

# EXPLORATION RISK INSURANCE

IFC AND MUNICH RE'S EXPERIENCE IN  
TURKEY



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# COMPANY BACKGROUNDS

## IFC

IFC is the private-sector investment entity of the World Bank Group, established in 1956. It is the largest global development finance institution that focuses on the private sector

We finance sustainable private sector entities through debt, equity, structured finance, risk management products

Six geothermal investments to date (\$400m / 1,300MW<sub>e</sub>) with more in the pipeline

- Guatemala
- Nicaragua
- Philippines

IFC geothermal advisory:

- Developing and piloting exploration risk insurance
- Developing and promoting exploration best practices guide
- Advising government of Ethiopia on engagement of private sector in geothermal development

## MUNICH RE

Munich Re is one of the leading reinsurance companies in the world with 11.000 employees and a premium income of about Euro 28 bn. The Munich Re Group operates in all lines of insurance with around 47.000 employees

Munich Re is active in all lines of Renewable Energies and invented the Exploration Risk Insurance (ERI) in 2004 for a geothermal project nearby Munich. Since then, 6 projects in Germany and adjacent countries have been insured.

The policy structure has been adjusted recently to the coverage of multiple well projects in high enthalpy regions. A pilot project as blueprint of the new structure will start drilling operations soon in the African Rift Valley, Kenya.

# STATUS

IFC has been working with Munich Re on Exploration Risk Insurance (ERI) in Turkey since 2013

One project in Turkey is at an advanced stage (indicative premium, policy structure is being drafted, expected to be signed before December), and there are more in the pipeline

Provides an additional tool for geothermal risk mitigation, utilizing private sector capacities

Munich Re is engaging in multiple projects, in Turkey, Mexico, Kenya (East Africa) and East Asia

# CHARACTERISTICS OF ERI

Insures an overall electrical or thermal output of a minimum of 5 (better 8) wells, with an insurance threshold in relation to the worst case scenario of the project

The calculation of the output is based either on a theoretical amount of steam at a minimum wellhead pressure or a formula using flow rate and temperature

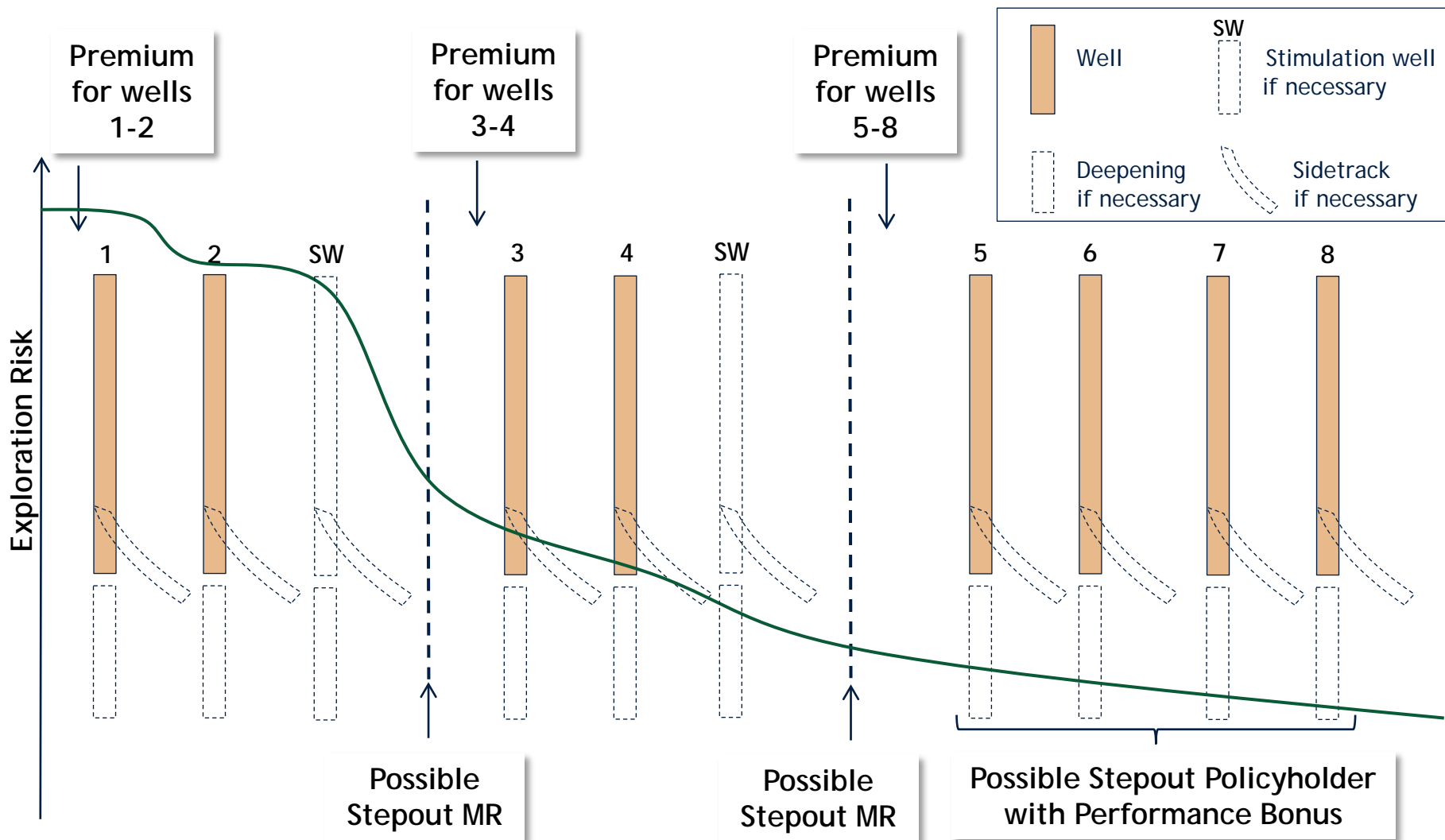
The developer needs to have followed international best practices during exploration, data directly from the reservoir and/or nearby wells is desirable

Possible insurer exit (or limited premium increase) in certain steps (e.g. after first two wells, after well 3 and 4 etc.), possible step-out for the insured with a performance bonus after certain steps

Well remediation / stimulation plays a major role in the policy structure. Some well remediation work (e.g. acid job) is included in drilling budget, but significant remediation (e.g. deepening, side track, additional well) is cost-shared between insurer and developer

Insurance premiums are paid in 3 steps, amount depends on the risk involved

# PROPOSED INSURANCE STRUCTURE



# VALUE OF ERI

Makes it easier and cheaper to finance geothermal projects, lowering project cost and increasing attractiveness of the sector

- Reduces financial risk of investor, lowering IRR's required by equity investors and allowing debt finance to come in at an earlier stage
- Gives easier access to investors already in the exploration phase
- Planning reliability for investors
- Covers the highest risk of a geothermal project

Independent, third-party project review provides 'stamp of approval' to developer, making it easier to attract new finance

# CHALLENGES

Identifying highest quality developers and projects

Identifying and quantifying the exploration risk, adjusting policy structure to make projects “insurable”

Limited capacity and number of insurers active in the market

Duration of transaction

Selling a complex financial product with limited or no track record

Product is new, so current investors have accepted exploration risks in their business plans and do not value unknown financial product as highly as they should

# FUTURE

Risk reduction enables debt financing of drilling, lowering financing / project costs

Initial focus on markets with high geothermal growth: Turkey, Mexico and East Africa

Build strong pipeline, initially aiming at 3-4 deals per year

As track record grows, insurer and developer engagement will increase

Becomes important part of geothermal investor planning

Can be used to support investment pools (public or private), covering multiple projects

Using limited donor / public funds to lower insurance premiums is an effective way to stimulate private investment