



»» Strengthening Success: Geothermal Development Facility (GDF)

KfW Development Bank
Arndt Wierheim

GEOLAC, 18 July 2019, Santiago de Chile

KFW

»»» Outline

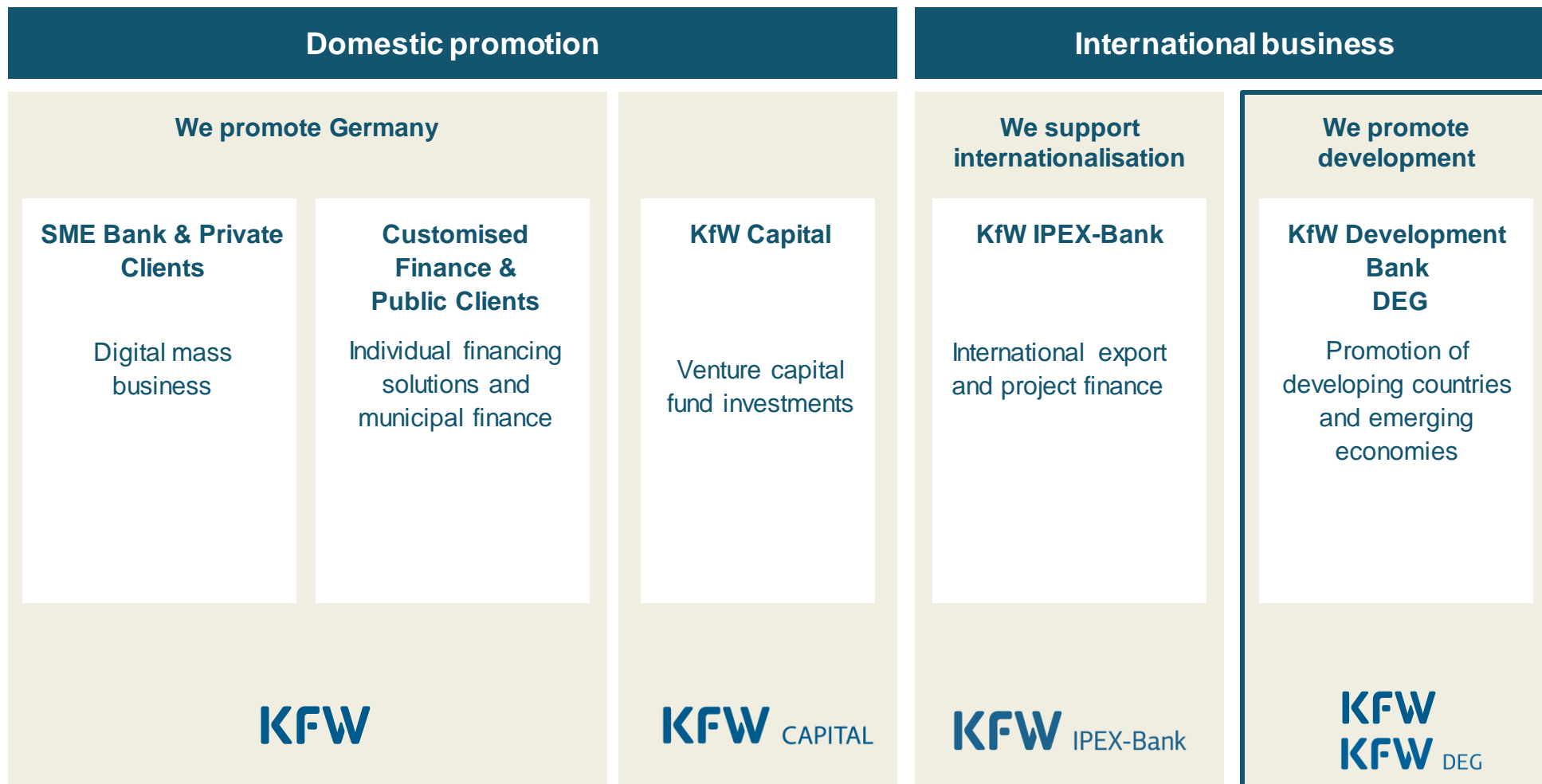
- 1 KfW Development Bank – Who we are
- 2 The Geothermal Development Facility (GDF) – How does it work?
- 3 What happened so far
- 4 What comes next



KfW Development Bank

>>> KfW Development Bank as part of the KfW Group

Three business sectors

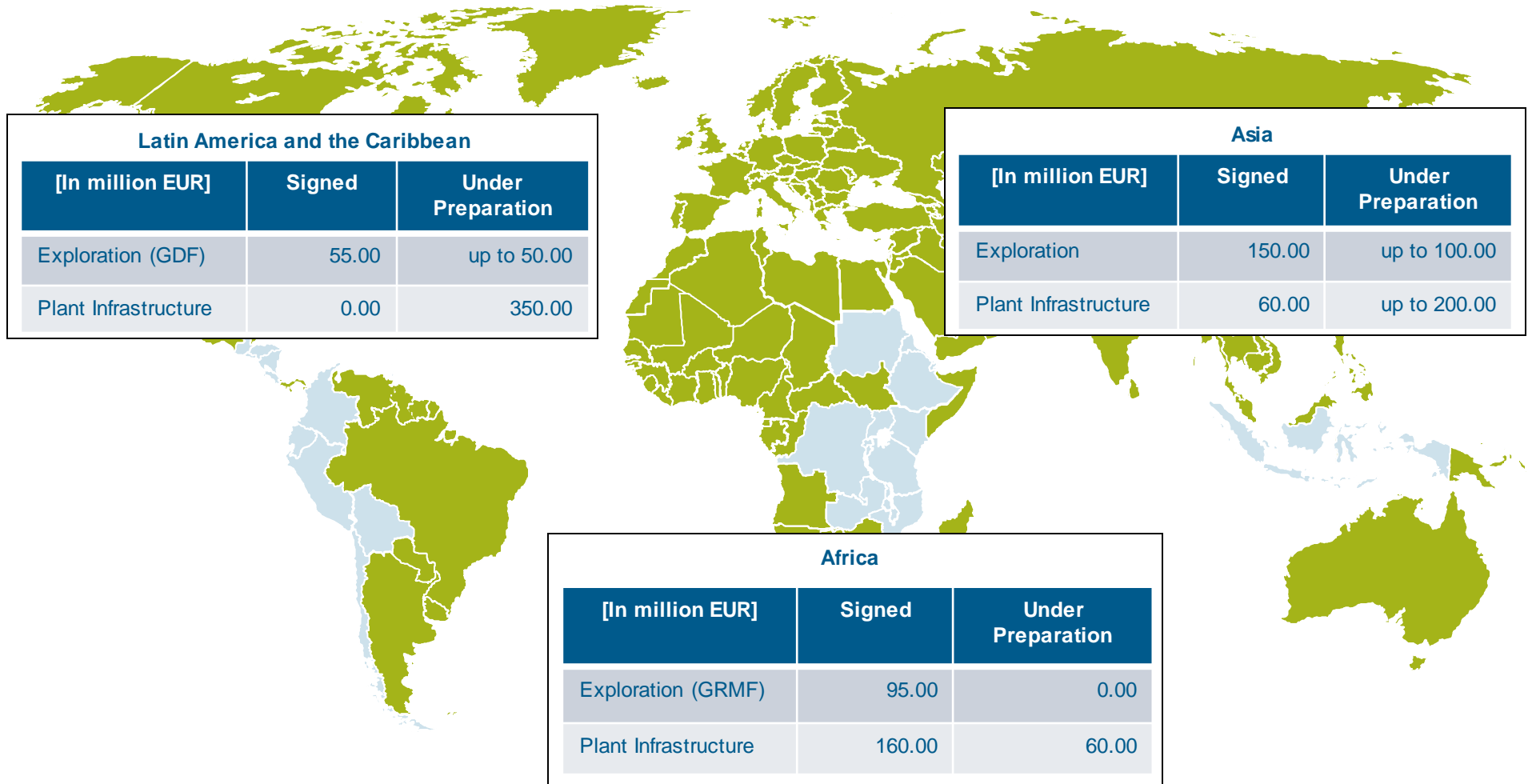


Overview of KfW Development Bank

Task	<ul style="list-style-type: none">› Promoting investment and reform processes in developing countries and emerging economies
Clients	<ul style="list-style-type: none">› Federal Government (mainly Federal Ministry for Economic Cooperation and Development (BMZ), also Federal Foreign Office (AA), Environment (BMU) and Education (BMBF))› EU Commission› Selected bilateral donors
Objectives	<ul style="list-style-type: none">› Sustainably improve economic and social conditions› Poverty reduction› Climate and environmental protection
Implementing partners	<ul style="list-style-type: none">› Government institutions as well as NGOs in suitable cases
Financing volume 2017	<ul style="list-style-type: none">› EUR 8.2 billion

Portfolio Overview Geothermal Development

EUR 520 million signed / currently 22 eligible countries



Latin America and the Caribbean

[In million EUR]	Signed	Under Preparation
Exploration (GDF)	55.00	up to 50.00
Plant Infrastructure	0.00	350.00

Asia

[In million EUR]	Signed	Under Preparation
Exploration	150.00	up to 100.00
Plant Infrastructure	60.00	up to 200.00

Africa

[In million EUR]	Signed	Under Preparation
Exploration (GRMF)	95.00	0.00
Plant Infrastructure	160.00	60.00

»»» The Geothermal Development Facility (GDF) – How does it work?



Geothermal Development Facility (GDF)

Approach

Different promotional schemes for geothermal development:

100% development through the public sector

Cost-sharing schemes between public entity and private sector

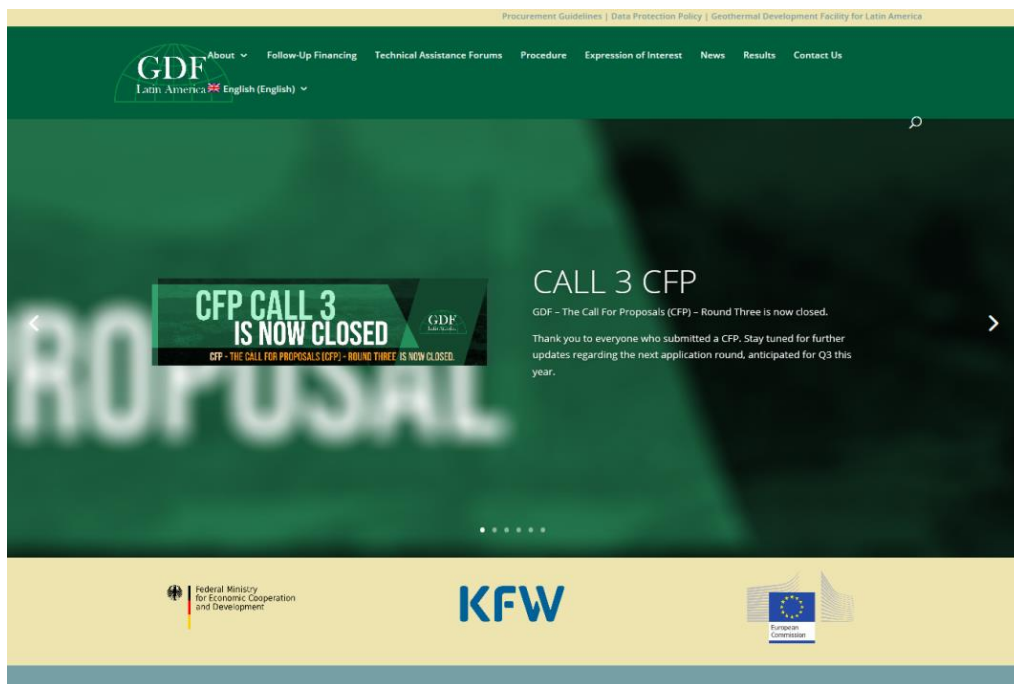
Insurance schemes

Fiscal Incentives



Geothermal Development Facility

Risk Mitigation Fund – operational since December 2016



<http://gdflac.com/>





Geothermal Development Facility (GDF)

Key Facts



- **Grant Providers:**



Initial capitalization:

EUR 55 million

- **Fund Manager:** IDA Fund Management, LLC



- **Duration of the Facility:** 10 years

- **10 eligible countries:**

- Central America: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua
- South America: Bolivia, Chile, Colombia, Ecuador, Peru





Geothermal Development Facility

Design



Contribute to a **paradigm shift** towards geothermal as the clean technology option of choice for new base-load electricity generation capacity in Latin America by providing tailored financial instruments to fast-track geothermal energy projects.

- **Minimize** administrative & transaction **costs** by maintaining the right **incentive scheme**
- Mechanism follows the risk involved in the **development cycle**
- **Competitive** selection process: “let the best projects win!”
- Very close donor **coordination** (DFIs, TA providers)

Price awarded scheme!



Geothermal Development Facility – Overview

Stakeholder Group



Risk Mitigation Fund

- › Grants for Surface Studies
- › Contingency Grants for Exploratory Drillings



Follow – Up Financing Lines provided by GDF Stakeholders



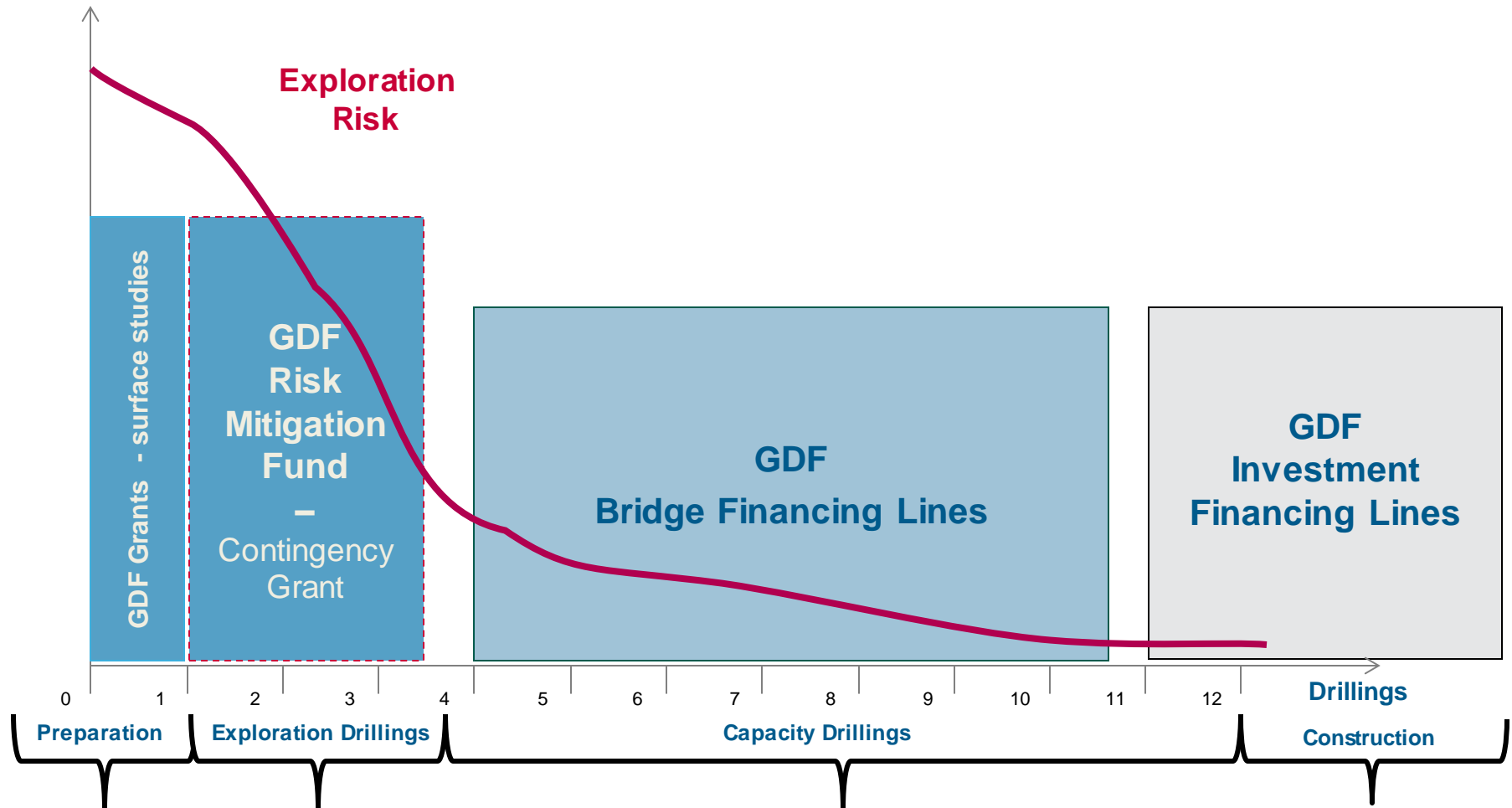
Technical Assistance Forum
Policy Dialogue & Coordination of TA Programs





Geothermal Development Facility

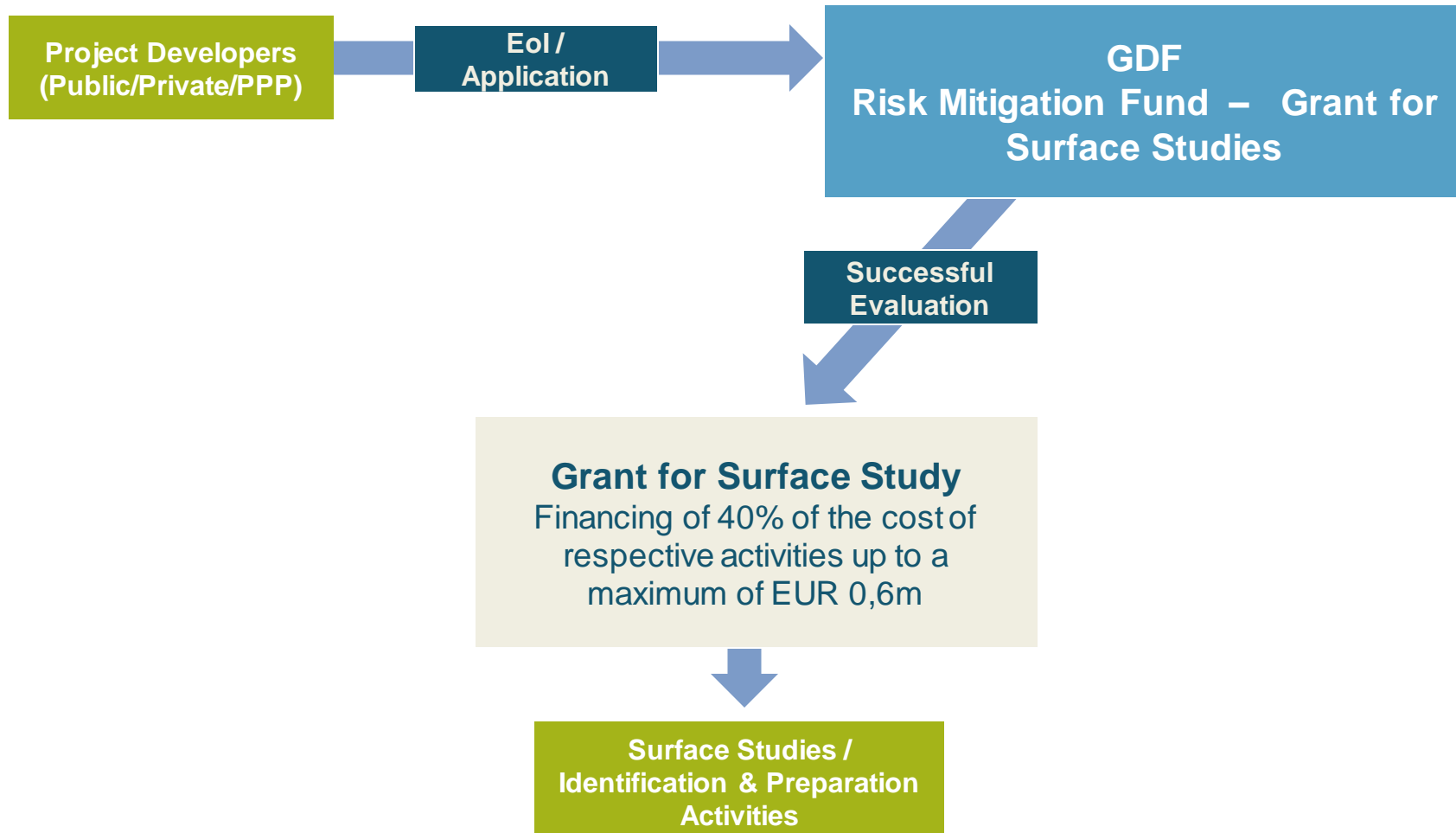
A tailored approach to promote Geothermal Development





Geothermal Development Facility

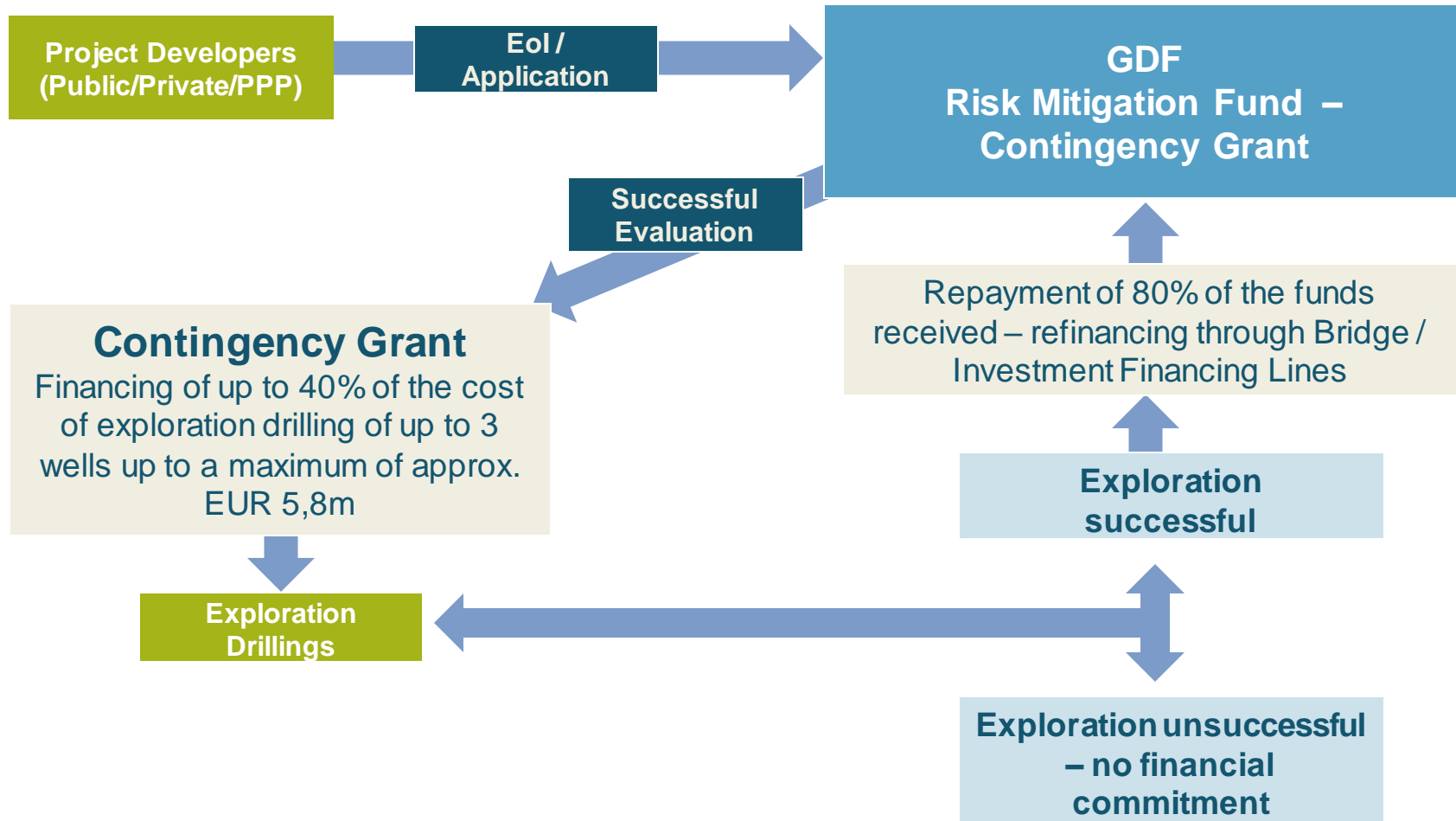
Risk Mitigation Fund – Grant for Surface Studies





Geothermal Development Facility

Risk Mitigation Fund – Contingency Grant



»»» What happened so far



Geothermal Development Facility

First 3 Calls for Proposals



9 signed Grant Agreements as of July 2019:

- 7 Grant Agreements for Surface Studies in Bolivia, Chile, Guatemala, Nicaragua & Peru
- 2 Grant Agreements for Drilling Services in Chile & Guatemala

Total capacity: 475 MW
 Funding volume: EUR 14 million

-
- 5 projects in Chile, Colombia, Ecuador and Honduras have been selected & are qualified to move to future CfP rounds

Total capacity: 185 MW
 Funding volume: EUR 16 million

-
- 3 projects in Bolivia, Colombia and Guatemala have been recently approved by the GDF Council on June 27th (the 3rd round). Contract negotiations will start soon.

Total capacity: 120 MW
 Funding volume: EUR 3 million

Region	Country	# of Projects	Estimated power MWe
South America	Bolivia	2	75
	Chile	4	270
	Colombia	3	150
	Ecuador	1	20
	Peru	1	100
Central America	Guatemala	4	125
	Honduras	1	20
	Nicaragua	1	50
Total		17	810

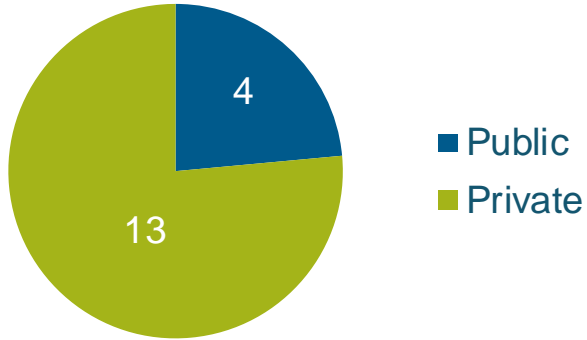


Geothermal Development Facility

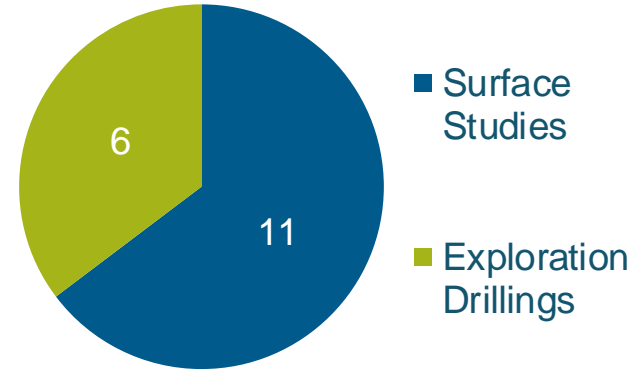
Results after 3 Call for Proposals – Selected Projects



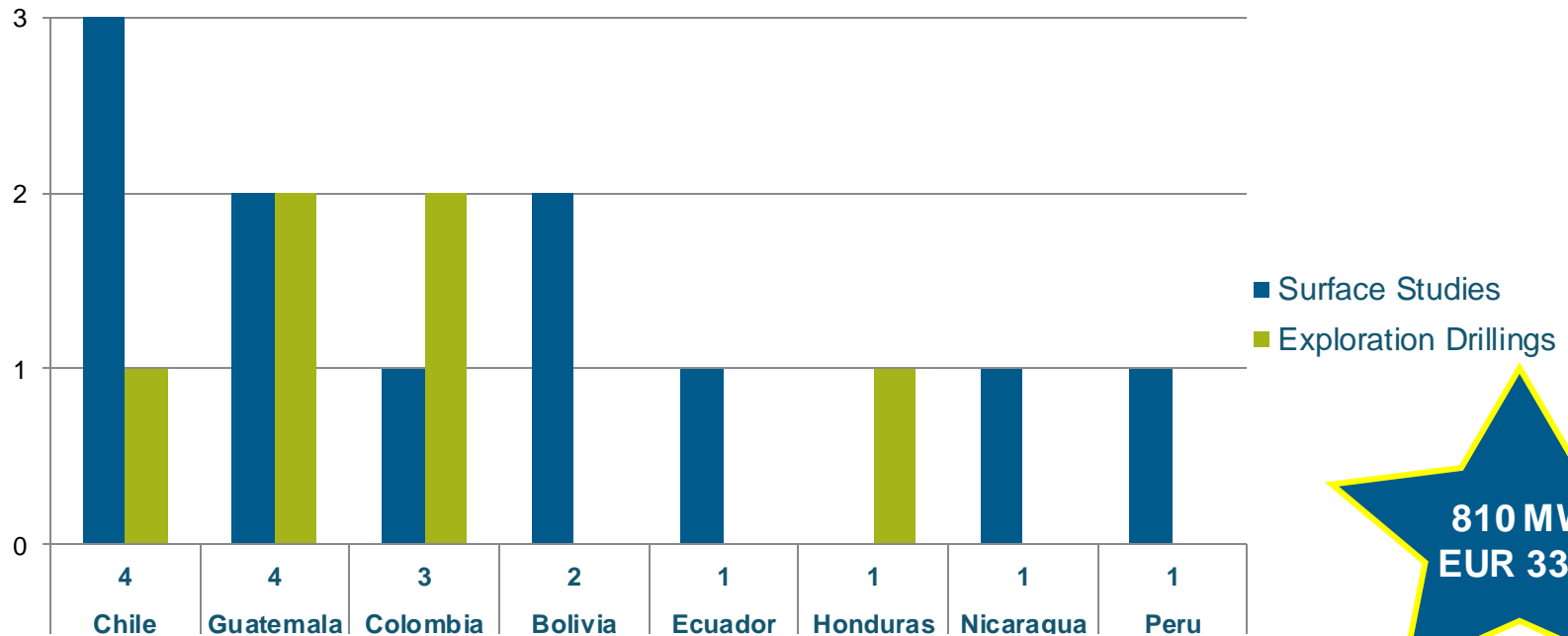
Organization Type



Grant Type



Project Country Summary



810 MW
EUR 33m

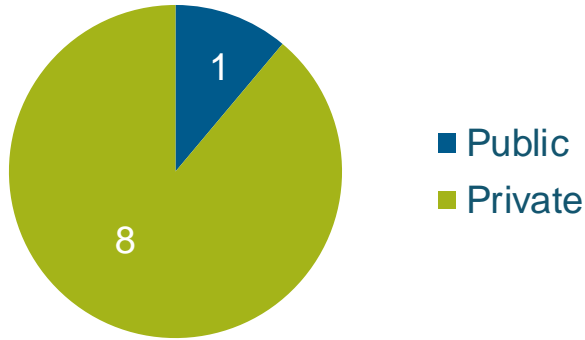


Geothermal Development Facility

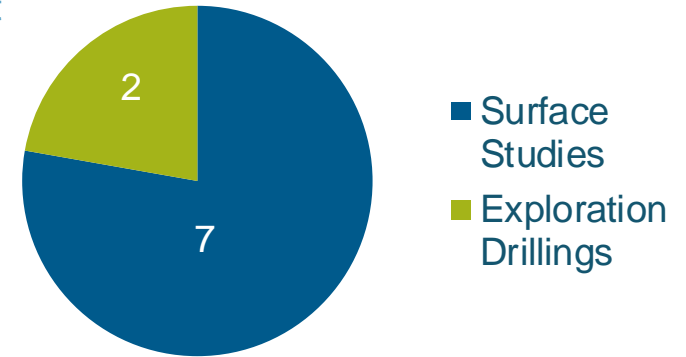
9 Signed Grant Agreements as of July 2019



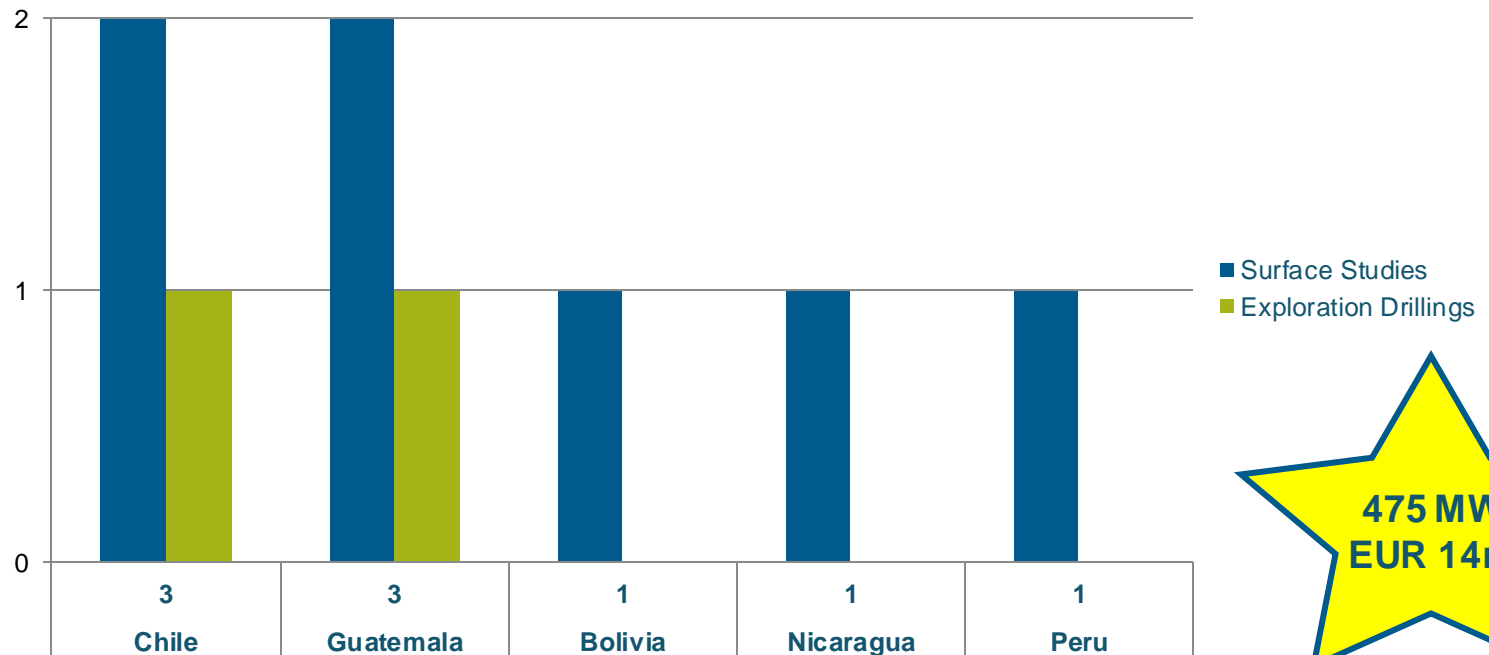
Organization Type



Grant Type



Project Country Summary



»»» What comes next?



Geothermal Development Facility

Lessons Learned so far...



Customer oriented vehicle

- First independent regional support scheme
- Consistent and transparent process is being replicated
- Learning mechanisms (for developers and the promotional scheme itself)
- Regular revision of GDF operational documents and processes

Address different demands in each country

- Mature markets vs. frontier markets
- Geothermal as a baseload option
- National framework conditions & market design

→ GDF's flexible long-term portfolio approach!

Increase of synergy effects

- TA (e.g. framework conditions, auction design, direct use / social benefits)
- Very close coordination between financing institutions



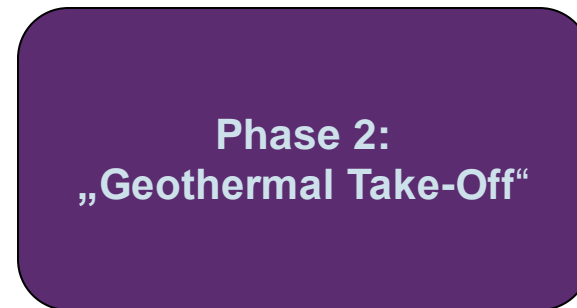
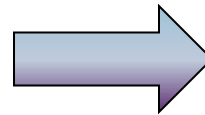
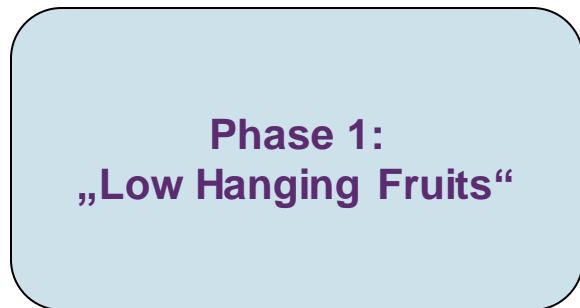
Geothermal Development Facility

What comes next?



How to proceed:

- Importance of future (contingent) grant availability
- Increase funding base and enhance cooperation with Development Finance Institutions and TA providers
- Value & pricing of baseload capacity in power markets
- Evaluate expansion of the list of eligible countries





Geothermal Development Facility



**EOI CALL 4
WILL OPEN ON JULY 16**

EOI - THE EXPRESSION OF INTEREST (EOI) FOR CALL 4 WILL OPEN ON JULY 16, 2019



GDF – Expression Of Interest (EOI) for Call 4 has opened on July 16 until August 29, 2019

<http://gdflac.com/>

»»» Thank you for your attention!

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