CROWDTHERMAL

CROWDTHERMAL DELIVERABLE 3.3

ALTERNATIVE FINANCE RISKS' MITIGATION TOOLS

Summary:

This Deliverable presents a summary inventory of the key advantages, potential risks and possible risk mitigation measures for the alternative finance methods crowdfunding (general), crowdfunding (loans), crowdfunding (shares/equity), crowdfunding (reward-based), direct lending and leasing.

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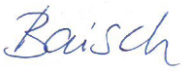
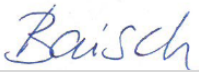
Deliverable responsible	Christina Baisch	Project Manager	31.08.2020	
WP leader	Christina Baisch	Project Manager	31.08.2020	
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GLOSSARY

Name	Definition
Bond	A bond is a special form of loan. The main difference to a loan is that a bond is usually tradable. The ownership of this instrument can be transferred in a secondary market (i.e. can be bought, for example from the state and sold to others for a price determined in the secondary market).
Community funding	Community funding is a financing method where funding is raised from the public, meaning that the funding is delivered by the community. Community funding is the umbrella for alternative finance methods for community projects.
Community Investors	Private individuals (or sometimes also small businesses) who, in the context of sustainable and responsible investing, participate in the financing of a geothermal project, with small contributions to crowdfunding or direct lending campaigns, usually in the order of magnitude of a few hundred or a few thousand Euros.
Convertible loan	A loan that can be converted into equity if needed. This means that the amount of the loan does not have to be repaid, and the rate of return is linked to the profit made in the project and not to a fixed rate of return per year.
Crowdfunding	Crowdfunding is the most commonly used form of community funding where funds are raised directly from the community without going through a bank in return for a set interest rate (loan), dividends (equity), or rewards (reward-based). Depending on the contract set up, crowdfunding can either be risk-sharing or risk-absorbing.
Debt / Loan	Debt is capital that is given in the form of a loan for which an interest rate has to be paid. The main amount has to be repaid after a certain time. Community funding method examples of debt financing are crowdfunding (loan), direct lending and leasing.
Direct lending	Direct lending is lending by a financial intermediary without a banking license that attracts funding and uses this funding to give out loans to other parties.
Donation	A donation is giving gifts (e.g. money) to a charity, public institution, or project without returns.
Equity	Equity, as opposed to debt, refers to the amount of capital contributed by the owners of a company, usually in the form of shares. By buying shares of a company, the shareholder becomes part-owner of the company and shares in its profits and losses. A community funding method example of equity financing is crowdfunding (equity).
Guarantee	A third party (e.g. the government) can give a guarantee, which means they guarantee that they will repay e.g. a loan if the original borrower cannot repay it. This provides more security to the lender that the loan will be repaid.
IPP	Independent Power Producer
PPA	A Power Purchase Agreement is an often long-term power supply contract between two parties, usually between a power producer and a consumer (electricity consumer or trader). The PPA sets out all the terms and conditions, such as the amount of electricity to be supplied, the prices negotiated, the accounting procedures and the penalties for non-compliance with the contract.

Project Developer	The public or private entity (or even individual) developing a geothermal project. This can for example be a municipal utility or a specialised geothermal development company. In many cases, the project developer is also the main investor of the geothermal project. The project developer may also have external main investors, e.g. institutional investors such as pension funds or banks.
Reserves	Reserves are retained profits kept to cover expected costs, or as a safety measure for costs that may occur.
Risk-absorbing capital	Capital that shares the risks or even takes over all the risks in case the project goes wrong. Examples are government or NGO subsidies, guarantees or grants; or a government that pre-finances the costs of a certain phase, which is paid back later if the project can be continued successfully.
Risk-sharing capital	Capital that shares equally in the risk of the project developer. This can be for example equity or a convertible loan.
SPV	Special Purpose Vehicle
UDDGP	United Downs Deep Geothermal Power project, Cornwall, UK

EXECUTIVE SUMMARY

Despite its huge potential to supply sustainable, decentralised and low-carbon baseload energy for electricity, heating and cooling, deep geothermal still plays a marginal role in the European energy mix. The high resource risk that is typically present in the early stages of geothermal project development makes it difficult to mobilise the required capital for funding early exploration surveys and first drillings through traditional bank finance.

Alternative finance methods can be vital elements of the funding plan for these high-risk and cost-intensive project phases. However, the new approaches to finance for geothermal developments also bring about new types of risks. They necessitate the expansion of risk mitigation concepts beyond what has been traditionally considered within the geothermal sector.

The objective of CROWDHTERMAL's Task 3.2 "Alternative finance risk mitigation" is therefore a better understanding of alternative finance risks and the associated mitigation options for geothermal projects.

Opportunities, risks and risk mitigation options of a respective financing method belong together in many ways and need to be understood in the same context. We thus decided to summarize the activities and findings of CROWDTHERMAL's Task 3.2 with regard to all these issues already in the preceding Deliverable 3.2 "Alternative finance risk inventory". This Deliverable 3.3 "Alternative finance risks' mitigation tools" subsequently is a condensed, tabular synopsis of the results presented in Deliverable 3.2. For a more detailed understanding of any of the aspects within this summary compilation, readers should refer to the more comprehensive Deliverable 3.2.

In this Deliverable 3.3, we present the key advantages, potential risks and possible risk mitigation measures for the alternative finance methods crowdfunding (general), crowdfunding (loans), crowdfunding (shares/equity), crowdfunding (reward-based), direct lending and leasing. Like in Deliverable 3.2, we distinguish between project developers' and community investors' perspectives.

The overview of advantages, risks and mitigation tools presented below allows project developers and community investors alike to systematically improve their risk management and decision-making processes. Before choosing a specific form of alternative finance fundraising or investment, it is recommended to evaluate all possible options along with the associated opportunities and risks in the individual context of a given geothermal project.

In the further course of the CROWDTHERMAL project, the summary inventory of alternative finance risk mitigation tools presented here will be taken into consideration for the development of the framework for an exploration risk mitigation component that could facilitate community funding within Task 3.3. It can also be incorporated into the geothermal risk guide to be developed in future WP3 and WP4 Tasks. Finally, it can serve as input for the Decision Tree Algorithm and the CROWDTHERMAL Core Services to be developed in WP4.

ALTERNATIVE FINANCE RISKS & MITIGATION TOOLS INVENTORY

CROWDFUNDING (GENERAL)

	Project Developers' Perspective	Community Investors' Perspective
Advantages	• Crowdfunding is a possible way of funding the high-risk phase of a geothermal project when it is challenging to get access to conventional funds. • Crowdfunding is in principle possible up to the legal maximum crowdfunding threshold limit. • Financial participation of community investors via crowdfunding can enhance the social acceptance.	• By contributing to the crowdfunding of geothermal projects, community investors can promote local renewable energy sources. • They also have a chance of high financial returns when investing in a high-risk project like the early phases of deep geothermal developments as opposed to less risky projects.
Risks	• Crowdfunding is relatively costly. As the resource-related risk of not finding a hot aquifer is high, the investors usually expect high return rates. • The project developer still owns the exploration risk unless a geothermal risk mitigation insurance or fund is in place. • European secondary legislations limit how much capital can be attracted by crowdfunding in one project by a maximum size limit. New EU regulation will limit crowdfunding to 5 Mio. €. • The possible maximum size of crowdfunding also depends on the investment analysis of the crowdfunding platform. Once the crowdfunding limit is set, it cannot be increased anymore. This is a restriction for project developers. • Another large concern for project developers is the risk of not reaching a desired crowdfunding target. This involves the risk of insufficient interest of the public to invest in a geothermal project due to a lack of knowledge, inexperience with crowdfunding or unfamiliarity with geothermal in general. It can also be due to a possible bad image of geothermal investments.	• Poor returns or losses are the biggest risks from a community investor's perspective. • The small investors face the possibilities of a lower than expected yield in case of a deviation in the original project plan or even full loss of their investment in case of project failure / dry wells. • Even though mostly covered by regulations, potential illicit activities of the platforms need to be considered. • The theft of assets (financial fraud) can also cause a direct loss to crowdfunding investors. • As crowdfunding is a relatively new form of alternative financing, there are risks relating to market inexperience and untested professional liability of crowdfunding platforms. • A possible insolvency of the crowdfunding platform could affect the continuous servicing of e.g. interest payments.

	• The legal obligations when using crowdfunding in the order of magnitude of several million Euros are substantial. Securities for investors need to be provided and individual investor's rights have to be understood and taken care of. Even when using a professional crowdfunding platform, it takes time and thus money to understand the legal framework and legal risks for a project developer. • Managing a group of hundreds or even more individual crowdfunding investors can also be a challenge. • Crowdfunding via a platform requires paying a platform fee. Do it yourself crowdfunding also involves a legal fee. • Another risk is the insufficient security of data and intellectual property of a project or applied technology. • The insolvency risk of a crowdfunding platform with regard to e.g. the protection of client's assets also needs to be considered.	
Mitigation Measures	• Know the governing laws regarding business model, financing and energy regulations before deciding on the on the most appropriate form of business model, alternative financing method and overall financial mix. • Use a professional and trusted crowdfunding platform ideally experienced in supporting geothermal projects (e.g. Abundance, Lumo, OnePlanetCrowd) or other renewable energy platforms. • Try to avoid complexity. The financing model should be as simple as possible. • Be aware that involving people and making them enthusiastic about a project requires time and energy. • Start early with professional marketing and public relation activities. • Communication and information should be publicly available to ensure sufficient participation.	• Invest only in what you understand in order to better estimate risks, challenges and opportunities of an investment. Seek publicly available communication and information material to allow informed decision-making. • Be aware of the high resource-related risks in the early project phases of deep geothermal developments. • Understand risk/return ratios with regard to the fact that riskier investments will pay higher returns, but also have a larger chance of e.g. bankruptcy of a company or failure of a project. To a certain degree, community investors have to accept these high risks in exchange for a chance of high returns. An investment in low-risk phases like the construction phase, for example, would yield only low

	• Clearly and openly communicate the goals, potential benefits, risks and the schedule of the project. • Do not promise unattainably high revenues, but rather focus on impact investors. • Start with a small core group for "inside out" community building. • Engage the community through events, workshops and other social engagement formats. • Consider allowing contributions at a low level e.g. at only a few Euro and use new IT technologies e.g. PayPal or per text message (SMS). • A good example for the engagement of the local community is to restrict the (early) participation in community funding to inhabitants of the community or region and to apply different conditions depending on the proximity to the project. • Utilizing the heat from a geothermal project commonly enhances the local engagement of the public, because the community can directly see and feel the merits of the geothermal energy as opposed to power that is fed into a central grid. • Keep local governments involved from the beginning and throughout all project phases. • Discuss municipal green 'speed' passes for administrative procedures or tax-saving in municipal taxes. • A high degree of trust/confidence in the integrity of the project developer and its key personnel / board members is essential. Involve locally well-known individuals, experts of the renewable energy community and/or reputable institutions for trust building and credibility increase. • In order to prevent illegal activities, crowdfunding projects should install additional technical measures like a good supervisory board with geothermal experts, or a paid expert advisory board.	returns. • A basic level of understanding of best practices in geothermal project development / PPA negotiations is an advantage. • Check the country risk prior to investment (e.g. The World Bank 2020). Even within Europe, there is a large variety ranking from Denmark (4) to Greece (79). • Be aware that the revenue stream of a deep geothermal project does not start before the end of the project implementation timeline which can last many years. • Invest with spare money not needed on short term. • Invest small amounts over a long period in order to spread the risk across positive and negative economic cycles. • Diversify the investment portfolio into different risk levels and types of assets. • Spread the investment to reduce the chances of losing all investment in case of default of one project or company. • Make sure to use a professional platform with a good reputation and high quality standards with regard to their license, affiliation to professional associations, code of conduct, track-record, average default rate, due diligence practise on projects and continuation plan for servicing repayments in case of platform failure. Check the credibility of the crowdfunding platform carefully. • Ask for investor protection products i.e. a minimum level of insurance. • Ask for possible governmental guarantees. • Request a good supervisory board with geothermal experts.

	• Try to apply match funding with a trustworthy platform or public institution to increase both credibility and the amount of funding. • Check for best practise de-risking measures (e.g. https://www.georisk-project.eu/georisk-tool/ and https://www.geoenvi.eu/publications/report-on-mitigation-measures/) as well as potential geothermal risk mitigation schemes (e.g. https://www.georisk-project.eu/publications/review-of-existing-derisking-schemes-for-geothermal-energy/) helping to offset the resource-related risk. • Check for opportunities of governmental guarantees or insurance products within crowdfunding platforms. • An upfront alternative financing concept needs to be in place in case the crowdfunding cannot provide sufficient capital. It should be planned hand in hand with traditional financing in order to achieve a robust overall financing plan. • Include a financial go/no go decision point at the point in time when it is clear whether the desired crowdfunding threshold value can be reached or not. • Careful contingency planning should be applied in the overall financing plan, especially with regard to the drilling costs. • A possible way to scale up the total amount of crowdfunding for a project developer can be “serial-crowdfunding”. • One measure to mitigate the risk of not reaching a crowdfunding target is private fund co-investing. In this case, platforms have their own fund that will co-invest in crowdfunding deals. • In order to avoid the extensive equity or debt regulations present in most countries and to avoid any possible crowdfunding size limits, project developers can also try to work with	

	donations. • Understanding and developing a project in a holistic way, taking into consideration technical, financial and social dimensions and their interdependency generally reduces the risk of interface problems and increases the chances for a social license to operate.	

CROWDFUNDING (LOANS)

	Project Developers' Perspective	Community Investors' Perspective
Advantages	• As opposed to crowdfunding equity, crowdfunding loans do not require relinquishing part of the ownership of the project to investors. • The interest paid on crowdfunding loans is fixed. As such, there is no upward risk in the cost of capital for the project developer. • Project developers have the ability to decide when the loan is funded. The point in time when funds are made available to the project as well as the point in time when the funds need to be repaid are clear and can be planned. The timing of the cash flow is easier to control as for example with crowdfunding equity.	• For community investors, there is a lower financial risk compared to crowdfunding equity. The investor should get an interest through debt repayment, independent of the economic success of a project.
Risks	• Crowdfunding loans are less flexible than crowdfunding equity. • Crowdfunding loans are challenging in the early project phases, when it is difficult to predict the project time component. Despite a possible delay in the project, the fixed interest rate must be paid in time. • Another risk is the unclear result of the geothermal project. A well may be dry or less productive than planned and revenue might not be enough to pay the fixed interest rate of the loan. • The loan has to be refinanced after the duration has expired. • Community investors are less committed to a project as opposed to equity or reward-based methods. • Reaching local people and thus increasing local acceptance might require additional social engagement tools.	• If a project/company fails to repay its investment, normally, there is no guarantee fund for losses. This is the risk for investment. For the community investors this can mean that the loan may fold and cannot be repaid. • With crowdfunding loans, the return is limited to the interest rate agreed in the loan agreement. If a project is above expectations, the return is thus still limited to the interest rates set out in the loan agreement, as opposed to shares that take the increased profits into account. • Crowdfunding loan investors have no say in the project strategy. • Most platforms ask for a fee for managing the loan for the community investors.
Mitigation Measures	• Equity or reward-based crowdfunding are typically more suited for the early geothermal project development phases. • Investigate if the government will guarantee the loan to reduce the	• Look for a governmental guarantee scheme. Some national governments and the European Commission via the European Investment Bank or the European Investment Fund provide guarantee

	risks for the community. • Raising funds through a convertible loan that can be converted into equity, if needed, could be another strategy to mitigate the risk.	funds that cover some of the losses in case of default (Kleverlaan 2020). • Ask for possible securities, e.g. collaterals provided by project developers, so alternative financing platforms have some value left if a company has to fold or cannot repay the loan. • Choose the crowdfunding platform carefully and compare the individual terms and conditions. • Some crowdfunding platforms offer private financial instruments to mitigate the financial risk for their community investors: they can for example keep a financial buffer of a few months of payments in a separate trust fund. This way the investors will also get a repayment when the company/project developer is missing one or two repayments on their loan. • Some platforms use an own platform risk fund to mitigate the risks. In this case a small percentage from every crowdfunding deal is saved in a fund. This platform guarantee fund will pay investors when a company/project developer gets into default.

CROWDFUNDING (SHARES/EQUITY)

	Project Developers' Perspective	Community Investors' Perspective
Advantages	• Crowdfunding equity is a very promising concept to obtain a social license to operate from the community. • Crowdfunding (equity) is usually generated in a committed investor group, which supports the project development financially, but also ideologically (e.g. renewable energy projects). • The risk of the investment is shared with the community investors. • The return on equity is not payable until a profit is realized. For a geothermal project this means that the return only needs to be paid back after the very expensive wells are drilled, the power plant is constructed and the energy is sold on the market (positive cash flow). • A large and possibly local commitment of the community investors also forms an opportunity for the project developer to attract additional larger, non-community investors. Local banks or pension funds, for example, might be more motivated to invest in a project and more prepared to take on risks if the community investors form a risk base (and e.g. in the case of energy companies also a client base) for the project.	• Shareholding involves a sense of ownership and control. For the community investors, the crowdfunding equity/shares financing method provides a clear and bigger role to participate in the project. It allows to be involved in the decision-making process and to take more responsibility. • Once the project is successfully operating, a share in profits is realized.
Risks	• Shares/equity require relinquishing a part of the ownership. • The return is not limited to an interest rate, but grows with the profit of the project. • Before drilling, it is difficult to judge what the project and thus the shares/equity are worth and to find a balance between the amount of crowd investors' interest and the equity level. • A large duty of care is needed, because equity investors often want to be integrated into the	• Crowdfunding equity investors basically face the same risks as project developers (e.g. exploration risk, offtake risk, currency risks, dependence on feed-in tariffs, tax changes, etc.) • In most cases, shares of an equity crowdfunding campaign are difficult to trade due to the lack of a secondary market (inability to exit the investment). Community investors have to wait for a formal exit to retrieve investment and profit.

	decision making process. • The involvement of many different small investors implies a governance risk. General assembly rules need to be followed. • The amount of reporting requested for equity models is high. • Having to give a say to equity investors can be staff- and time-consuming. Co-ownership of a few hundred individuals as opposed to a small number of large investors bears the risk of tedious decision making processes. • In crowdfunding equity, a project developer's commitment towards the shareholders needs to last from the beginning of the funding until the end of the project (inability to exit investments). Equity can only be bought back if the investors are willing to give it back. • The uncertain outcome of a geothermal project can lead to a conflict of interest between the project developer, the crowdfunding platform and the community investors. • If the results of the project are below expectations, it might be difficult to find investors for possible future projects. • Illicit activities of the platforms like financial fraud need to be considered. • Legal requirements for crowdfunding equity are more complicated than for crowdfunding loans.	• If the project fails (e.g. due to a dry well), there is a risk that no reward will be realized. • The return from a geothermal project can only be expected after a minimum of 5-7 years. • The dilution of investment is another aspect that needs to be considered. The project developer might seek multiple crowdfunding rounds (serial crowdfunding), which impacts the proportion of shares in total and poses a return risk to the community investor. • There have been negative examples of financial fraud associated with crowdfunding equity in the past. • In the case of a co-operative model, low credibility vis-à-vis banks, regulatory bodies, or partners can be a hurdle.
Mitigation Measures	• The presence and conditions of insurance that protect from financial losses should be investigated. • Project developers should think in advance about the financial structure and shareholder involvement (i.e. to which degree and in which format shareholders are involved in the decision making).	• Good information policy and transparency of financial aspects need to be sought so that the community is well informed about the risks and possible rewards. • It is recommended to choose the crowdfunding platform carefully before investing. • Look for a governmental or institutional guarantee, a trust fund, risk mitigation scheme or

	• A nominee structure instead of a direct shareholding structure can add benefit to project developers in that they only deal with one shareholder. • A low to moderate crowdfunding proportion (e.g. maximum of 10-15%) of the overall project financing plan can reduce the governance risk. • Tools that can increase the confidence and credibility of a crowdfunded geothermal project towards all stakeholders are considered an important mitigation measure in crowdfunding equity. Possible examples are official sustainability certifications/ concepts/labels, institutional match funding, patronage of well-known persons from the renewable energy community, and the involvement of geothermal experts. • To increase local support, a sense of local project ownership could e.g. be achieved by offering local community shareholding/equity for free or for a low price to inhabitants of a certain radius around the project site.	insurance product. This can be especially important during the high-risk phases of a geothermal project. • An example of an insurance product earmarked for equity crowdfunding platforms is the global insurance organization AIG's Crowdfunding Fidelity coverage. This policy covers the potential theft of assets that can cause business failure and financial loss to investors. • Shareholder rights in the form of potential voting rights can be a risk mitigation measure because of a certain degree of participation in the decision making progress and the involvement in important processes. • In the case of a co-operative model, tools that can increase the confidence and credibility of a crowdfunded geothermal project can be applied like specified for the project developers' perspective.

CROWDFUNDING (REWARD-BASED)

	Project Developers' Perspective	Community Investors' Perspective
Advantages	• Reward-based crowdfunding is a promising approach to enhance local project ownership and to obtain a social license to operate. • The reward only has to be given when the project is realized. Repayment of the funding is therefore not always necessary. • If the project takes longer than expected, there is no liquidity problem. • No monetary return has to be paid. • The community investors are the customers at the same time, e.g. heat or electricity consumers. The commitment of the crowd is therefore proven, and investors will be mostly local.	• The advantage for the community investors is that they are involved in the project and can support a local environmentally friendly technology with their investment. • Additionally, they have a reward based on the successful implementation of the project, i.e. a geothermal heat plant that delivers decentralized energy for domestic heating, making the community investors to a certain degree independent from large trans-regional energy companies.
Risks	• Reward-based crowdfunding has not been applied in the geothermal industry yet. • There is a risk that investors are not satisfied with the realized reward. • There is also a reputation risk concerning the treatment of the crowdfunding investors. • A potential second round of funding may not be filled if the reward offered is not as expected, e.g. the geothermal wells deliver less water and temperature than anticipated. • If a geothermal project does not deliver as much energy as originally planned, the project developer might have to buy the energy elsewhere to provide the promised rewards to the community. • It is difficult to raise high amounts of funding through this usually very local method.	• For the community investors, there is a risk that the reward is less than expected. In case the project fails, it can even be worthless or non-existent. • In the case of project failure, the investment will not be repaid.
Mitigation Measures	• It is recommended to research upfront what the potential reward-based crowdfunding investors are interested in most. • Communication is a key element for this form of usually very local crowdfunding.	• It is recommended to only invest money that can be missed and is not needed for own expenses or on the short term.

DIRECT LENDING

	Project Developers' Perspective	Community Investors' Perspective
Advantages	• It may be easier to attract funding through direct lending than through a bank. • The use of a financial intermediary can help in the process of direct lending, as they have an existing network which makes it easier to reach potential investors than for a project developer. • As opposed to crowdfunding, direct lending through a financial intermediary does not involve the risk of incomplete funding. • If using a financial intermediary, the risk of repayment to the community lies with the financial intermediary, not with the project developer directly. • The project developer only has to deal with one investor (the financial intermediary). • Green bonds as one possible instrument used in direct lending can be effective in pre-financing the early project development phases to help a project get off the ground. The "green" quality label can help convince "green investors" to participate. In some countries, there might also be tax incentives associated with green bonds.	• In direct lending, community investors can to a certain degree choose in which projects they want to invest. For example if the project (entrepreneur) raises funds directly, they can invest into this project. If a financial intermediary arranges the direct lending, they can choose an intermediary with a risk and return profile that matches their preferences. • Through direct lending, investors can participate in projects that would normally not be available to them as investment opportunities. • If funds are raised through a financial intermediary, the intermediary can combine projects. Thus investment risk can be diversified between different projects, which reduces the risk for the community investors. • When using (social or green) bonds, an additional advantage is that they are transferrable, which provides more liquidity and less risk for investors.
Risks	• A risk when using direct lending is that the result of the project (i.e. flow rate and temperature) may not be enough to pay the fixed interest rate of the loan. • Due to unexpected delays of the project (e.g. drilling risks or citizen initiatives), the projects can be delayed while the fixed interest rate must be paid in time. • The loan has to be refinanced after the duration has expired, which also limits the flexibility during project development. • If going through a financial intermediary this intermediary may	• If a loan attracted directly in the market folds, there is no guarantee that investors will be repaid. The investment might be lost. • By investing in a loan or bond, there is no form of participation in the strategy or risk choice of the company/project. • The rewards are limited to the (fixed) return agreed in advance, as no shares in its profits are involved if the project is successful. • Direct lending investors might not be able to invest in a specific project of own choosing, e.g. a local renewable energy project.

	ask for a high level of collateral, especially in risky phases (e.g. the drilling of the geothermal wells). However, this collateral may not be available. • Green bonds as one instrument used in direct lending might not be applicable for single geothermal projects, so they may require the pooling of projects in a portfolio approach.	• If going through a financial intermediary, part of the revenue will go to the financial intermediary in the form of cost or profit.
Mitigation Measures	• One mitigation measure could be to raise funds through a convertible loan that can be converted into equity. This increases the potential of an upward return for investors and thus makes the loan more attractive for investors. It also increases the flexibility of repayments for the project developer which can be useful if the project results are delayed. • Another mitigation measure is a (governmental) guarantee, so the loan can be repaid to the financial intermediary even if the project does not generate enough income (in time) for repayment, e.g. like shown in EIF 2019. • Collaterals can be used to guarantee investors that a means to generate repayments is still available. • Project developers can pool own projects or projects from several developers/investors in order to create risk profiles in line with the objectives of financial intermediaries. Bundling projects can reduce transaction costs and streamline investments.	• A (governmental) guarantee would be a possible mitigation measure, so the loan can be repaid if the project does not generate enough income for repayment. • If the direct lending was attracted through the balance sheet of a financial intermediary, the intermediary can be responsible for the repayment. Non-bank financial intermediaries however do not fall under the nationwide guarantee of 100.000 € per bank account.

LEASING

	Project Developers' Perspective	Community Investors' Perspective
Advantages	• The largest advantage for project developers acting as a Lessee in the late project development phases is the absence of the resource-related risk. The risky early development phases are carried out by e.g. the government. • As there is almost no exploration risk for the Lessee in this case, a project developer applying leasing can raise money for the follow-up phases through traditional bank finance like for any other energy project. • The late development phases of a geothermal project are clearer and less risky, so it is easier to match the maturity of the financial instrument to the costs of the specific project and phase. • For a geothermal project developer, it can be easier to raise capital via leasing compared to e.g. direct lending, as collateral is arranged in the leasing contract itself. If the lease financing goes wrong, the ownership of the plant or well transfers to the party who has supplied the finance. This is a form of guarantee.	• n.a.
Risks	• The Lessor may have conditions concerning turnover etc. making it impossible to get access to this form of financing. • The Lessor can reclaim ownership if payments are not made in time. • A lot of specific knowledge is required to monitor the project and repayments as they are tied to the leased object or project. • In the late project development phases, traditional bank loans might be possible at lower costs.	• n.a.
Mitigation Measures	• Leasing can be understood as a financial mitigation measure in itself. It reduces the risk for the investor, because the asset is used as collateral and can be reclaimed when a business is not paying.	• n.a.

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