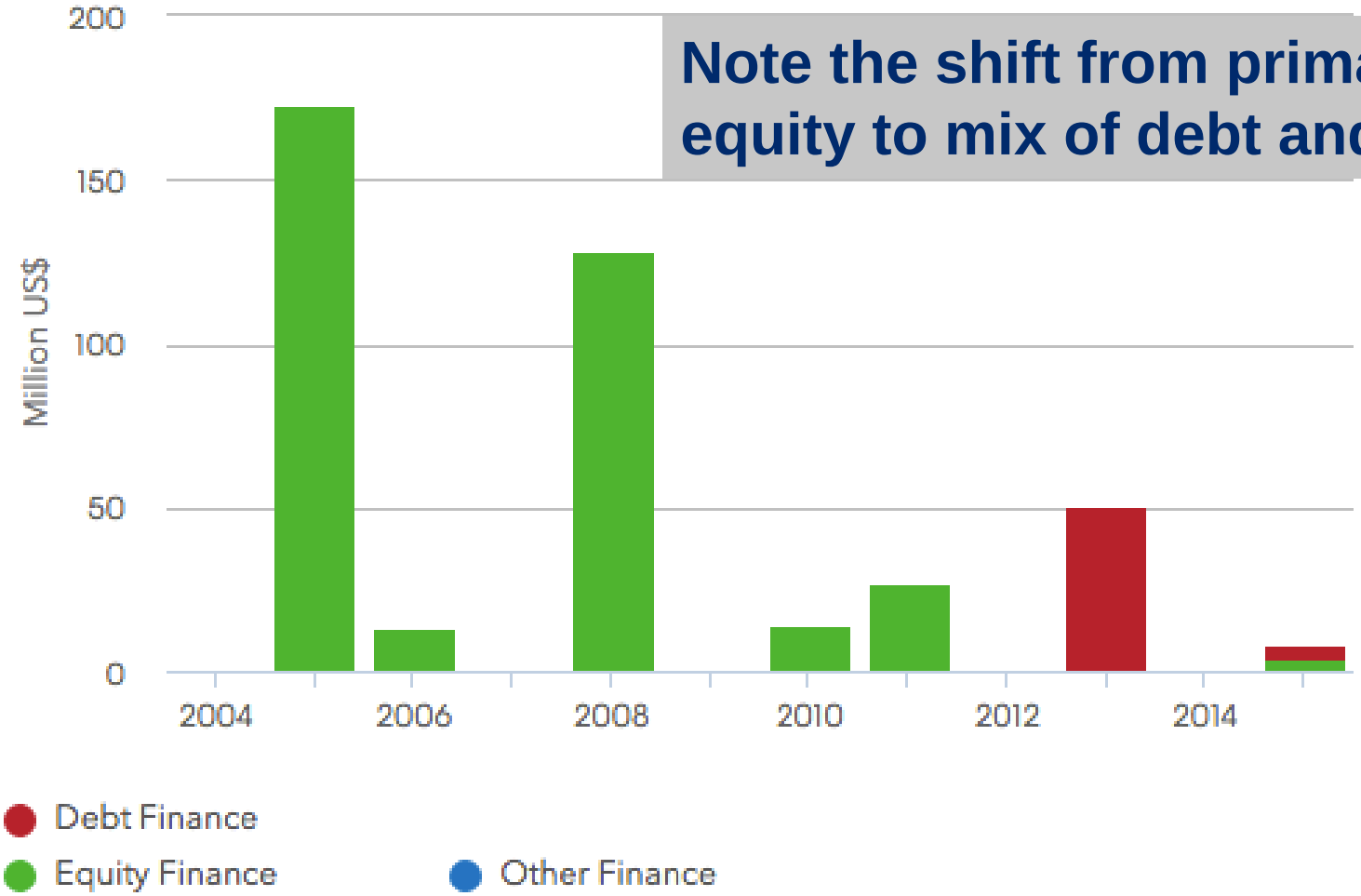
Source: FOMIN and BNEF *(Fondo Multilateral de Inversiones* and Bloomberg New Energy Finance). 2013. *Climascopio 2013. Nuevas Fronteras para las Inversiones en Energía de Bajas Emisiones de Carbono en América Latina y el Caribe.* Washington, DC: FOMIN.

Renewable Energy Finance by Type - El Salvador



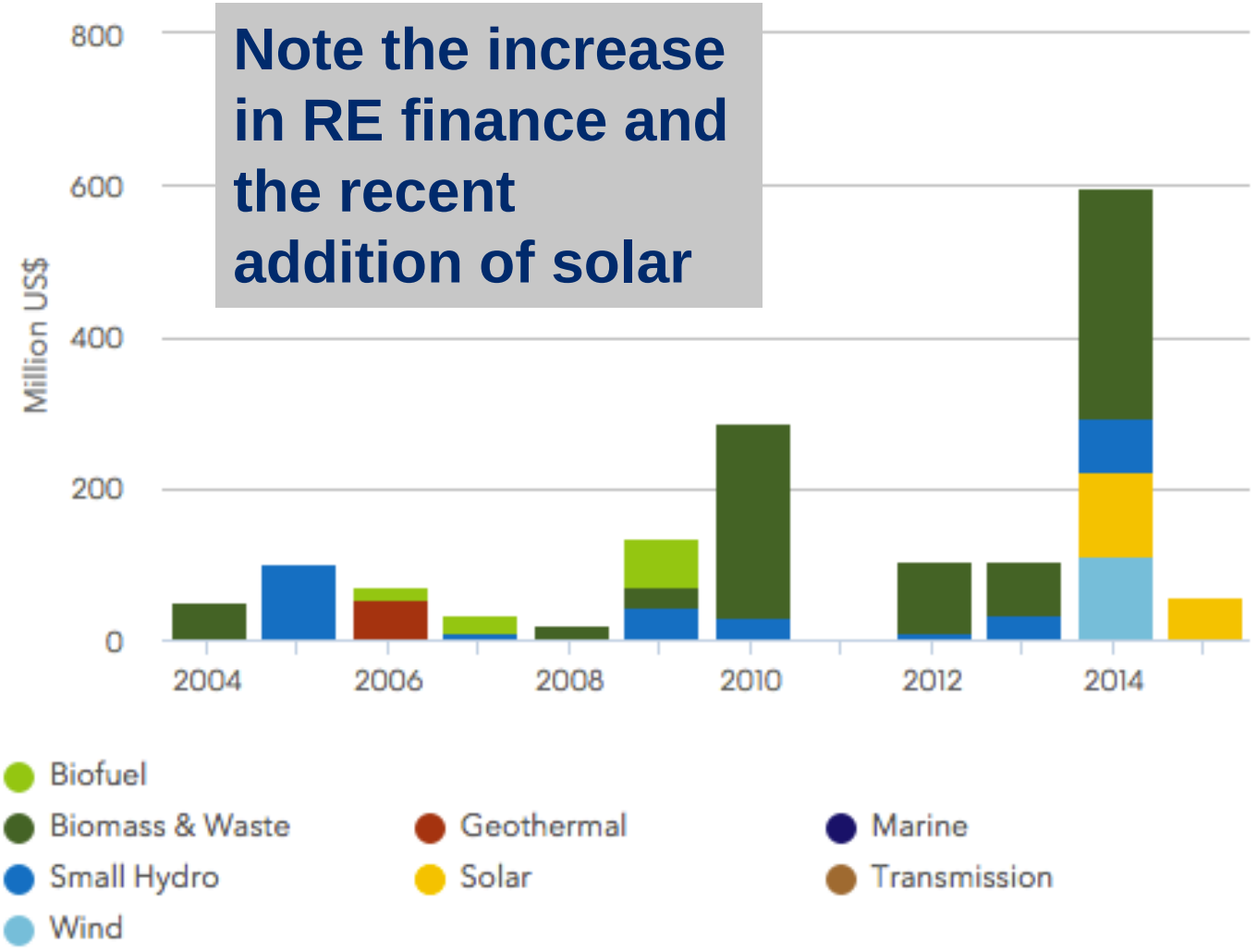
Source: Bloomberg New Energy Finance, "El Salvador Country Profile, New Build Renewable Asset Finance." 2015

Renewable Energy Finance by Source - El Salvador



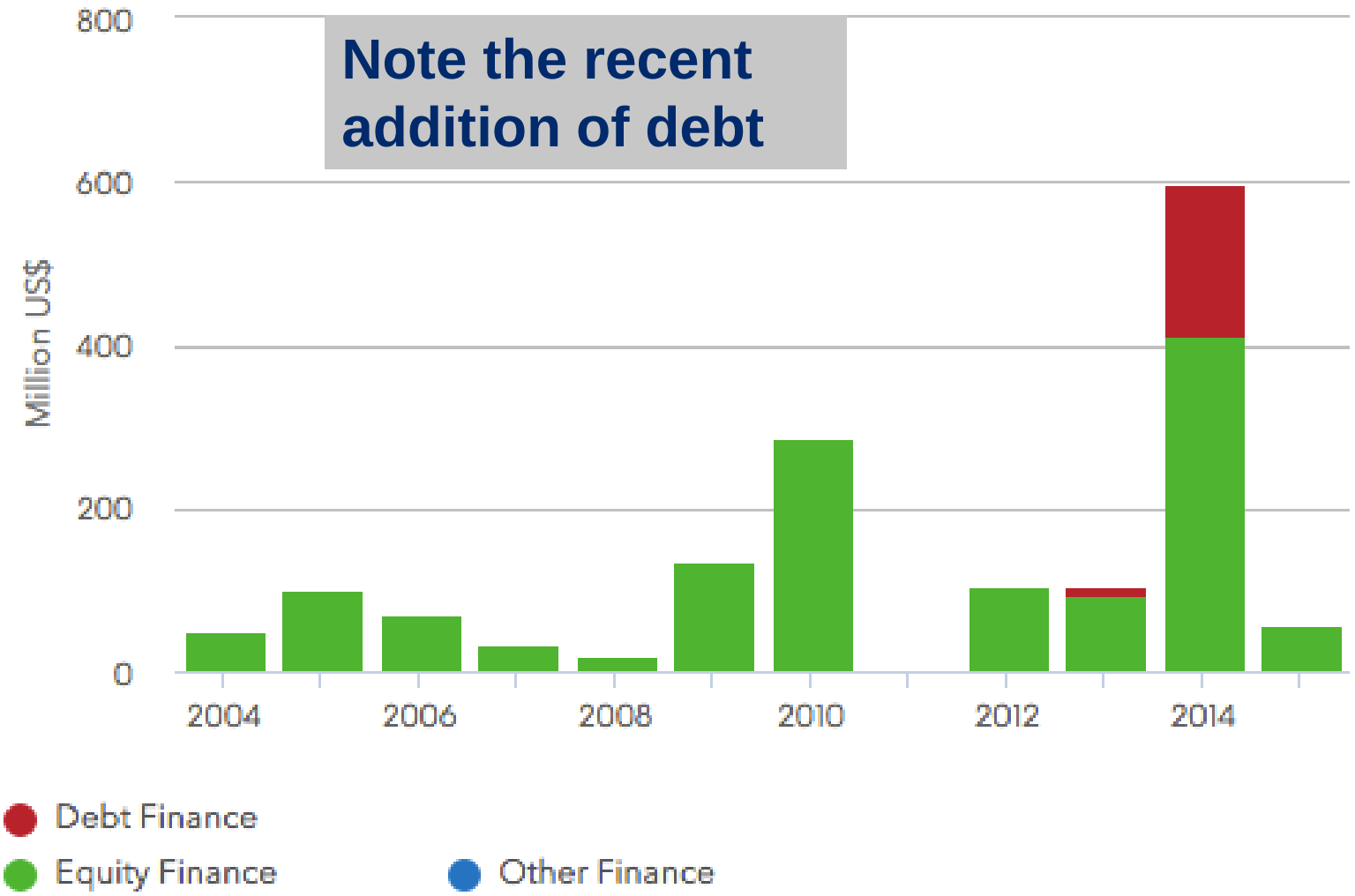
Source: Bloomberg New Energy Finance, "El Salvador Country Profile, New Build Renewable Asset Finance." 2015

Renewable Energy Finance by Type - Guatemala



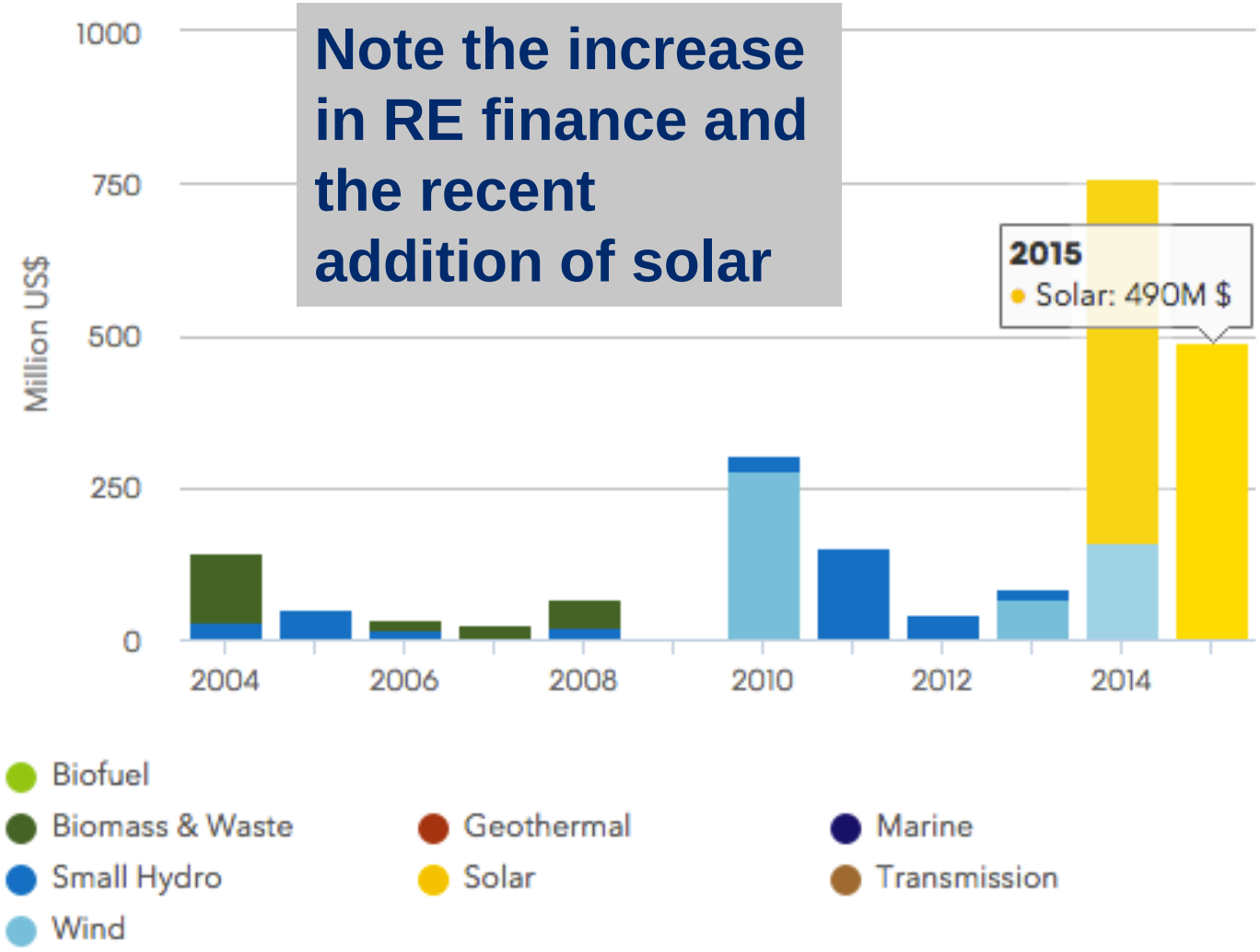
Source: Bloomberg New Energy Finance, "Guatemala Country Profile, New Build Renewable Asset Finance." 2015

Renewable Energy Finance by Source - Guatemala



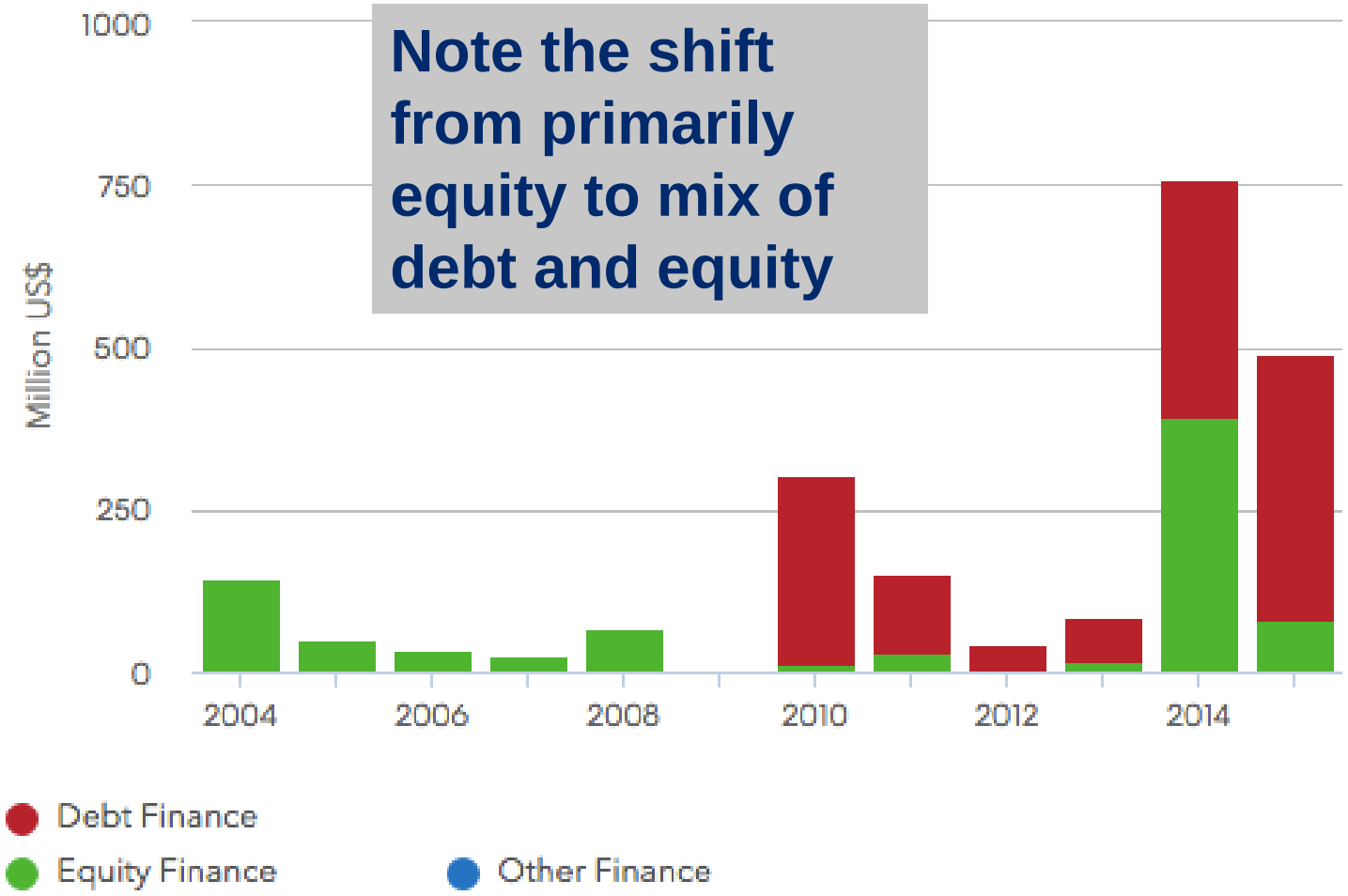
Source: Bloomberg New Energy Finance, "Guatemala Country Profile, New Build Renewable Asset Finance." 2015

Renewable Energy Finance by Type - Honduras



Source: Bloomberg New Energy Finance, "Honduras Country Profile, New Build Renewable Asset Finance." 2015

Renewable Energy Finance by Source - Honduras



Source: Bloomberg New Energy Finance, "Honduras Country Profile, New Build Renewable Asset Finance." 2015

Fiscal Incentives for Promoting Renewable Energy

Country	Capital Subsidy, Grant, or Rebate	Investment or Production Tax Credits	Reduction in Sales, Value-Added Tax, Income, Customs or Other Taxes
El Salvador	No	Yes	Yes
Guatemala	No	Yes	Yes
Honduras	No	Yes	Yes

Source: Dolezal, A., Majano, A.M., Ochs, A., and Palencia, R. 2013. *The Way Forward for Renewable Energy in Central America.* Washington, DC: Worldwatch Institute.

Regulatory Policies for Promoting Renewable Energy

Country	Feed-in Tariff	Net Metering	Tendering	Reverse Auction
El Salvador	No	No	Yes	Yes
Guatemala	Yes	Yes	Yes	Yes
Honduras	No	No	Yes	Yes

- Regulatory measures and public financing are less common.
- There are no renewable portfolio standards in Central America.
- El Salvador's Consejo Nacional de Energía (CNE) in is in the process of developing a net metering policy.

•Source: CEADIR desktop study

Increasing Potential for Energy Efficiency

- Increasing energy efficiency would result in energy savings of 12,255 GWh by 2025, or more than 15% of total demand in Central America.
- Cost savings of close to US$1.5 billion
- Reductions in carbon dioxide equivalent (CO_2e) emissions of up to 7.9 million tons per year
- US$550 million in energy efficiency investments could prevent the need to invest US$1.7 billion in new generation natural gas-fired facilities over 10 years.

Different Financial Institution Needs

El Salvador

- Interested in technical discussion of RE and EE

Guatemala

- Sufficient capacity—interested in meeting regulators and developers and discussing the potential impacts of different policies and learning about potential funding sources. Need technical training in EE opportunities

Honduras

- Significant potential—FIs interested in technical discussion and learning about new lending products

CEADIR Phase II Clean Energy Financing Support

Activity 1

- Technical support for collaboration in the development of clean energy lending products

Activity 2

- Local financial and institutional capacity development

Activity 3

- Technical assistance to increase clean energy equity investments

Activity 4

- Technical assistance support with energy sector related entities

Energy Development in Central America: Dealing with Social Risk

Francisco Acuña

CEO

InTrust Global Investments

- Experienced in wide range of strategic projects in Mexico from mobilizing finance through private and public sources to advising companies and governments on investments and strategic alliances with rural and indigenous communities.
- Founder of INDI Fund, which promotes investment in renewable energy and agribusiness projects in Mexico and emerging markets
- Previous experience as Managing Director of Manatt, Phelps & Phillips

InTrust
GLOBAL INVESTMENTS, LLC

Energy Development in Central America: Dealing with Social Risk

Perspectives from an Investor and Developer

Our Clean Energy Work

- 111 pipeline projects in review
- Currently vetting rural-indigenous projects in Mexico and Central America
- Implemented first educational program of its kind that trained rural professors to partner with their communities (in partnership with Harvard University)
- Received award for “Best Financial Initiative” from IADB (Beyond Banking Awards) for INDI Fund concept (Clean Energy Private Equity concept)

Key Investor and Developer Concerns

1. Identifying a local Reliable Partner
2. Securing a long term off-taker
3. Technical Issues (grid, transmission, etc.)
4. Ideally using global markets
5. Regulatory Issues (predictability)
6. Social and environmental risks

INDI Fund

- INDI Fund first private equity model investing in partnership with indigenous communities
- Strategic Partners
  - GEF
  - InTrust Global Investors
  - ASI ENERGIA Internacional (solar)
  - Center for Public Health and Global Environment, Harvard University

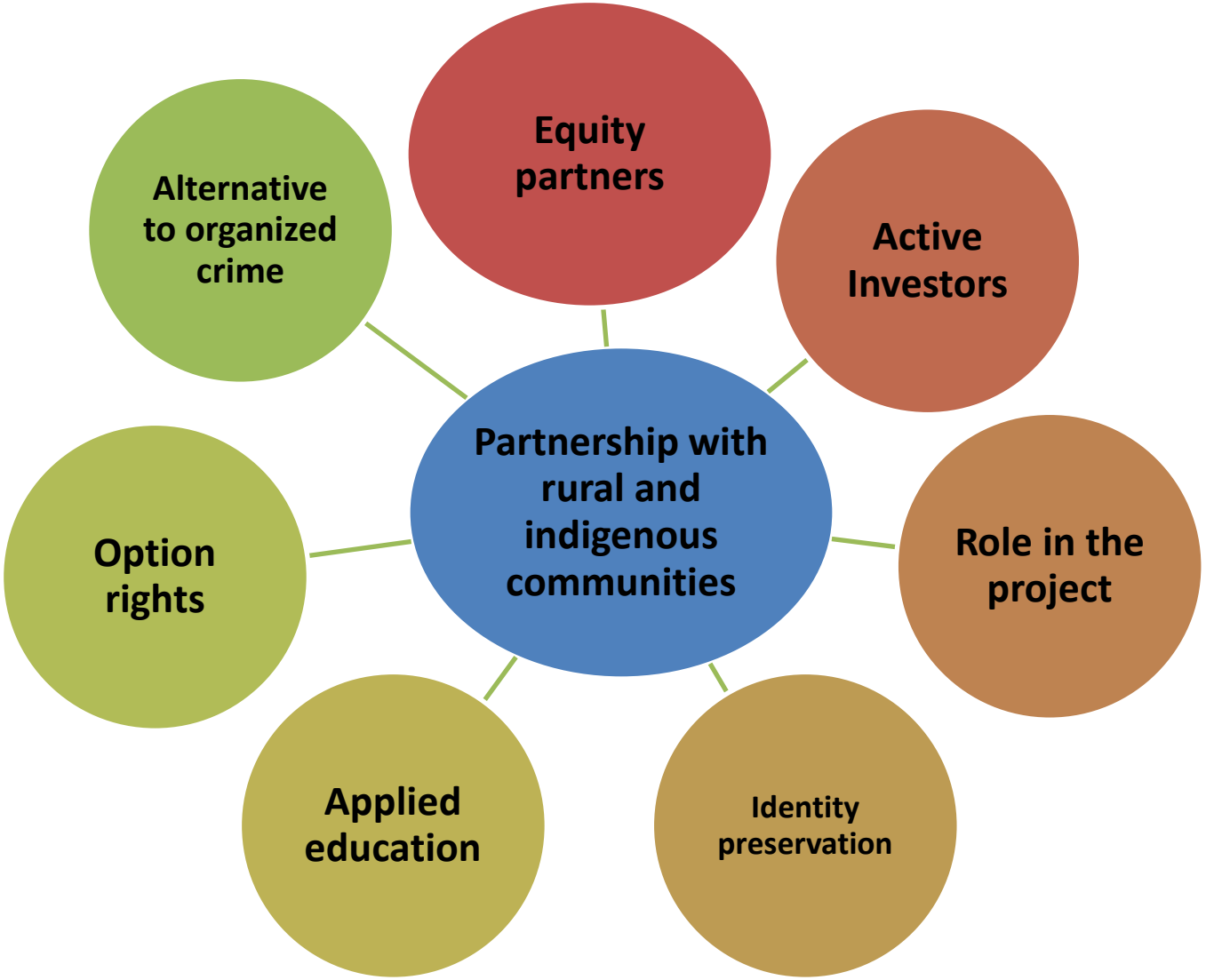
CURRENTLY FOCUSING IN PROJECT BY PROJECT (versus Fund Model)

InTrust Global Investments, LLC

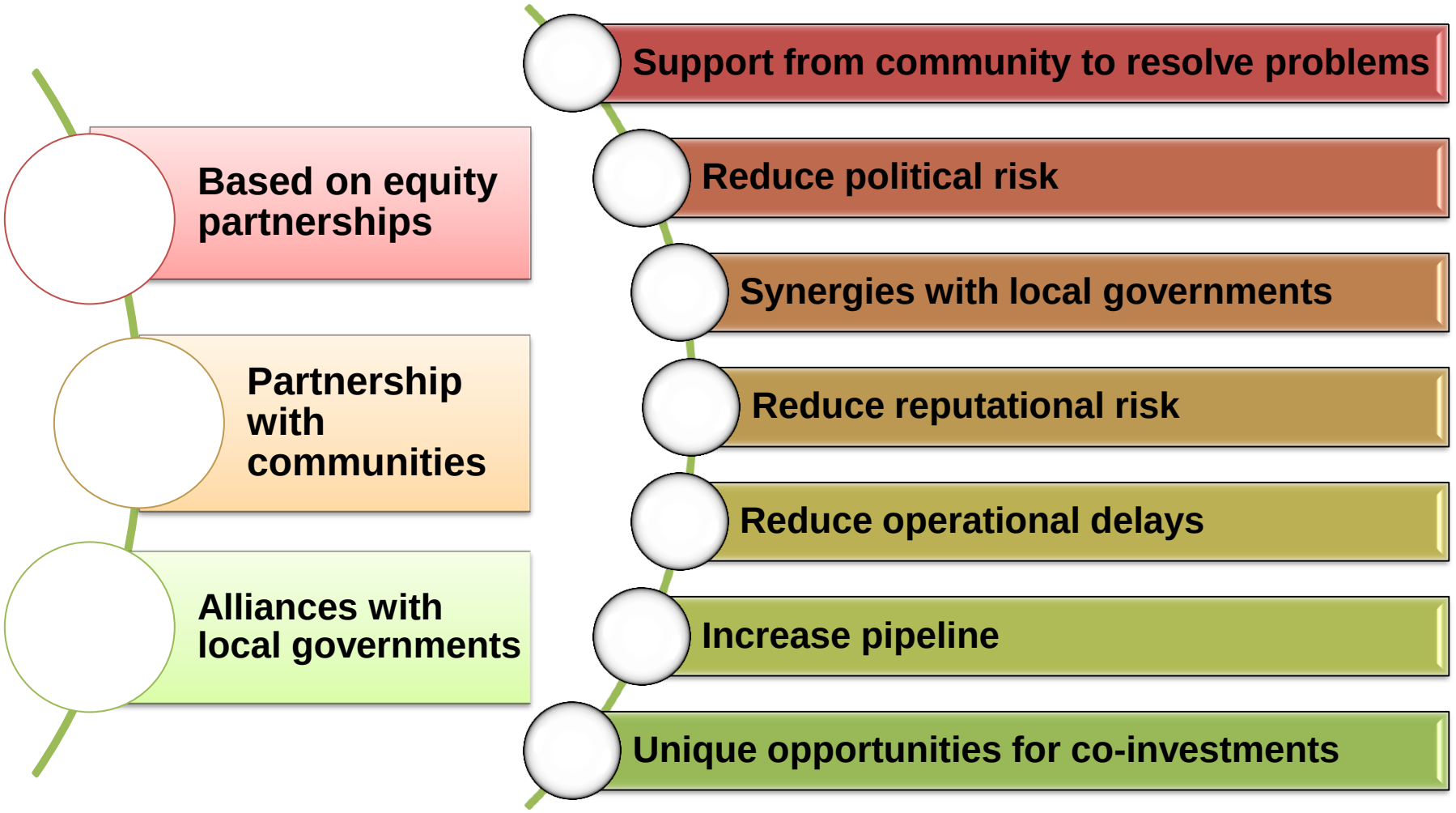
Our Approach to Social Risk

- In Latin America the indigenous component is a key variable for development
- Although rural and indigenous lands contain rich natural resources, their communities haven not been able to develop them
- What financial models could trigger new approaches for development in partnership with these communities?
- What could be the role of energy in the development of the region?

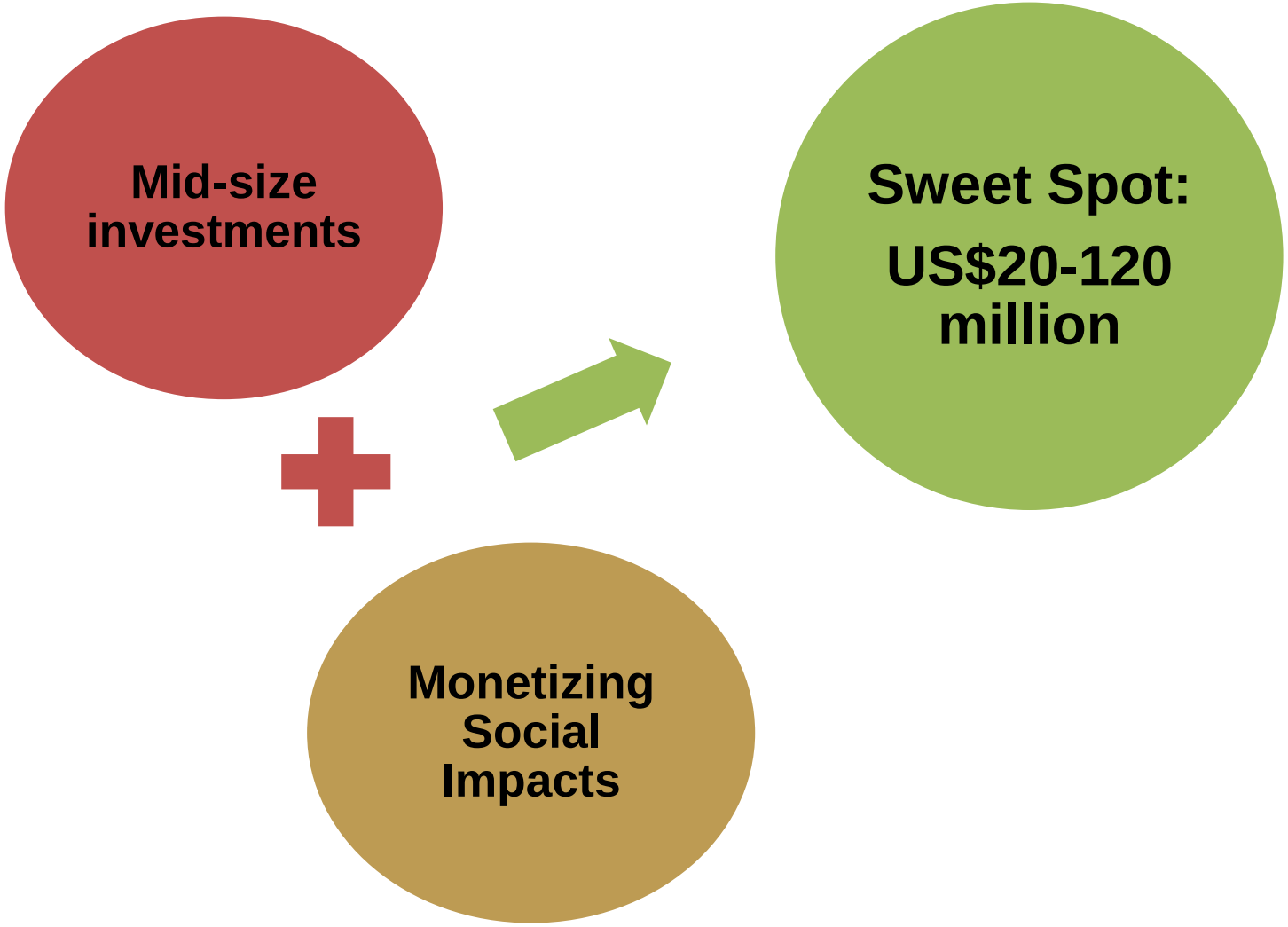
Benefits of InTrust Investment Model



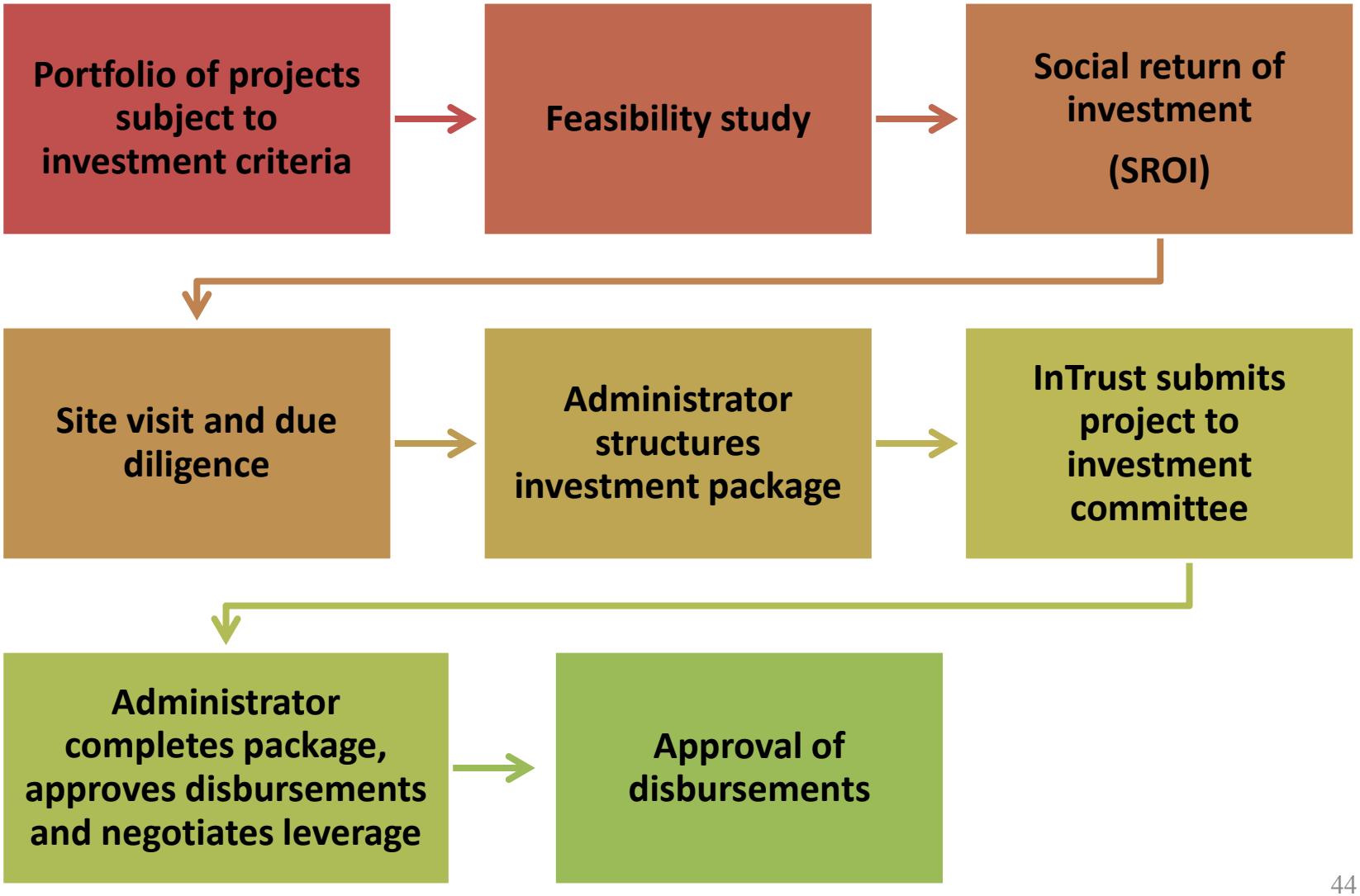
Benefits for Investors and Developers



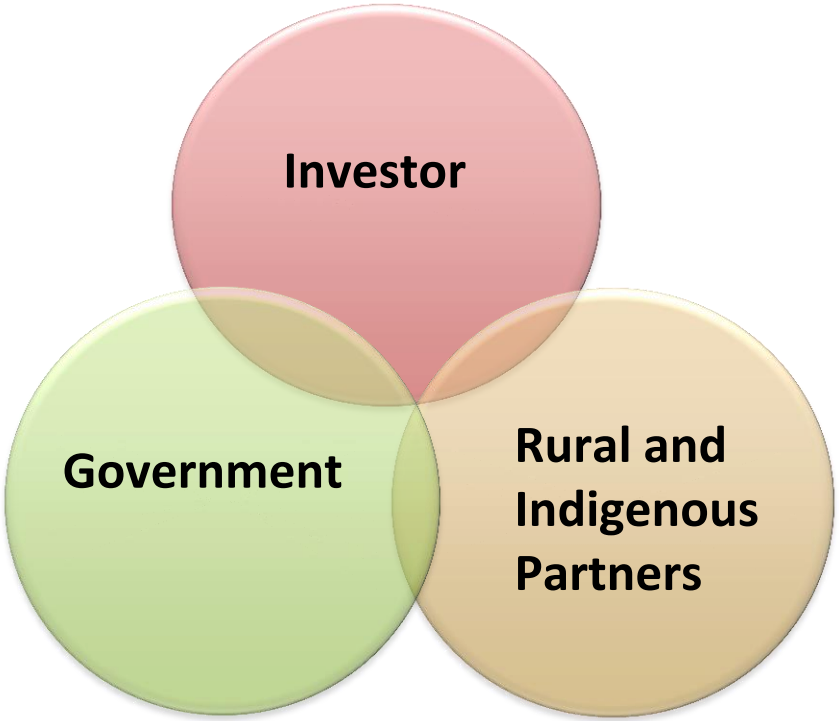
Strategic Approach: Scale



InTrust Investment Process



Interest Alignment



- Alignment protects all parties involved
- All parties aligned in same goal: maximized returns and project value.
- Loss of one party affects the other

Exit Strategies

5 to 7 Year Period	Favorable Environment	High Value Projected	SROI Adherence	Involved Markets in Strong Growth
After generation of income stream	Aiming 8.5 to 10 EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization)	High social impact and reduced political risk and reputational risk	Not only Equator Principles and IFC stakeholder agreements and similar. SROI confirms the economic impact involved	Expectation in the region is that clean energy projects develop faster than the economy itself

Case Study: Oaxaca

- 21 renewable energy plants in the Isthmus of Tehuantepec
- 4 have not generated electricity
- Local opposition
- Other projects cancelled

InTrust
GLOBAL INVESTMENTS, LLC

Current InTrust Projects

- 5 communities are now in negotiations with developers
- ~ 5 million hectares for development of 100 MW of wind power
- Community landowners are co-owners
- Local construction and operation and maintenance jobs
- Communities represented on project Board of Directors
- Project development proceeding with
  - Identification of potential customers
  - Selection of technical partners and suppliers

Francisco Acuña

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Q&A Session

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Country Manager, Latin America and Renewable Energy Team Lead

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CEO

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About CEADIR

CEADIR *supports countries to assess and scale up low-carbon, climate resilient development.*

CEADIR covers three thematic pillars of USG climate change strategy:

AD Adaptation

CE Clean Energy

SL Sustainable Landscapes

CEADIR Series

- **Expert dialogues**
- **Critical issues**
- **Economic analysis**
- **Financing climate change**

https://www.climatelinks.org/projects/ceadir

Up Next

- A recording and copy of today's presentation will be sent to all attendees.
- Listen to previous CEADIR discussions on Climatelinks YouTube page.
- Additional questions?
  - Dr. Marcia Trump, Chief of Party, CEADIR project, marcia_trump@abtassoc.com
  - Dr. Robert Voetsch, Project Manager, CEADIR project, rvoetsch@crownagents.com

Up next in the *Navigating the Climate Economy* discussion series:

Lessons from Mexico on Energy Efficiency
April 12, 2016 at 9am EDT

For more information, visit
https://ceadirseries.adobeconnect.com/admin/show-event-catalog

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- Personal email communication, Arnaldo Vierira de Carvalho, Lead Energy Specialist, Energy Division, IDB, June 25, 2014
- Personal email communication, Laura Castro, Bloomberg New Energy Finance, March 23, 2016