

# EUROPEAN GEOTHERMAL CONGRESS 2022



## Proceedings

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## German DACH event - National research projects

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1207	"Richter, Benjamin; Schmidt, Franziska; Thom, Manuel; Batschkus, Daniel"	<a href="#">Opportunities for deep geothermal energy due to changed legal framework conditions in Germany</a>

#### 2.4. Legal aspects and regulations

125	"Goetzl, Gregor (1); Steiner, Cornelia (1); Boon, David (2); Herms i Canellas, Ignasi (3); Borović, Staša (4); Holecek, Jan (5); Williams, Harri (6); Hunter Williams, Nata- lya (7); Petitclerc, Estelle (8); Janža, Mitja (9); García-Gil, Alejandro (10); Erlström, Mikael (11); Vandeweyer, Vincent (12); Kłonowski, Maciej (13); Černák, Radovan (14); Ditlefsen, Claus (15); Malyuk, Boris (16); Bishop, Harrison (7)"	<a href="#">The importance of managing shallow geothermal energy in ur- ban areas - results from the GeoERA project MUSE</a>
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#### 2.5. Socio-economic aspects of geothermal energy

124	Kurek, Katarzyna A.	Geothermal resources and local development in Poland
145	"Ioannou, Anastasia (1); Falcone, Gioia (1); Fernandez, Isabel (2)"	<a href="#">A decision support tool for promoters of geothermal energy projects</a>

#### 2.6. Financing, corporate structures, "bankability", etc.

113	"SCHMIDLE BLOCH, Virginie (1); BOMMENSATT, Norbert (2); BOISSAVY, Christian (3)"	<a href="#">Historical and new geological guarantee schemes : Essentials tools to support ambitious heat production targets by deep geothermal energy in France</a>
114	"Huck, Pierre; Gottwald, Alexander; Nikiforova, Nevena"	<a href="#">Technical due diligence and lenders' advisory for the geother- mal power plant in Garching an der Alz, Germany</a>

307	"Garabetian, Thomas (1); Bonciani, Dario (2); Torsello, Loredana (2); Allen, Jessica (3); Kiraly, Odon (4); Fedor, Ferenc (4); Schmidlé, Virginie (5); Noevig, Thor (6); De Gregorio, Margarita (7); Perez, Paloma (7); Senturk, Ufuk (8); Robins, Emmanuelle (9); Constance, Madeleine (1); Dumas, Philippe (1)"	<a href="#">The global geothermal market: a stronger focus on heating and cooling, towards greater interconnections of national and regional markets?</a>
308	"Garabetian, Thomas; Dumas, Philippe; Kumar, Sanjeev; Martini, Emil"	<a href="#">SUSTAINABLE FINANCE IS GEOTHERMAL FINANCE? UNDERSTANDING THE MEANING OF THE TAXONOMY AND OPPORTUNITIES FOR THE GEOTHERMAL SECTOR</a>
419	"Karytsas, Spyridon; Mendrinou, Dimitrios; Choropanitis, Ioannis; Oikonomou, Theoni; Karytsas, Constantine"	<a href="#">The GEORISK European project: Working towards the establishment of a risk mitigation scheme for geothermal projects in Greece</a>
1114	"Huck, Pierre; Gottwald, Alexander; Nikiforova, Nevena"	<a href="#">Technical due diligence and lenders' advisory for the geothermal power plant in Garching an der Alz, Germany</a>
<b>2.7. Public acceptance and engagement issues, public relations</b>		
102	"Mendrinou, Dimitrios (1); Polyzou, Olympia (1); Karytsas, Spyros (1); Nordø, Åsta Dyrnes (2); Midttømme, Kirsti (2); Sprenkeling, Marit (3); Peuchen, Ruben (3); Geerdink, Tara (3); Puts, Hanneke (3); Otto, Danny (4)"	<a href="#">Understanding societal requirements of subsurface resources exploitation projects: Societal Embeddedness Level assessment methodology, its application in 4 CCS National case studies and implications for the geothermal industry</a>
122	"Kępińska, Beata (1); Kasztelewicz, Aleksandra (1); Miecznik, Maciej (1); Petursson, Baldur (2); Gunnarsson, Jon (2)"	<a href="#">Buiding the awareness and public acceptance of geothermal uses among key stakeholders in Poland (the EEA FM Project, 2020–2024)</a>
236	"Barich, Amel (1); Stokosa, Alicja (1); Hildebrand, Jan (2); Casillas, Ana (3); Eliasson, Ótto (4); Medgyes, Tamas (5); Quinonez, Gauthier (6); Fernandez, Isabel (7)"	<a href="#">Social License to Operate in Geothermal Energy</a>

262	"Bonciani, Dario (1); Guðjónsdóttir, Sýlvía Rákel (2); Douziech, Mélanie (3); Pérez-López, Paula (3); Torsello, Loredana (1)"	<a href="#">Strategies and outcomes of the engagement with market actors to generate and adopt life-cycle based environmental assessment tools of deep geothermal projects.</a>
334	"Dumas, Philippe; Kumar, Sanjeev; Garabetian, Thomas"	<a href="#">The use of sustainable LCA approach to develop geothermal</a>
420	"Duijn, Michael (1); Puts, Hanneke (2); Sambell, Karlien (2); Van Popering-Verkerk, Jitske (1); Winters, Eva (2)"	<a href="#">Exploring a Value-based Participatory Monitoring approach for improving the societal embeddedness of geothermal initiatives</a>
457	"Chavot, Philippe; Masseran, Anne; Seranno, Yeny; Zoungrana, Jean"	<a href="#">How to govern deep geothermal projects? Political, environmental and scientific issues involved in the debates related to the Strasbourg earthquakes (2019-2021).</a>
1102	"Mendrinós, Dimitrios (1); Polyzou, Olympia (1); Karytsas, Spyros (1); Nordø, Åsta Dyrnes (2); Midttømme, Kirsti (2); Sprenkeling, Marit (3); Peuchen, Ruben (3); Geerdink, Tara (3); Puts, Hanneke (3); Otto, Danny (4)"	<a href="#">Understanding societal requirements of subsurface resources exploitation projects: Societal Embeddedness Level assessment methodology, its application in 4 CCS National case studies and implications for the geothermal industry</a>
1262	"Bonciani, Dario (1); Guðjónsdóttir, Sýlvía Rákel (2); Douziech, Mélanie (3); Pérez-López, Paula (3); Torsello, Loredana (1)"	<a href="#">Strategies and outcomes of the engagement with market actors to generate and adopt life-cycle based environmental assessment tools of deep geothermal projects.</a>
<b>2.8. Other</b>		
266	"Dumas, Philippe (1); Urchueguia, Javier (2); Batini, Fausto (3)"	<a href="#">The state of research, innovation, and competitiveness of the European geothermal energy sector</a>
458	"Krieger, Margaret (1); Kurek, Dr. Kasia (2)"	A systematic analysis of geothermal data collection in Europe

# Technology Innovation

3.1. Geothermal power in Europe – projects, ideas, experiences		
111	"JEANNOU, Antoine (1); TREMEAC, Brice (2); DIABY, Ahmadou-Tidi-ane (2)"	<a href="#">The Geothermal Energy Buffer (GEB) a promising energy storage solution - a study of GEB's operation</a>
134	"Jupe, Andrew (1); Law, Ryan (2); Farndale, Hazel (2)"	<a href="#">Implementation of an Induced Seismicity Protocol for the United Downs Deep Geothermal Power Project, United Kingdom</a>
135	"Law, Ryan; Farndale, Hazel"	<a href="#">An Update on the United Downs Geothermal Power Project, Cornwall, UK</a>
136	"Ravier, Guillaume (1); Seibel, Olivier (2); Ingi Ólafsson, Dagur (3); Davíðsdóttir, Svava (3); FRIES, David (1)"	<a href="#">Investigations on brine transport pipes for upscaling geothermal plants in the Upper Rhine Graben</a>
148	"Tonkul, Serhat (1); Baba, Alper (1); Demir, Mustafa Muammer (1); Regenspurg, Simona (2); Kieling, Katrin (2)"	<a href="#">3D Modelling and Characterization of Stibnite Scale Formation in Germencik Geothermal Site, Büyük Menderes Graben, Western Turkey</a>
149	"Tonkul, Serhat (1); Baba, Alper (1); Demir, Mustafa Muammer (1); Regenspurg, Simona (2); Kieling, Katrin (2)"	<a href="#">3D Modelling and Characterization of Scale Types in Hyper Saline Geothermal System in Tuzla Geothermal Power Plant, NW Turkey</a>
153	"Zimmermann, Günter; Hofmann, Hannes; Zang, Arno; Huenges, Ernst"	<a href="#">Recent developments and future of Enhanced Geothermal Systems (EGS)</a>
176	"Helali, Chahinez; Betelu, Stephanie; Ignatiadis, Ioannis"	<a href="#">MECHANISMS AND KINETICS OF CARBON STEEL CORROSION/ SCALING AND INHIBITION IN ACTUAL OR RECONSTITUTED AND TREATED GEOTHERMAL WATERS</a>
178	"Esmailpour, Morteza; Gholami Korzani, Maziar; Kohl, Thomas"	<a href="#">Increasing the contribution of closed geothermal systems to green energy generation through designing a novel deep multi-lateral framework</a>
180	"Zeh, Robin (1); Stockinger, Volker (1,2)"	<a href="#">Monitoring of a large-scale geothermal collector system and a 5GDHC in Bad Nauheim</a>
183	"Geißler, Niklas (2); Garsche, Florian (1); Samus, Vitalii (1); Bracke, Rolf (1)"	<a href="#">Micro Turbine Drilling - MTD</a>
193	"Schmid, Matthias; Stockinger, Volker"	<a href="#">Monitoring and optimisation of a large-scale geothermal collector system under a residential and commercial building with integration of waste heat from a supermarket</a>

204	"Ravier, Guillaume (1); Rodriguez, Alvaro (2); Bougon, Pierre-Etienne (2); David, Fries (1)"	<a href="#">Casing solution to increase lifetime of geothermal wells in the Upper Rhine Graben and to optimize Total Cost of Ownership</a>
208	"aydin, hakki (1); Temizel, Cenk (2)"	<a href="#">Application of Machine Learning Techniques in Geothermal Industry: A Case Study of Power Generation from a Combined Geothermal Power Plant</a>
209	"Taddei Pardelli, Paolo (1); Tempesti, Claretta (1); Mannelli, Andrea (1); Sabard, Alex (2); Fanicchia, Francesco (2); Paul, Shiladitya (2); Holmes, Briony (2); Lee, Chi (2); Jopen, Antony (2); Şengun, Raziye (3); Sahiller, Hakan Alp (3); Halaçoğlu, Ural (3); Pekdüz, Ismail (3); Stefansson, Andri (4); Galeczka, Iwona (4); Ediger, Volkan (5); Kirkil, Gokhan (5); Přikryl, Jan (6); Kjellgren, Per (7)"	Design, construction and test of a retention tank for a scaling reduction system to increase geothermal plant efficiency
211	"Hallundbæk, Søren; Rosas Gutierrez, Fabio"	<a href="#">Improving geothermal well designs for optimal performance</a>
233	"Glauche, Anton; Seyidov, Ferid"	<a href="#">The GRE GEO Project – Development of corrosion-resistant casing systems</a>
238	"Passamonti, Arianna (1); Hahn, Florian (1); Strozyk, Frank (1); Bombarda, Paola (2); Bracke, Rolf (1)"	<a href="#">Development of a pilot site for high temperature heat pumps, with high temperature mine thermal energy storage as heat source</a>
251	"Mazzoni, Tiziana; Basile, Paolo; Favaro, Lorenzo; Giannecchini, Luca; Orlando, Stefano; Xodo, Luca"	<a href="#">A Methodology for the evaluation of geothermal resources and power production cost: case history Italy</a>
256	"Baujard, Clement; Maurer, Vincent; Dalmais, Eleonore; Ravier, Guillaume; Glaas, Carole; Genter, Albert"	<a href="#">Low induced seismicity in fractured geothermal reservoirs: experience and lessons learned from Rittershoffen and Soultz-sous-Forêts plants operation and Illkirch reservoir development</a>



259	"Dino, Giuseppe Edoardo (1); Palomba, Valeria (1); Frazzica, Andrea (1); Brebels, Adriaan (2); Blanes Restoy, Luis Miguel (3)"	<a href="#">Retrofitting through a dual source heat pump, a techno-economic analysis</a>
264	"Hamm, Virginie (1); Maurel, Camille (1); Bugarel, Frederik (1); Hervé, Jean-Yves (2)"	<a href="#">Good practice guidelines on deep geothermal drilling and exploitation from experience in the Paris Basin (Dogger and Albian aquifers)</a>
277	"Baur, Sabine (1); Seibt, Andrea (2); Kuhn, Dietmar (1)"	<a href="#">Laboratory flow-through experiments to determine the effect of inhibitors in the injection of fluids supersaturated with barium sulfate</a>
312	Ruff, Markus	<a href="#">Deep Geothermal Energy, Eco-Friendly with Zero Emissions – Operational Experiences from CO2 and Methane Injection and its Significance for CCS and the World</a>
324	"Puech, Jean-Claude (1); Strobbia, Claudio (1); Boelle, Jean-Luc (1); Cheou, Elie-Pascal (1); Chapart, Alexandre (1); Bos, Stijn (2); Gallego, Pierre (3)"	<a href="#">Frugal seismic for Geothermal Industry</a>
343	"Mroz, Heather; Vidal, Edgar; Shufran, Matt"	The Use of Explosion Clad Metals for Geothermal Applications
374	"Storkaas, Christoffer (1); Zvrskovec, Frantisek Alexander (3); Bernhoff, Hans (2)"	<a href="#">DEEP - Geothermal systems in a petrothermal environment</a>
376	"Blöcher, Guido (1); Heumann, Arnd (1); Virchow, Lioba (1); Regenspurg, Simona (1); Wiersberg, Thomas (1); Zimmer, Martin (1); Kallmeyer, Jens (1); Alibrandi, Armando (1); Staisch, Holger (2); Thielke, Christoph (3)"	<a href="#">Green-Campus Spandau - Developing a regenerative energy supply for residential areas using the former gas storage facility in Berlin</a>
388	"Broothaers, Matsen; Cox, Kevin; Harcouët-Menou, Virginie; Laenen, Ben; Lagrou, David; Pogacnik, Justin; Van Meensel, Steven"	<a href="#">Deep geothermal energy in the Lower Carboniferous carbonates in the Belgian Campine Basin: status and insights from second start-up phase of the Balmatt project in Mol</a>
401	"Homuth, Sebastian (1); Meirich, Marco (2); Andersen, Øystein (3)"	<a href="#">Upscaling and professionalizing geothermal developments via standardizing and value engineering</a>

450	"Saar, Martin O.; Breme, Maren"	<a href="#">Geothermal energy research in the GEG group at ETH Zurich</a>
471	"Nardini, Isabella (1); Bracke, Rolf Bracke (1); Sigfússon, Bergur (2); Ingólfsson, Hjalti Páll (3); Batini, Fausto (4); Berndsen, Maximilian (1); Cremer, Tilman (1); Halaçoğlu, Ural (5); Jagert, Felix (1); Nehler, Mathias (1); Freire Piñeiro, Lorena (6); Siedel, Torsten (7); Snæbjörnsdóttir, San- dra (2)"	GECO Project – Geothermal Emission Control
475	"Lönroth, Johnny; Hämäläinen, Matias; Herranen, Jan; Juurikka, Satu; Lindholm, Roope; Oksanen, Jere; Mäkiahö, Tomi; Manner, Kaijaleena; Ojanne, Mikko; Pihlanen, Niko; Puolitaival, Hannu; Simpkala, Matti"	<a href="#">Commercialising a concept for deep geothermal boreholes for Fennoscandia and beyond</a>
477	"Longfield, Stephen; Stuebing, Todd; Schwarz, Bailey; Hodder, Mark; Mölk, Daniel; Holmes, Michael"	<a href="#">Favor Loop™ Commercial Project at Geretsried, Molasse Basin, Germany</a>
490	"Hartmann, Werner; Timo, Hein"	<a href="#">New Technical Developments in Wellhead Design – Best Practices and Projects</a>
1111	"JEANNOU, Antoine (1); TREMÉAC, Brice (2); DIABY, Ahmadou-Tidi- ane (2)"	<a href="#">The Geothermal Energy Buffer (GEB) a promising energy storage solution - a study of GEB's operation</a>
1136	"Ravier, Guillaume (1); Seibel, Olivier (2); Ingi Ólafsson, Dagur (3); Davíðsdóttir, Svava (3); FRIES, David (1)"	<a href="#">Investigations on brine transport pipes for upscaling geothermal plants in the Upper Rhine Graben</a>
1148	"Tonkul, Serhat (1); Baba, Alper (1); Demir, Mustafa Mu- ammer (1); Regenspurg, Simona (2); Kieling, Katrin (2)"	<a href="#">3D Modelling and Characterization of Stibnite Scale Formation in Germencik Geothermal Site, Büyük Menderes Graben, Western Turkey</a>

1149	"Tonkul, Serhat (1); Baba, Alper (1); Demir, Mustafa Muammer (1); Regenspurg, Simona (2); Kieling, Katrin (2)"	<a href="#">3D Modelling and Characterization of Scale Types in Hyper Saline Geothermal System in Tuzla Geothermal Power Plant, NW Turkey</a>
1153	"Zimmermann, Günter; Hofmann, Hannes; Zang, Arno; Huenges, Ernst"	<a href="#">Recent developments and future of Enhanced Geothermal Systems (EGS)</a>
1178	"Esmailpour, Morteza; Gholami Korzani, Maziar; Kohl, Thomas"	<a href="#">Increasing the contribution of closed geothermal systems to green energy generation through designing a novel deep multi-lateral framework</a>
1209	"Taddei Pardelli, Paolo (1); Tempesti, Claretta (1); Mannelli, Andrea (1); Sabard, Alex (2); Fanicchia, Francesco (2); Paul, Shiladitya (2); Holmes, Briony (2); Lee, Chi (2); Jopen, Antony (2); Şengun, Raziye (3); Sahiller, Hakan Alp (3); Halaçoğlu, Ural (3); Pekdüz, Ismail (3); Stefansson, Andri (4); Galeczka, Iwona (4); Ediger, Volkan (5); Kirkil, Gokhan (5); Přikryl, Jan (6); Kjellgren, Per (7)"	Design, construction and test of a retention tank for a scaling reduction system to increase geothermal plant efficiency
1251	"Mazzoni, Tiziana; Basile, Paolo; Favaro, Lorenzo; Giannecchini, Luca; Orlando, Stefano; Xodo, Luca"	<a href="#">A Methodology for the evaluation of geothermal resources and power production cost: case history Italy</a>
1343	"Mroz, Heather; Vidal, Edgar; Shufran, Matt"	The Use of Explosion Clad Metals for Geothermal Applications
1374	"Storkaas, Christoffer (1); Zvrskovec, Frantisek Alexander (3); Bernhoff, Hans (2)"	<a href="#">DEEP - Geothermal systems in a petrothermal environment</a>

1401	"Homuth, Sebastian (1); Meirich, Marco (2); Andersen, Øystein (3)"	<a href="#">Upscaling and professionalizing geothermal developments via standardizing and value engineering</a>
1475	"Lönroth, Johnny; Hämäläinen, Matias; Herranen, Jan; Juurikka, Satu; Lindholm, Roope; Oksanen, Jere; Mäkiaho, Tomi; Manner, Kajaleena; Ojanne, Mikko; Pihlanen, Niko; Puolitaival, Hannu; Simpkala, Matti"	<a href="#">Commercialising a concept for deep geothermal boreholes for Fennoscandia and beyond</a>
1490	"Hartmann, Werner; Timo, Hein"	<a href="#">New Technical Developments in Wellhead Design – Best Practices and Projects</a>
<b>3.2. Geothermal heating and cooling uses for buildings, tertiary, agricultural, and industrial sectors</b>		
107	"Goldbrunner, Johann (1); Eckschlager, Anton (2)"	<a href="#">The Geothermal Project Ried – Mehrnbach (Upper Austrian Molasse Basin)</a>
108	"Bloemendal, Martin (1,2); van Esch, Thijs (1); Vardon, Phil (1); Hartog, Niels (2)"	Making aquifer thermal energy storage (ATES) system more sustainable using ATES triplet systems for space heating and cooling
174	"Kolo, Isa; Brown, Christopher; Falcone, Gioia; Banks, David"	<a href="#">Closed-loop deep borehole heat exchanger: Newcastle Helix case study</a>
201	"Ohlsen, Björn; Stockinger, Volker"	<a href="#">Possible applications of a frozen soil storage and linking with other heat sources</a>
212	"Bockelmann, Franziska; Peter, Markus; Roggenkamp, Henning"	<a href="#">Real-life comparison of different heat exchangers with low temperature heat sources used in heat pump applications</a>
221	"Lentsch, David; Schweingruber, Mischa"	<a href="#">First Multilateral Well in the South German Molasse Basin - Case Study</a>
258	"Calvo, Raffaele (1); Alimonti, Claudio (1); Scrocca, Davide (2)"	<a href="#">A Green solution for depleted oil wells integrating it in the territory</a>

292	"Tomaszewska, Barbara (1); Mukti, Mentari (2); Tyszer, Magdalena (1); Czubernat, Maciej (1); Kępińska, Beata (1); Bujakowski, Wiesław (1); Kasztelewicz, Aleksandra (1); Kabay, Nalan (3); Baba, Alper (4); Bryjak, Marek (5); Akkurt, Gülden Gokcen (4); Eser Ökten, Hatice (4); Meriç, M. Kamil (3)"	<a href="#">Geothermal Resources For Agriculture: Growing Tomato, Eggplant, and Zucchini in Geothermal Greenhouse Using Treated Geothermal Water For Irrigation</a>
320	"Chen, Qing; Nicholson, Duncan"	<a href="#">Thermal piles Constructions – Responsibilities, Risks and Good Practice</a>
340	"García-Céspedes, Jordi (1); Herms, Ignasi (2); Arnó, Georgina (2); de Felipe, José Juan (1)"	<a href="#">Geo-SIV: a new free tool MATLAB-based for the preliminary technical, economic and environmental evaluation of small to medium shallow geothermal energy projects in Catalonia based on GIS datasets</a>
346	"Tomaszewska, Barbara (1,2); Mukti, Mentari (2); Czubernat, Maciej (1); Tyszer, Magdalena (1); Kępińska, Beata (1); Bujakowski, Wiesław (1); Kasztelewicz, Aleksandra (1); Kabay, Nalan (3); Baba, Alper (4); Bryjak, Marek (5); Akkurt, Gulden Gokcen (4); Ökten, Hatice Eser (4); Meriç, M. Kamil (3)"	<a href="#">Geothermal Resources For Agriculture: Hydroponic and in soil lettuce cultivation using geothermal water and energy</a>
398	"Kühl, Lars (1); Sanner, Burkhard (2); Stoffel, Phillip (3); Maatmann, Ronja (1); Mands, Erich (2)"	<a href="#">Examples of integration and optimisation of operation of shallow geothermal energy systems in commercial and non-residential buildings within project geo:base</a>
1108	"Bloemendal, Martin (1,2); van Esch, Thijs (1); Vardon, Phil (1); Hartog, Niels (2)"	Making aquifer thermal energy storage (ATES) system more sustainable using ATES triplet systems for space heating and cooling

1292	"Tomaszewska, Barbara (1); Mukti, Mentari (2); Tyszer, Magdalena (1); Czubernat, Maciej (1); Kępińska, Beata (1); Bujakowski, Wiesław (1); Kasztelewicz, Aleksandra (1); Kabay, Nalan (3); Baba, Alper (4); Bryjak, Marek (5); Akkurt, Gülden Gokcen (4); Eser Ökten, Hatice (4); Meriç, M. Kamil (3)"	<a href="#">Geothermal Resources For Agriculture: Growing Tomato, Eggplant, and Zucchini in Geothermal Greenhouse Using Treated Geothermal Water For Irrigation</a>
1340	"García-Céspedes, Jordi (1); Herms, Ignasi (2); Arnó, Georgina (2); de Felipe, José Juan (1)"	<a href="#">Geo-SIV: a new free tool MATLAB-based for the preliminary technical, economic and environmental evaluation of small to medium shallow geothermal energy projects in Catalonia based on GIS datasets</a>
<b>3.3. Geothermal heat pumps in Europe – small and large buildings, heating and cooling, and domestic hot water</b>		
112	"Hirsch, Hauke; Nicolai, Andreas; Grunewald, John"	<a href="#">Dimensioning of low-temperature district heating grids with geothermal heat sources using detailed simulation software SIM-VICUS</a>
137	"Abugabbara, Marwan (1); Alberdi-Pagola, Maria (2); Javed, Saqib (1); Erbs Poulsen, Søren (3)"	<a href="#">Integration of ground-source heat pumps in combined district heating and cooling networks: A holistic modeling framework</a>
285	"Ramachandran, Sunder; Schorling, Peter; Chapman, Paul; Sarimento-Klapper, Helmuth; Lauese, Bjoern; Dickinson, John"	<a href="#">Use of Environmentally Friendly Production Chemicals such as Corrosion Inhibitors in Geothermal Applications</a>

381	"Bernardi, Adriana (1); de Carli, Michele (2); Galgaro, Antonio (2); di Sipio, Eloisa (2); Dalla Santa, Giorgia (2); Vercruysse, Jaques (3); Sanner, Burkhard (4); at later stage, More authors (5)"	<a href="#">Shallow Geothermal Energy for existing buildings – overview and status of project GEO4CIVHIC</a>
393	"Mathes, Rafael; Kabus, Frank; Junker, Hannes; Popov, Michael"	<a href="#">Geothermal heating plant Schwerin: Realization of a cascaded large-scale heat pump system in combination with a medium-depth geothermal system</a>
440	"Parry, Andrew; Simon, Matthieu; Varadarajan, Prasanna Amur; Sosio, Giovanni"	<a href="#">Modelling and benchmarking the behavior of closed-loop borehole heat exchangers with inclined wells: the Celsius Energy system</a>
1285	"Ramachandran, Sunder; Schorling, Peter; Chapman, Paul; Sarimento-Klapper, Helmuth; Lauese, Bjoern; Dickinson, John"	<a href="#">Use of Environmentally Friendly Production Chemicals such as Corrosion Inhibitors in Geothermal Applications</a>
<b>3.4. Underground thermal energy storage – design, system integration and operation</b>		
104	"Lemoine, Gerard (1); Kępińska, Beata (1,2)"	Assessment of the shallow groundwater potential of the " Kościerzyna Morainic Island" for cold and heat seasonal energy storage
199	"Godschalk, Bas; Oerlemans, Peter; Drijver, Benno"	<a href="#">First results of one year full scale HT-ATES in operation in the Netherlands</a>
213	"Samy, Ayman; Izadi, Ghazal; Barton, Colleen; Wallis, Frank; Kaus, Andreas"	<a href="#">Reservoir deliverability assessment and uncertainty analysis for new geothermal prospects</a>
229	"Bossennec, Claire (1); Seib, Lukas (1); Frey, Matthis (1); Bär, Kristian (1); Welsch, Bastian (1,2); Sass, Ingo (1,2)"	<a href="#">Multi-scale characterisation of the structure and hydraulic behaviour of a medium-deep heat storage test-site in a granodioritic reservoir</a>
244	"Seib, Lukas (1); Bossennec, Claire (1); Welsch, Bastian (1,2); van der Vaart, Jeroen (1); Formhals, Julian (1,2); Sass, Ingo (1,2); Frey, Matthis (1); Kretzschmar, Richard (1)"	<a href="#">Thermohydraulic Modeling and Co-Simulation of a Pilot System for Medium Deep Borehole Thermal Energy Storage in a Crystalline Reservoir</a>

250	"Dinkelman, Dorien; Koenen, Marielle; Carpentier, Stefan"	<a href="#">High temperature aquifer thermal energy storage performance in Middenmeer, the Netherlands: monitoring and model validation</a>
348	"Hahn, Florian (1); Klein, Stefan (1); Bussmann, Gregor (1); Seidel, Torsten (2)"	<a href="#">The mine thermal energy storage project in Bochum - lessons learned from the HEATSTORE project</a>
349	"Dinkelman, Dorien; van Bergen, Frank"	<a href="#">Evaluation of the country-wide potential for High-Temperature Aquifer Thermal Energy Storage (HT-ATES) in the Netherlands</a>
355	"West, Timothy; Spitler, Jeffrey D."	<a href="#">Approximate g-functions for selection of borehole field configurations used with ground-source heat pump systems</a>
366	"Gehlin, Signhild E A (1); Spitler, Jeffrey D (2)"	<a href="#">FINAL RESULTS FROM IEA HPT ANNEX 52 - LONG-TERM PERFORMANCE OF LARGE GSHP SYSTEMS</a>
378	"Henniges, Jan; Blöcher, Guido; Lipus, Martin"	Monitoring of high-temperature aquifer storage well performance and integrity
380	"Vallin, Sami; Leppäharju, Nina"	<a href="#">Utilizing DTS data to optimize large borehole thermal energy storage</a>
411	"Zwamborn, Murette (1); Beernink, Stijn (1,5); Kleinlugtenbelt, Rob (2); Oerlemans, Peter (2); Pothof, Ivo (3,5); Dinkelman, Dorien (4); van Bergen, Frank (4); Bloemendal, Martin (1,5)"	<a href="#">HT-ATES systems in district heating networks, a Dutch benchmark study</a>
442	"Beernink, Stijn (1,2); Barnhoorn, Auke (1); Vardon, Philip J. (1); Bloemendal, Martin (1,2); Hartog, Niels (2,3)"	<a href="#">Impact of vertical layering and the uncertainty and anisotropy of hydraulic conductivity on HT-ATES performance</a>
443	"Kranz, Stefan; Saadat, Ali; Bloecher, Guido; Francke, Henning"	<a href="#">ATES design aspects and optimised system integration</a>
1104	"Lemoine, Gerard (1); Kępińska, Beata (1,2)"	Assessment of the shallow groundwater potential of the " Kościerzyna Morainic Island" for cold and heat seasonal energy storage
1213	"Samy, Ayman; Izadi, Ghazal; Barton, Colleen; Walles, Frank; Kaus, Andreas."	<a href="#">Reservoir deliverability assessment and uncertainty analysis for new geothermal prospects</a>



1244	"Seib, Lukas (1); Bossennec, Claire (1); Welsch, Bastian (1,2); van der Vaart, Jeroen (1); Formhals, Julian (1,2); Sass, Ingo (1,2); Frey, Matthis (1); Kretzschmar, Richard (1)"	<a href="#">Thermohydraulic Modeling and Co-Simulation of a Pilot System for Medium Deep Borehole Thermal Energy Storage in a Crystalline Reservoir</a>
1348	"Hahn, Florian (1); Klein, Stefan (1); Bussmann, Gregor (1); Seidel, Torsten (2)"	<a href="#">The mine thermal energy storage project in Bochum - lessons learned from the HEATSTORE project</a>
1349	"Dinkelman, Dorien; van Bergen, Frank"	<a href="#">Evaluation of the country-wide potential for High-Temperature Aquifer Thermal Energy Storage (HT-ATES) in the Netherlands</a>
1355	"West, Timothy; Spitler, Jeffrey D."	<a href="#">Approximate g-functions for selection of borehole field configurations used with ground-source heat pump systems</a>
1378	"Henniges, Jan; Blöcher, Guido; Lipus, Martin"	Monitoring of high-temperature aquifer storage well performance and integrity

### 3.5. Exploiting mineral production from geothermal sources

138	Chen, Yuedu	Shear reactivation and permeability enhancement induced by cold fluid injection into fractured geothermal reservoirs: Insights from a coupled THM simulation
278	"Fries, David (1); Lebouil, Sophie (2); Maurer, Vincent (1); Martin, Carine (2); Baujard, Clément (1); Ravier, Guillaume (1); Boguais, Romain (2); Amari, Smail (2)"	<a href="#">Lithium extraction through pilot scale tests under real geothermal conditions of the Upper Rhine Graben</a>
350	"Ameur, Meriem (1); Stéphane, Sylvain (2); André, Laurent (2); Mabire, Dominique (3); Genter, Albert (4); Azaroual, Mohamed (1,2)"	<a href="#">Geochemical evolution and scaling risks induced by the geothermal brine from Upper Rhine Graben cooled for lithium extraction</a>
365	"Bosia, Clio; Aldoori, Hussam"	The valorization of lithium resources from geothermal fluids: from a worldwide overview to a focus on the Upper Rhine Graben

### 3.6. Exploration and planning

115	"Bloemendal, Martin (1,2); Beernink, Stijn (1,2); Kleinlugtenbelt, Rob (3); Hartog, Niels (2)"	<a href="#">Impact on individual primary energy consumption due to sub-surface interactions between ATES systems</a>
127	"Reinecker, John (1); Hochschild, Tobias (1); Frey, Matthis (2); van der Vaart, Jeroen (2); Bär, Kristian (2)"	<a href="#">Enhanced Exploration Strategy and Workflow for Deep Geothermal Projects in the Upper Rhine Graben</a>

146	"Dezayes, Chrystel; Lacquement, Frédéric; Capar, Laure; Stopin, Alexandre; Toussaint, Elisa"	<a href="#">From geological structure to geothermal potentiel assessment of the Dinantian limestones in northern France.</a>
172	"Bredesen, Kenneth (1); Chopra, Satinder (2); Feng, Runhai (3)"	<a href="#">Quantitative seismic interpretation studies of a Triassic-Jurassic geothermal sandstone reservoir in the Copenhagen area</a>
173	"Stove, Gordon; Limmer, David; Delgado, Octavio; Lawrence, Lewis"	<a href="#">Electromagnetic technology to help calculate subsurface geothermal zones and temperatures before drilling</a>
179	"Savitri, Kartika P. (1,2); Hecker, Christoph (1); Deon, Fiorenza (1); van der Meer, Freek D. (1); Sihotang, Mauliate A.H. (3); Azis, Herwin (3)"	<a href="#">The link between clay composition and the location of a geothermal system reservoir</a>
225	"Baxter, Clare (1); O'Sullivan, John (1); Cypaite, Vaiva (2)"	<a href="#">Workflow Using Numerical Modelling at the Exploration Stage: A Case Study of Pico Alto Geothermal Field.</a>
240	"GERBAUD, Laurent (1); PUBILL, Aleix (1); ALDANNAWY, Houssam (1); LAMAZOUADE, Marion (2); SOUCHAL, Raphaël (2); CUILLIER, Bruno (3)"	<a href="#">Mud Hammer in Deep Hard Geothermal formation, from the single impact to the directional and vibration characterisation: A solution to reduce the drilling cost</a>
267	"Rizzello, Daniele (1); Armadillo, Egidio (2)"	<a href="#">AN INVERSE APPROACH FOR SMOOTH MAGNETOTELLURIC TRANFER FUNCTION ESTIMATION</a>
283	"Geel, C.R.; de Haan, H. B.; ten Veen, J. H.; Houben, A. J. P.; Kruisselbrink, A. F.; Foeken, J. P. T.; Veldkamp, J. G.; Peters, E.; Jan Diederik, van Wees"	<a href="#">Characterisation of a shallow geothermal resource in The Netherlands: the Brussels Sand Mb.</a>
286	"HERMANT, Bastien (1); KAZANTSEV, Alexandre (2); BELLANGER, Mathieu (1)"	<a href="#">New approach to design a seismic monitoring network using geology, physics and combinatorics: application to a geothermal prospect in the French Massif Central</a>

287	"Cypaite, Vaiva (1); Arnó, Georgina (1); Herms, Ignasi (1); Camps, Víctor (1); Conesa, Ariadna (1); Colomer, Montse (1); Boon, David (2); Steiner, Cornelia (3); Götzl, Gregor (3)"	<a href="#">Results from the GeoERA MUSE shallow geothermal project – The urban area of Girona city (NE Catalonia, Spain)</a>
290	"Boon, David Philip (1); Farr, Gareth (1); Patton, Ashley (1); Abesser, Corinna (1); Scheidegger, Johanna (1); Barnett, Megan (1); Gregory, Simon (1); Coppell, Lynn (1); Williams, Laura (1); Busby, Jon (1); Thorpe, Steve (1); Holden, Alan (1); James, David (2); Harcombe, Gareth (2); Knowles, Steve (2); Hermes, Ignasi (3); Steiner, Cornelia (4); Goetzl, Gregor (4)"	<a href="#">Results from the GeoERA MUSE shallow geothermal project – UK Cardiff pilot area</a>
313	"HERMANT, Bastien (1); BELLANGER, Mathieu (1); GALIBERT, Stéphane (2)"	<a href="#">3D stress modelling on structural network: pre-drilling modelling for the GEOPULSE geothermal power project in the French Massif Central</a>
322	"Steininger, Stefan (1); Holzer, Daniel (2); Forstner, Ingo (3)"	<a href="#">Structured generic project plan for guidance on steps along geothermal project phases for potential geothermal operators and other stakeholders</a>
336	"Ritzmann, Oliver (1); Lippert, Kevin (1,2); Michal, Kruszewski (1,2); Gregor, Bussmann (1)"	<a href="#">Geothermal exploration in a greenfield environment - Seismic interpretation, structural geology, and geomechanical modelling for well planning in Hagen (southern Ruhr District, Germany)</a>
341	"Puech, Jean-Claude; Boelle, Jean-Luc; Cheou, Elie-Pascal"	<a href="#">Seismic acquisition spacing parameters : How can I reduce the risk to be wrong ?</a>
342	"van Heiningen, Pieter {MSc.} (1); van Hoegaerden, Vincent {MSc.} (1); Kaymakci, Nuretdin {Prof.dr.} (2); Moser, Tijmen Jan {Dr.} (3)"	A unique integrated exploration approach for geothermal reservoirs, a case study from Metropole Region Amsterdam

406	"Koroncz, Péter János (1,2); Fedor, Ferenc (2); Vizhányó, Zsanett (2); Kuncz, Máté (2); Ács, Péter (2); Fedor-Szász, Anita (2); Farkas, Márton Pál (3,8); Sendula, Eszter (3); Pernyeszi, Tímea (4); Magyar, Gábor (5,6); Szanyi, János (7); Kovács, László (9); Csicsák, József (5); Hofmann, Hannes (8); Kovács, János (3)"	<a href="#">Laboratory R&amp;D related to the development of technology for water re-injection in poorly consolidated Upper Pannonian rocks</a>
474	"Strack, Kurt Martin (1); Hinojosa, Hector (2); Lüschen, Ewald (1); Marinez, Yardenia (1)"	<a href="#">Using Electromagnetics for Geothermal and Carbon Capture, Utilization and Storage (CCUS) applications</a>
487	"Jolie, Egbert; Jentsch, Anna; Duesing, Walter"	<a href="#">Smart gas analytics for geothermal exploration and monitoring</a>
1115	"Bloemendal, Martin (1,2); Beernink, Stijn (1,2); Kleinlugtenbelt, Rob (3); Hartog, Niels (2)"	<a href="#">Impact on individual primary energy consumption due to sub-surface interactions between ATES systems</a>
1127	"Reinecker, John (1); Hochschild, Tobias (1); Frey, Matthis (2); van der Vaart, Jeroen (2); Bär, Kristian (1)"	<a href="#">Enhanced Exploration Strategy and Workflow for Deep Geothermal Projects in the Upper Rhine Graben</a>
1172	"Bredesen, Kenneth (1); Chopra, Satinder (2); Feng, Runhai (3)"	<a href="#">Quantitative seismic interpretation studies of a Triassic-Jurassic geothermal sandstone reservoir in the Copenhagen area</a>
1173	"Stove, Gordon; Limmer, David; Delgado, Octavio; Lawrence, Lewis"	<a href="#">Electromagnetic technology to help calculate subsurface geothermal zones and temperatures before drilling</a>
1286	"HERMANT, Bastien (1); KAZANTSEV, Alexandre (2); BELLANGER, Mathieu (1)"	<a href="#">New approach to design a seismic monitoring network using geology, physics and combinatorics: application to a geothermal prospect in the French Massif Central</a>

1287	"Cypaite, Vaiva (1); Arnó, Georgina (1); Herms, Ignasi (1); Camps, Víctor (1); Conesa, Ariadna (1); Colomer, Montse (1); Boon, David (2); Steiner, Cornelia (3); Götzl, Gregor (3)"	<a href="#">Results from the GeoERA MUSE shallow geothermal project – The urban area of Girona city (NE Catalonia, Spain)</a>
1313	"HERMANT, Bastien (1); BELLANGER, Mathieu (1); GALIBERT, Stéphane (2)"	<a href="#">3D stress modelling on structural network: pre-drilling modelling for the GEOPULSE geothermal power project in the French Massif Central</a>
1322	"Steininger, Stefan (1); Holzer, Daniel (2); Forstner, Ingo (3)"	<a href="#">Structured generic project plan for guidance on steps along geothermal project phases for potential geothermal operators and other stakeholders</a>
1341	"Puech, Jean-Claude; Boelle, Jean-Luc; Cheou, Elie-Pascal"	<a href="#">Seismic acquisition spacing parameters : How can I reduce the risk to be wrong ?</a>
1406	"Koronczi, Péter János (1,2); Fedor, Ferenc (2); Vizhányó, Zsanett (2); Kuncz, Máté (2); Ács, Péter (2); Fedor-Szász, Anita (2); Farkas, Márton Pál (3,8); Sendula, Eszter (3); Pernyeszi, Tímea (4); Magyar, Gábor (5,6); Szanyi, János (7); Kovács, László (9); Csicsák, József (5); Hofmann, Hannes (8); Kovács, János (3)"	<a href="#">Laboratory R&amp;D related to the development of technology for water re-injection in poorly consolidated Upper Pannonian rocks</a>
1474	"Strack, Kurt Martin (1); Hinojosa, Hector (2); Lüschen, Ewald (1); Marinez, Yardenia (1)"	<a href="#">Using Electromagnetics for Geothermal and Carbon Capture, Utilization and Storage (CCUS) applications</a>
1487	"Jolie, Egbert; Jentsch, Anna; Duesing, Walter"	<a href="#">Smart gas analytics for geothermal exploration and monitoring</a>
<b>3.7. Environmental impacts and solutions</b>		
117	"Bloemendal, Martin (1,2); Beernink, Stijn (1,2); Hartog, Niels (1)"	<a href="#">Transition of ATES to HT-ATES: field monitoring results of thermal impact, groundwater quality and performance</a>
152	"Uhrmann, Hannah; Heberle, Florian; Brüggemann, Dieter"	<a href="#">Life Cycle Assessment of an operating geothermal heat project in the Southern German Molasse Basin (Germany)</a>

168	"Parascanu, Maria (1); Pieskä, Henrikki (2); Espí Gallart, Jose Jorge (1); Clarens Blanco, Frederic (1); Wang, Qian (2,3); Zukowska, Ewa Alicja (1); Calderoni, Marco (4)"	<a href="#">Environmental approach of an enhanced geothermal system for energy efficient building retrofitting in a decentralized context</a>
175	"Helali, Chahinez (2); Valentin, Romain (2); Betelu, Stephanie (1); THIEBAUD-ROUX, Sophie (2); Ignatiadis, Ioannis (1)"	<a href="#">COMPARATIVE STUDY OF THE EFFECTIVENESS OF ORGANIC PETRO- OR BIOSOURCED SURFACTANTS IN INHIBITING CARBON STEEL CORROSION IN A STANDARDIZED RECONSTITUTED GEOTHERMAL WATER</a>
291	"Papakostas, Vasileios (1); Kontoulis, Nikoletta (1); Paravantis, John (1); Gerbaud, Laurent (2); Velmurugan, Naveen (2); Cazenave, Florian (3)"	<a href="#">Environmental Impacts of Water-Based Fluids in Geothermal Drilling</a>
298	"Attard, Guillaume (1); Bayer, Peter (2); Blum, Philipp (3); Eisenlohr, Laurent (1)"	<a href="#">On the concept of geothermal protection zones for integrated urban groundwater management</a>
337	"Berndsen, Maximilian (1,2); Nehler, Mathias (1); Nardini, Isabella (1); Erstling, Stefanie (1); Saenger, Erik H. (1,2); Delerce, Sylvain (3); Akin, Taylan (4); Galeczka, Iwona M. (5); Erol, Selçuk (6)"	<a href="#">Experimental study on rock-CO<sub>2</sub> interaction processes at HP/HT conditions</a>
372	"Schröder, Simon; König, Christoph"	<a href="#">Overview of Relevant Process Parameters in Numerical Heat Transfer Simulations of High Voltage and Extra-high Voltage Cables</a>
452	"Leontidis, Vlasios (1); Gainville, Martin (1); Jeannin, Laurent (2); Perreaux, Marc (2)"	<a href="#">Maximizing the reinjection of non-condensable gases in high temperature geothermal sites</a>
469	"Gomez, Esteban (1,2); Scott, Samuel (2,3); Newson, Juliet (2); Ratouis, Thomas (4)"	<a href="#">Numerical Modelling for the Prediction of the Heat and Fluid Flow in Nesjavellir Geothermal Field</a>
479	"SCHOTT, Tiphaine; LIAUTAUD, Françoise"	<a href="#">Unexpected deposits, steel corrosion inhibitors, anti-scales and their compatibility in geothermal brine</a>

1117	"Bloemendal, Martin (1,2); Beernink, Stijn (1,2); Hartog, Niels (1)"	<a href="#">Transition of ATES to HT-ATES: field monitoring results of thermal impact, groundwater quality and performance</a>
<b>3.8. Other</b>		
129	"Ramon, Juan (1); Velásquez, Sergio (2)"	<a href="#">GEOFIT Project creating the opportunity of Geographical – BIM (GEOBIM) platform to manage geothermal systems</a>
143	"Petteruti, Ernesto; Ciardi, Umberto; Bruno, Massimo; Volponi, Andrea; Cavaioni, Paolo"	<a href="#">Scale risk assessment and laboratory selection of an inhibitor in a geothermal plant exploiting high salinity brine</a>
191	"Fokker, Peter A. (1,2,3); Viberti, Dario (2); Salina Borello, Eloisa (2); Verga, Francesca (2); van Wees, Jan-Diederik (1,3); de Wijkerslooth, Charlotte (4); Bekius, Hedwich (4); Konijn, Arjan (5); Bos, Wim (5); Koenen, Mariëlle (1); van Pul-Verboom, Viola (1)"	<a href="#">Pulse testing in Geothermal Energy: Demonstration of a new monitoring tool</a>
194	"Beaudry, Gabrielle; Pasquier, Philippe; Marcotte, Denis"	Experimental validation of non stationary convolutions for the simulation of dynamic flow rates in standing column wells operations.
195	"Dion, Gabriel; Pasquier, Philippe; Marcotte, Denis"	<a href="#">Recovery of ground thermal conductivity from the time derivative of short-term transfer function</a>
196	"Kvalsvik, Karoline Husevåg (1,2); Ramstad, Randi Kalskin (1,3); Midttømme, Kirsti (2); Holmberg, Henrik (3)"	Distributed Temperature Sensing measurements for exploring Borehole Thermal Energy Storages in Norway
215	"Boersma, Kornelius; Og. van, Geertjan; Ruiten. de, Volkert"	<a href="#">Case study of drilling a big diameter, large outstep and high-angle well</a>
230	"Pasquali, Riccardo (1); Muller, Mark (2)"	<a href="#">Mapping Thermal Properties using Resistivity, Lithology and Thermal Conductivity Measurements</a>
248	"Arvanitis, Apostolos; Xenakis, Markos; Amvrazis, Marios-Dimitrios; Trimi, Polyanthi-Maria; Karvouni, Konstantina"	<a href="#">A 3D geological model of the Neo Erasmio-Magana low enthalpy geothermal field (Thrace, Greece)</a>
270	Friberg, Christofer (1,2,3,4)	xGeo - Next generation smart non-intrusive mobile geological investigation system.

316	"Erge, Oner; Sakaoglu, Kudret; Sonmez, Ahmet; Dogan, Huseyin Ali"	<a href="#">Investigation of HT Drilling Fluids Performance - A Review of Over 90 Field Cases in 3000m+ Deep Geothermal Wells in Turkey</a>
391	"Spaggiari, Chiara (1); Lanconelli, Matteo (3); Tinti, Francesco (1); Voza, Antonio (3); Boldini, Daniela (1,2)"	<a href="#">Key features of the novel geothermal heat exchanger prototype installed at the Brenner Base Tunnel</a>
433	"Bonafin, Joseph (1); Besoiu, Christian (2); Pingaro, Emanuele (1); Zanzucchi, Paolo (1); Pietra, Claudio (1); Bonzanini, Arianna (1)"	<a href="#">Joint Development between Turboden and Favor</a>
451	"Moeck, Inga (1); Backers, Tobias (2); Kemenyfy, Julio (3); Tegeler, Rinke (1); Gahr, Andreas (4); Seibt, Peter (5); Kahnt, René (6); Thiem, Stefan (5); Tönies, Andreas (7); Fritschen, Ralf (8)"	<a href="#">Multistage multizone gel-proppant reservoir treatment in the geothermal research well GEN-1ST-A1 in Geretsried (Bavarian Molasse Basin, Germany)</a>
1143	"Petteruti, Ernesto; Ciardi, Umberto; Bruno, Massimo; Volponi, Andrea; Cavaioni, Paolo"	<a href="#">Scale risk assessment and laboratory selection of an inhibitor in a geothermal plant exploiting high salinity brine</a>
1230	"Pasquali, Riccardo (1); Muller, Mark (2)"	<a href="#">Mapping Thermal Properties using Resistivity, Lithology and Thermal Conductivity Measurements</a>
1248	"Arvanitis, Apostolos; Xenakis, Markos; Amvrazis, Marios-Dimitrios; Trimi, Polyanthi-Maria; Karvouni, Konstantina"	<a href="#">A 3D geological model of the Neo Erasmio-Magana low enthalpy geothermal field (Thrace, Greece)</a>
1391	"Spaggiari, Chiara (1); Lanconelli, Matteo (3); Tinti, Francesco (1); Voza, Antonio (3); Boldini, Daniela (1,2)"	<a href="#">Key features of the novel geothermal heat exchanger prototype installed at the Brenner Base Tunnel</a>
64516	"Goldberg, Valentin Magnus; Kluge, Tobias; Nitschke, Fabian"	Challenges and opportunities for lithium extraction from geothermal systems in Germany



# Research Development

4.1. Risk Management (reservoir assessment, safe operations, environment protection, demand side)		
164	"ter Heege, Jan (1); Wassing, Brecht (1); Buijze, Loes (1); Jaarsma, Bastiaan (2)"	<a href="#">Geological controls on induced seismicity potential for geothermal projects targeting Dinantian carbonates in the Netherlands</a>
188	"Ziegler, Moritz (1); Heidbach, Oliver (1,2)"	<a href="#">Geomechanical models and their uncertainties - A concept and a case study</a>
220	"Olivarius, Mette (1); Mathiesen, Anders (1); Vosgerau, Henrik (1); Nielsen, Lars H. (1); Weibel, Rikke (1); Bonnell, Linda M. (2); Lander, Robert H. (2)"	<a href="#">Diagenesis modelling as a tool to prevent drilling tight geothermal sandstone reservoirs</a>
281	"Fiori, Rémi; Vergne, Jérôme; Schmittbuhl, Jean; Zigone, Dimitri; Lambotte, Sophie"	<a href="#">Induced micro-seismicity monitoring in urban context using seismic arrays</a>
289	"Mukti, Mentari (1); Tomaszewska, Barbara (1); Ningrum, Eva Oktavia (2); Bundschuh, Jochen (3)"	<a href="#">Assessing The Removal of Arsenic and Boron From Geothermal Wastewaters With The Use Of An Adsorbent Hydrogel</a>
330	"Lu, Haiping; Shen, Dong; Nelson, Curtis; Penkala, Joseph; Bestgen, Daniel; Margan, Swamy; Ramachandran, Sunder"	<a href="#">Silica/silicate Scale Control and Treatment in a Geothermal Plant</a>
333	"Stephant, Sylvain; Joulian, Catherine; Hamm, Virginie"	<a href="#">Effect of an inter-seasonal heat storage on the biogeochemistry of the Albian aquifer at Paris-Saclay site</a>
335	"Gaucher, Emmanuel (1); Hansinger, Maximilian (2); Goblirsch, Peter (3); Azzola, Jérôme (1); Thiemann, Katja (2)"	<a href="#">Towards a geothermal reservoir management system</a>
354	"Marelis, Arjan (1,2); Buijze, Loes (2); Wassing, Brecht (2); van Wees, Jan Diederik van Wees (1,2)"	<a href="#">A sensitivity analysis of stress changes related to geothermal direct heat production in clastic reservoirs and potential for fault reactivation and seismicity.</a>

431	"Stricker, Kai; Egert, Robert; Grimmer, Jens; Gholami Korzani, Ma- ziar; Schill, Eva; Kohl, Thomas"	<a href="#">Thermal-hydraulic-mechanical (THM) modeling of high-temperature heat storage using DeepStor as a case study</a>
432	"Naranjo, David; Draganov, Deyan; Weemstra, Cornelis"	<a href="#">Microseismic monitoring of Nature's Heat Geothermal Project in Kwintsheul (Netherlands)</a>
441	"Drif, Kamel (1,2); Lengliné, Olivier (2); Kinscher, Jannes (1); Schmittbuhl, Jean (2)"	<a href="#">Faulting and hydraulic energy balance during fluid injection in the Soultz-sous-Forêts geothermal reservoir</a>
444	"Petitclerc, Estelle (1); Gerard, Pierre (2); VanCamp, Marc (3); Walraevens, Kristine (3); Van Noten, Koen (4); Van der Veken, Jeroen (5); Baudinet, Camille (1); Zeckra, Martin (4); Van Lysebetten, Gust (5)"	<a href="#">Multidisciplinary approach to assess the Cambrian geothermal potential in Brussels region with a focus on public buildings (GeoCamb project)</a>
1220	"Olivarius, Mette (1); Mathiesen, Anders (1); Vosgerau, Henrik (1); Nielsen, Lars H. (1); Weibel, Rikke (1); Bonnell, Linda M. (2); Lander, Robert H. (2)"	<a href="#">Diagenesis modelling as a tool to prevent drilling tight geothermal sandstone reservoirs</a>
1289	"Mukti, Mentari (1); Tomaszewska, Barbara (1); Ningrum, Eva Oktavia (2); Bundschuh, Jochen (3)"	<a href="#">Assessing The Removal of Arsenic and Boron From Geothermal Wastewaters With The Use Of An Adsorbent Hydrogel</a>
1335	"Gaucher, Emmanuel (1); Hansinger, Maximilian (2); Goblirsch, Peter (3); Azzola, Jérôme (1); Thiemann, Katja (2)"	<a href="#">Towards a geothermal reservoir management system</a>
1354	"Marelis, Arjan (1,2); Buijze, Loes (2); Wassing, Brecht (2); van Wees, Jan Diederik van Wees (1,2)"	<a href="#">A sensitivity analysis of stress changes related to geothermal direct heat production in clastic reservoirs and potential for fault reactivation and seismicity.</a>
1432	"Naranjo, David; Draganov, Deyan; Weemstra, Cornelis"	<a href="#">Microseismic monitoring of Nature's Heat Geothermal Project in Kwintsheul (Netherlands)</a>

1441	"Drif, Kamel (1,2); Lengliné, Olivier (2); Kinscher, Jannes (1); Schmittbuhl, Jean (2)"	<a href="#">Faulting and hydraulic energy balance during fluid injection in the Soultz-sous-Forêts geothermal reservoir</a>
<b>4.2. Exploration and planning</b>		
105	"Vosgerau, Henrik (1); Balling, Niels (2); Oliveira, Allan (3); Mathiesen, Anders (1); Mathiesen, Troels (4); Nielsen, Lars Henrik (1); Weibel, Rikke (1)"	<a href="#">Overcoming obstacles for large scale utilization of geothermal energy for district heating</a>
141	"Arifianto, Indra; Mai, Paul Martin"	<a href="#">Using Satellite Gravity Data for Low Enthalpy Geothermal Exploration: Case Study Midyan Area, Saudi Arabia</a>
142	"Frey, Matthis (1); van der Vaart, Jeroen (1); Bär, Kristian (1); Bossennec, Claire (1); Seib, Lukas (1); Dezayes, Chrystel (3); Calcagno, Philippe (3); Sass, Ingo (1,2)"	<a href="#">Towards a Techno-Economic Geothermal Resource Assessment of the Northern Upper Rhine Graben Crystalline Basement</a>
177	"Anees, Muhammad (1); Kley, Jonas (1); Leiss, Bernd (1); Wagner, Bianca (1); M. Shah, Mumtaz (2)"	<a href="#">Heat-producing granitoids of North Pakistan as potential geothermal prospects</a>
198	"Yström, Lars Helge; Nitschke, Fabian; Vollmer, Mark; Kohl, Thomas"	<a href="#">Deep learning and geochemical modelling as tools for solute geothermometry</a>
205	"Chmielowska, Anna; Sowiżdżał, Anna"	<a href="#">Geothermal Energy in Petroleum Province – a case study from Southern Poland (Carpathian Foredeep)</a>
214	"Esteban Lopez, Sarah; Nokar, Kim Roya; Shipilin, Vladimir; Sattelberger, Martin; Tasdemir, Burcu; Weber, Immanuel; Fritschle, Tobias; Schäfer, Ingo; Linder, Bernd; Salamon, Martin"	<a href="#">Unravelling the geothermal potential of North Rhine-Westphalia: a geothermal characterisation of the intermediate to deep subsurface</a>
218	"Ringel, Lisa Maria (1); Jalali, Mohammadreza (2); Bayer, Peter (1)"	<a href="#">Estimation of hydraulic and geometrical characteristics of fractured geothermal reservoirs using in-situ tomographic methods</a>

224	"Iorio, Marina (1); Cavuoto, Giuseppe (1); Corniello, Alfonso (2); Di Fiore, Vincenzo (1); Fedi, Maurizio (2); Milano, Maurizio (1); Pelosi, Nicola (1); Punzo, Michele (1); Tarallo, Daniela (1); Massarotti, Nicola (3)"	<a href="#">Exploration of the geothermal field in the eastern Phlegrean Fields caldera for sustainability analysis of low-middle temperatures exploitation</a>
237	"Smit, Florian Walther Harald (1); Vosgerau, Henrik (1); Gregersen, Ulrik (1); Bredesen, Kenneth (1); Chopra, Satinder (2); Frykman, Peter (1)"	<a href="#">Improved reservoir characterization of the Gassum Formation (Stenlille, Denmark) - a promising geothermal reservoir</a>
252	"Alimonti, Claudio (1); Scrocca, Davide (2)"	<a href="#">Geothermal potential assessment for oil&amp;gas fields in Italy</a>
253	"Scrocca, Davide (1); Alimonti, Claudio (2)"	<a href="#">Hydrocarbon wells potentially suitable for geothermal repurposing in Italy: a first assessment</a>
274	"Wheeler, Walter (1); Morency, Christina (2); Bellanger, Mathieu (3); Auxietre, Matieu (3); Barucq, Helene (4); Bordes, Clarisse (5); Brito, Daniel (5); Diaz, Julien (4); Fageraas, Bjarte (7); Grobbe, Niels (6); Hermant, Bastian (3); Matzel, Eric M (2); Midttømme, Kirsti (1)"	<a href="#">Seismoelectric effects for Geothermal resource assessment and monitoring - the SEE4GEO project</a>
282	"Dalampakis, Paschalis (1); Tziritis, Evangelos (1); Koufogiannis, Ilias A.K. (2); Papachristou, Maria (3); Andritsos, Nikos (4); Arvanitis, Apostolos (2)"	<a href="#">An assessment of low enthalpy geothermal waters in the Akrotamos area (Northern Greece)</a>
302	"Finger, Claudia (1); Roth, Marco (2); Gotowik, Aileen (1,2); Dietl, Marco (1,2); Engels, Nina (3); Harrington, Rebecca (2); Knapmeyer-Endrun, Brigitte (4); Reicherter, Klaus (3); Oswald, Thomas (5); Reinsch, Thomas (1); Saenger, Erik H. (6,1,2)"	<a href="#">Seismological study of the geothermal field laboratory in the Lower Rhine Embayment, Germany</a>

310	"Dashti, Ali (1); Gholami Korzani, Maziar (1); Geuzaine, Christophe (2); Egert, Robert (1); Kohl, Thomas (1)"	<a href="#">Quantification of the exiting geological uncertainty in flow characteristics of a geothermal reservoir</a>
311	"Muhl, Lena (1,2); Bloecher, Guido (1); Sass, Ingo (1); Kluge, Christian (1); Ballerstedt, Tanja (1)"	<a href="#">Hydro-mechanical parameters of Cornubian and Odenwald reservoir granitoids with focus on fracture stiffness testing</a>
326	"Kukkonen, Ilmo T. (1); Heikkinen, Pekka J. (1); Pentti, Matti (2); Sinisaari, Matti (2); Malin, Peter E. (3); Giese, Ruediger (4); Kueck, Jochem (4)"	<a href="#">St1 Deep Heat Project: Geothermal energy from 5-6 km in the continental crust</a>
332	"Budach, Ingmar (1); Franz, Matthias (2)"	<a href="#">Combining subsurface reservoir mapping, Multiple-Point Statistics and Monte Carlo simulation for probability of success studies in geothermal reservoirs of the Rhaetian Deltaic System (North German Basin)</a>
344	"Balling, Niels (1); Fuchs, Sven (2); Mathiesen, Anders (3)"	<a href="#">A 3D geothermal model for Denmark: temperature and resource assessment</a>
352	"Rangel Jurado, Nicolas (1); Küçük, Serhat (1); Brehme, Maren (1); Lathion, Rodolphe (2); Games, Federico (2); Saar, Martin O. (1,3)"	<a href="#">Comparative Analysis on the Techno-Economic Performance of Different Types of Deep Geothermal Systems for Heat Generation</a>
353	"Alms, Katharina (1); Agemar, Thorsten (2); Moeck, Inga (2)"	Heat refraction in the North German Basin: The role of salt
361	"Drews, Michael; Shatyrbayeva, Indira; Bohnsack, Daniel; Duschl, Florian; Obermeier, Peter"	<a href="#">Evaluation of pore pressure in the North Alpine Foreland Basin (Bavarian Molasse Basin) and its impact on deep geothermal exploration drilling</a>
383	"Arndt, Martin; Fritschle, Tobias; Thiel, Anna; Salamon, Martin"	<a href="#">The Lower Carboniferous (Dinantian) in the deep subsurface of North Rhine-Westphalia (Germany): results of a 3D mapping campaign</a>
384	"Markó, Ábel (1); Tóth, Marianna (2); Brehme, Maren (3); Mádl-Szőnyi, Judit (1)"	<a href="#">Assessing reinjection potential of abandoned hydrocarbon wells in Zala region (SW Hungary)</a>

386	"Bohnsack, Daniel (1); Drews, Michael (1); Duschl, Florian (1); Shatyrbayeva, Indira (1); Heidbach, Oliver (2); Müller, Birgit (3)"	<a href="#">A subsurface pore pressure map of Bavaria from quality-ranked borehole data – a template for Europe and beyond</a>
387	Agemar, Thorsten	<a href="#">GeotIS Update 2022</a>
390	"Pradipta, Devito (1); Ramdan, Divy Muhammad (2); Permana, Lano Adhitya (3)"	NEW APPLICATION OF SURFACE NATURAL FRACTURES CHARACTERIZATION AND IMPLICATIONS TO THE GEOTHERMAL SYSTEM IN SOUTHERN BAJAWA FIELD, INDONESIA: A NOVEL APPROACH FOR PRELIMINARY EXPLORATION AND MODELLING
405	"Muhl, Lena (1,2); Avakian, Benjamin (2,3); Trullenque, Ghislain (2); Ledésert, Béatrice (3); Sass, Ingo (1)"	<a href="#">Influences of pre-structuration of a reservoir on permeability evolution in fracture zones. Insights from mechanical testing on an alteration profile</a>
413	"Gola, Gianluca; Donato, Assunta; Santilano, Alessandro; Trumpy, Eugenio; Manzella, Adele"	Deep Geothermal Resource assessment: application and comparison of different approaches in the Latium volcanic areas (Central Italy)
417	"Shail, Robin (1); Cotton, Lucy (2); Dalby, Chris (2); Constance, Madelaine (2); Gutmanis, Jon (2); Henes, Philip (1); Adams, Ben (1); Bennett, Tony (3)"	<a href="#">Geological Overview of the Eden Geothermal Project</a>
438	"Zabihian, Farid; Sohrabi, Reza; Williams, Molly; Valley, Benoît"	<a href="#">Preliminary results from the analysis of stress profiles in deep geothermal reservoirs</a>
447	"Balza Morales, Andrea (2); Gomez Diaz, Esteban (1); Brehme, Maren (3,4); Kukla, Peter A. (1,5); Wagner, Florian M. (2)"	<a href="#">Geothermal potential in the Rhine-Ruhr region - Integration of structural analysis and a preliminary magnetotelluric feasibility study</a>
448	"Thiel, Anna (1); Fritschle, Tobias (1); Arndt, Martin (1); Petitclerc, Estelle (2); van Melle, Timme (3); Broothaers, Matsen (4); Passamonti, Arianna (5); Tasdemir, Burcu (1); Salamon, Martin (1)"	<a href="#">DGE-ROLLOUT: Deep Geothermal Energy Potential of Lower Carboniferous Carbonate Rocks in North-West Europe</a>

468	"Bott, Judith (1); Cacace, Mauro (1); Anikiev, Denis (1); Scheck-Wenderoth, Magdalena (1,2)"	<a href="#">Cross-scale geothermal exploration of Germany's subsurface by means of data-integrative 3D geological models and coupled THM simulations</a>
470	"Franz, Matthias (1); Budach, Ingmar (2); Wunsch, Marco (2)"	<a href="#">Exploration strategy, development examples and remaining opportunities in Mesozoic hydrothermal reservoirs of the North German Basin</a>
476	"Antics, Miklos (1); Ungemach, Pierre (1,3); Souque, Christine (2); Essou, Codjo Thomas Florent (3); Gasser-Dorado, Julien (3); Fremont, François (3)"	<a href="#">Novell Well Architectures and Completions Improve Well Injctive Performance in Poorly Consolidated Sediments. Application to Paris Basin Upper Cretaceous Clastics</a>
1141	"Arifianto, Indra; Mai, Paul Martin"	<a href="#">Using Satellite Gravity Data for Low Enthalpy Geothermal Exploration: Case Study Midyan Area, Saudi Arabia</a>
1177	"Anees, Muhammad (1); Kley, Jonas (1); Leiss, Bernd (1); Wagner, Bianca (1); M. Shah, Mumtaz (2)"	<a href="#">Heat-producing granitoids of North Pakistan as potential geothermal prospects</a>
1198	"Yström, Lars Helge; Nitschke, Fabian; Vollmer, Mark; Kohl, Thomas"	<a href="#">Deep learning and geochemical modelling as tools for solute geothermometry</a>
1205	"Chmielowska, Anna; Sowiżdżał, Anna"	<a href="#">Geothermal Energy in Petroleum Province – a case study from Southern Poland (Carpathian Foredeep)</a>
1218	"Ringel, Lisa Maria (1); Jalali, Mohammadreza (2); Bayer, Peter (1)"	<a href="#">Estimation of hydraulic and geometrical characteristics of fractured geothermal reservoirs using in-situ tomographic methods</a>
1224	"Iorio, Marina (1); Cavuoto, Giuseppe (1); Corniello, Alfonso (2); Di Fiore, Vincenzo (1); Fedi, Maurizio (2); Milano, Maurizio (1); Pelosi, Nicola (1); Punzo, Michele (1); Tarallo, Daniela (1); Massarotti, Nicola (3)"	<a href="#">Exploration of the geothermal filed in the eastern Phlegrean Fields caldera for sustainability analysis of low-middle temperatures exploitation</a>
1252	"Alimonti, Claudio (1); Scrocca, Davide (2)"	<a href="#">Geothermal potential assessment for oil&amp;gas fields in Italy</a>

1274	"Wheeler, Walter (1); Morency, Christina (2); Bellanger, Mathieu (3); Auxietre, Matieu (3); Barucq, Helene (4); Bordes, Clarisse (5); Brito, Daniel (5); Diaz, Julien (4); Fageraas, Bjarte (7); Grobbe, Niels (6); Hermant, Bastian (3); Matzel, Eric M (2); Midttømme, Kirsti (1)"	<a href="#">Seismoelectric effects for Geothermal resource assessment and monitoring – the SEE4GEO project</a>
1282	"Dalampakis, Paschalis (1); Tziritis, Evangelos (1); Koufogiannis, Ilias A.K. (2); Papachristou, Maria (3); Andritsos, Nikos (4); Arvanitis, Apostolos (2)"	<a href="#">An assessment of low enthalpy geothermal waters in the Akropotamos area (Northern Greece)</a>
1311	"Muhl, Lena (1,2); Bloecher, Guido (1); Sass, Ingo (1); Kluge, Christian (1); Ballerstedt, Tanja (1)"	<a href="#">Hydro-mechanical parameters of Cornubian and Odenwald reservoir granitoids with focus on fracture stiffness testing</a>
1344	"Balling, Niels (1); Fuchs, Sven (2); Mathiesen, Anders (3)"	<a href="#">A 3D geothermal model for Denmark: temperature and resource assessment</a>
1353	"Alms, Katharina (1); Agemar, Thorsten (2); Moeck, Inga (2)"	Heat refraction in the North German Basin: The role of salt
1387	Agemar, Thorsten	<a href="#">GeotIS Update 2022</a>
1390	"Pradipta, Devito (1); Ramdan, Divy Muhammad (2); Permana, Lano Adhitya (3)"	NEW APPLICATION OF SURFACE NATURAL FRACTURES CHARACTERIZATION AND IMPLICATIONS TO THE GEOTHERMAL SYSTEM IN SOUTHERN BAJAWA FIELD, INDONESIA: A NOVEL APPROACH FOR PRELIMINARY EXPLORATION AND MODELLING
1413	"Gola, Gianluca; Donato, Assunta; Santilano, Alessandro; Trumpy, Eugenio; Manzella, Adele"	Deep Geothermal Resource assessment: application and comparison of different approaches in the Latium volcanic areas (Central Italy)
1447	"Balza Morales, Andrea (2); Gomez Diaz, Esteban (1); Brehme, Maren (3,4); Kukla, Peter A. (1,5); Wagner, Florian M. (2)"	<a href="#">Geothermal potential in the Rhine-Ruhr region - Integration of structural analysis and a preliminary magnetotelluric feasibility study</a>



### 4.3. Geothermal drilling and Constructing of geothermal wells

103	Van den Bos, Guido	Automated Geothermal Drilling with NOVOS
223	"Gucuyener, Ismail Hakki; Gurcay, Kazim Onur; Yanik, Abdussamed; Ay, Ahmet"	<a href="#">Evaluation of Rheological Models for High Temperature Water-Based Drilling Fluids Using Geothermal Field Data</a>
234	"Sellami, Hedi (1); Cazenave, Florian (2); Gerbaud, Laurent (1); Jahangir, Emad (1); Souchal, Raphaël (2); Velmurugan, Naveen (1)"	<a href="#">Improvement of drilling performances in deep geothermal drilling in hard rocks, by using a novel Hydro-Mechanical Drilling Technology</a>
255	"Baria, Roy (1); Day, Richard (2); Grand, Gus (3); Baumgaertner, Joerg (4); Glass, Hylke (5); Jupe, Andrew (6); Cotton, Lucy (7)"	DEEP GEOTHERMAL DEVELOPMENT AT THE EDEN PROJECT IN CORNWALL, UK
272	"Wessling, Albin (1); Kajberg, Jörgen (1); Larsson, Simon (1); Jonsén, Pär (1); Ramírez, Giselle (2); Vilaseca, Montserrat (2)"	<a href="#">Discrete Element Modelling of Rock Drilling</a>
273	"Blangé, Jan Jette (1); Zikovic, Vedran (2); Van Bergen, Frank (2); Wawoe, Diederik (1); Heerens, Gert-Jan (2)"	<a href="#">Novel Directional Steel Shot Drilling Technology for short radius, long reach multilaterals</a>
295	"Zikovic, Vedran (1); Blangé, Jan Jette (2); Bergen, Frank van (1); Heerens, Gert-Jan (1)"	<a href="#">Experimental investigation of hole cleaning and other operational parameters of a novel directional drilling technology for long reach laterals</a>
309	"Knauer, Henning; Jamali, Shahin; Wittig, Volker; Bracke, Rolf"	<a href="#">Deep Geothermal Drilling Real-Time Performance Prediction and Optimization Using Artificial Intelligence Methods</a>
358	"Liao, Hualin (1); Wang, Huajian (1); LATHAM, John-Paul (2); Xiang, Jiansheng (2); Gerbaud, Laurent (3); Sellami, Hedi (3)"	<a href="#">Study on output pressure prediction and jetting features of ultra-high pressure water jet for the downhole intensifier</a>

368	"Lipus, Martin Peter (1); Skúlason Kaldal, Gunnar (2); Helgi Eggertsson, Guðjón (3); Reinsch, Thomas (4,1); Wildenborg, Ton (5); Wollenweber, Jens (5); Demusson, Vignir (6); Pálsson, Bjarni (7); Sverrisson, Ólafur (7)"	<a href="#">Full-scale thermal cycle testing of innovative high-temperature casing connections ("flexible couplings")</a>
400	"Kjellgren, Per (1); Hahn, Simon (2); Schroer, Philipp (2); Peng, Tao (1); Jenssen, Carl Birger (1); Yu, Hanrui (1); Wittig, Volker (2); Přikryl, Jan (3); Alexandersson, Kristján F. (3); Mallin, Kevin (4); Zhang, Feifei (5)"	<a href="#">Investigation of a Fluidic Oscillator DTH Hammer Drill</a>
402	"Hahn, Simon; Schroer, Philipp; Bunk, Marian; Wittig, Volker; Bracke, Rolf"	<a href="#">Development of a Novel Percussion Mechanism for Downhole Hammer Drilling</a>
418	"Latham, John-Paul (1); Xiang, Jiansheng (1); Sellami, Hedi (2); Gerbaud, Laurent (2); Velmurugan, Naveen (2); Kane, Alexandre (3); Yang, Juan (3); Coudert, Terence (3); Liao, Hualin (4); Wang, Huajian (4); Naderi, Sadjad (1)"	<a href="#">Experimental and numerical investigation of high-pressure jetting fluids impinging on submerged hard rock under deep geothermal downhole drilling conditions</a>
456	"Kandala, Shanti Swaroop (1); Mai, An (1); Vetsak, Alex (2); Shor, Roman (1)"	<a href="#">An integrated model for deep drilling through hard rock</a>
460	"Sambrook, James Victor (1); Manolakos, Athena E. (1); Mai, An (1); Kantza, Apostolos (1); Shor, Roman J. (1); Torre, Ariel Torre (2); Vetsak, Alex (2)"	<a href="#">Geothermal Drilling in Deep and Hot Conditions with Conventional Technologies: Rig Design</a>

1223	"Gucuyener, Ismail Hakki; Gurcay, Kazim Onur; Yanik, Abdussamed; Ay, Ahmet"	<a href="#">Evaluation of Rheological Models for High Temperature Water-Based Drilling Fluids Using Geothermal Field Data</a>
1309	"Knauer, Henning; Jamali, Shahin; Wittig, Volker; Bracke, Rolf"	<a href="#">Deep Geothermal Drilling Real-Time Performance Prediction and Optimization Using Artificial Intelligence Methods</a>
1400	"Kjellgren, Per (1); Hahn, Simon (2); Schroer, Philipp (2); Peng, Tao (1); Jenssen, Carl Birger (1); Yu, Hanrui (1); Wittig, Volker (2); Přikryl, Jan (3); Alexandersson, Kristján F. (3); Mallin, Kevin (4); Zhang, Feifei (5)"	<a href="#">Investigation of a Fluidic Oscillator DTH Hammer Drill</a>
1402	"Hahn, Simon; Schroer, Philipp; Bunk, Marian; Wittig, Volker; Bracke, Rolf"	<a href="#">Development of a Novel Percussion Mechanism for Downhole Hammer Drilling</a>
1418	"Latham, John-Paul (1); Xiang, Jiansheng (1); Sellami, Hedi (2); Gerbaud, Laurent (2); Velmurugan, Naveen (2); Kane, Alexandre (3); Yang, Juan (3); Coudert, Terence (3); Liao, Hualin (4); Wang, Huajian (4); Naderi, Sadjad (1)"	<a href="#">Experimental and numerical investigation of high-pressure jetting fluids impinging on submerged hard rock under deep geothermal downhole drilling conditions</a>
1456	"Kandala, Shanti Swaroop (1); Mai, An (1); Vetsak, Alex (2); Shor, Roman (1)"	<a href="#">An integrated model for deep drilling through hard rock</a>
1460	"Sambrook, James Victor (1); Manolakos, Athena E. (1); Mai, An (1); Kantza, Apostolos (1); Shor, Roman J. (1); Torre, Ariel Torre (2); Vetsak, Alex (2)"	<a href="#">Geothermal Drilling in Deep and Hot Conditions with Conventional Technologies: Rig Design</a>

#### 4.4. Reservoir engineering, development and operation of geothermal plants

106	"Keim, Maximilian; Loewer, Markus; Molar-Cruz, Anahi; Schifflechner, Christo- pher"	<a href="#">The value of heat interconnection pipelines in the use of deep geothermal energy</a>
154	"İlgin, Buğrahan; Erol, Selçuk; Akin, Serhat"	<a href="#">Assessment of Amorphous Silica Scaling during CO2 Sequestration in Geothermal Reservoirs</a>
155	"Nitschke, Fabian; Buness, Carola M.; Egert, Robert; Ystroem, Lars H.; Kohl, Thomas"	<a href="#">The F4aT-Laboratory - Forced Fracture Fluid Flow and Transport</a>
158	"Luo, Wen (1); Vardon, Philip (1); Dieudonné, Anne-Cath- erine (1); Cox, Barbara (2)"	<a href="#">Numerical study of fluid loss into a thief zone overlying a geothermal reservoir</a>
161	"Salinas, Pablo; Regnier, Geraldine; Jaquemyn, Carl; Pain, Christopher C; Jackson, Matthew D"	<a href="#">Geothermal reservoir modelling using Dynamic Mesh Optimisation</a>
162	"Firth, Hayley; Regnier, Geraldine; Salinas, Pablo; Jacquemyn, Carl; Jackson, Matthew D"	<a href="#">Well-Doublet Location Optimisation for Aquifer Thermal Energy Storage using Dynamic Mesh Optimisation and Surface Based Modelling</a>
165	"Hofmann, Hannes; Blöcher, Guido; Zimmermann, Günter; Regensburg, Simona; Huenges, Ernst"	<a href="#">Development opportunities for deep geothermal energy in the North German Basin using the example of the Enhanced Geothermal System (EGS) research site Groß Schönebeck</a>
181	"Pogacnik, Justin (1); Harcouet-Menou, Vir- ginie (1); Zarrouk, Sadiq (2); McLean, Katie (3); Snyder, Diana (1)"	<a href="#">Pressure Response in Geothermal Injection Well MOL-GT-02; Balmatt, Belgium</a>
186	"Milsch, Harald; Cheng, Chaojie"	<a href="#">Fluid flow through rock fractures undergoing chemical interactions: experimental investigations with implications for EGS sustainability</a>
190	"Boeije, Chris; Verweij, Cas; Zitha, Pacelli; Barnhoorn, Auke; Pluymakers, Anne"	<a href="#">CO2 degassing of fluid in coreflood experiments</a>

216	"Major, Marton (1); Daniilidis, Alexandros (2); Mejer Hansen, Thomas (1); Khait, Mark (2); Voskov, Denis (2)"	<a href="#">Thermal response of a fluvial geothermal system with different methods for representing heterogeneity – An example from the Gassum Formation</a>
261	"Kottsova, Anna (1,2); Bruhn, David (2); Saar, Martin (1); Veeger, Floris (3); Brehme, Maren (1,2)"	<a href="#">Clogging mechanisms in geothermal operations: theoretical examples and an applied study</a>
271	"Santoso, Ryan Kurniawan (1); Degen, Denise (1); Cacace, Mauro (2); Wellmann, Florian (1)"	<a href="#">State-of-the-art physics-based machine learning for hydro-mechanical simulation in geothermal applications</a>
276	"TÜRKDOĞAN, Selvican (1,2); ACHTZIGER, Peter (1); AMANN, Florian (1); JALALI, Reza (1); KHALEDI, Kavan (1)"	A Workflow for Data Integration and Uncertainty Characterization of H M Coupled Models in Enhanced Geothermal Systems
280	"Ouf, Josselin (1,2); Khaledi, Kavan (1); Jalali, Mohammadreza (1); Amann, Florian (1); Vardon, Phil (2)"	Numerical Modeling of HM processes during Hydraulic Stimulation at the Grimsel Test Site
301	"Finger, Claudia (1); Nakata, Nori (2,3); Tuinstra, Katinka (4); Lanza, Federica (4); Saenger, Erik H. (5,1,6)"	<a href="#">Review of time-reverse applications to locate and characterise seismicity in geothermal reservoirs</a>
305	"Pervin, Mollika; Haque, Ashadul; Uz Zaman, Asad; Arman, Miah Raihan Mahmud; Chowdhury, Fahim; Rahman, Mohammad Azizur"	<a href="#">Development of geofluid knowledgebase system (KBS) to optimize geothermal energy production</a>
306	"Kruszewski, Michal (1,2); Montegrossi, Giordano (3); Backers, Tobias (2); Saenger, Erik H. (4,1,2)"	<a href="#">In-Situ Stress State of the Ruhr Region (Germany) and Its Implications for Geothermal Energy Utilization</a>

314	"Brehme, Maren (1,2); Markó, Ábel (3); Zimmermann, Günter (2); Weinzierl, Wolfgang (2); Aldaz, Santiago (2); Thiem, Stefan (4); Huenges, Ernst (2)"	<a href="#">The success of soft stimulation: thermal, hydraulic and chemical parameters before and after stimulation at the Mezöbereny site</a>
315	"Catinat, Maxime (1); Brigaud, Benjamin (1); Fleury, Marc (3); Antics, Miklos (2); Ungemach, Pierre (2); Davaux, Mélanie (2); Gasser Dorado, Julien (2); Thomas, Hadrien (1); Thomas Florent Essou, Codjo (2); Andrieu, Simon (4); Mouche, Emmanuel (5)"	<a href="#">NMR contribution for porosity-permeability heterogeneity characterization in limestones: implications for 3D reservoir prediction and flow simulation in a world class geothermal aquifer</a>
323	"Birke, Lena Sofie (1,3); Rivera Villarreyes, Carlos Andres (1); Meneses Rioseco, Ernesto (2)"	<a href="#">Uncertainty quantification and further development of the 3D thermal-hydraulic numerical model of the Upper Jurassic reservoir (Greater Munich area) for deep geothermal district heating</a>
331	"Meneses Rioseco, Ernesto (1); Moeck, Inga S. (1); Dussel, Michael (2)"	<a href="#">Understanding the thermo-hydro-mechanical behavior of an EGS in deep Upper Jurassic carbonates of the Bavarian Molasse Basin: Case study Geretsried</a>
360	"Hefny, Mahmoud (1,2); Setiawan, Muhammad Bhakti (3); Hammed, Mohamed (4); Qin, Chao-Zhong (5); Ebigbo, Anozie (6); Saar, Martin O. (1,7)"	<a href="#">Optimizing fluid(s) circulation in a CO2-based geothermal system for cost-effective electricity generation</a>
369	"Popineau, Joris; Renaud, Theo; O'Sullivan, John"	<a href="#">History Matching of the geothermal Dogger aquifer in the south Paris sedimentary basin</a>
385	"Merbecks, Tristan (1); Bombarda, Paola (2); Saar, Martin (3); Silva, Paolo (2); Alfani, Dario (2)"	<a href="#">Investigating the design of ORC heat introduction for single and two phase geofluids such as brines with or without non-condensable gases.</a>
397	"Egert, Robert (1); Gaucher, Emmanuel (1); Savvatis, Alexandros (2); Goblirsch, Peter (3); Kohl, Thomas (1)"	<a href="#">Numerical determination of long-term alterations of THM characteristics of a Malm geothermal reservoir during continuous exploitation</a>

403	"CHABAB, Salaheddine; POULAIN, Marie; DUCOUSSO, Marion; CEZAC, Pierre"	<a href="#">Thermodynamic modelling to predict the bubble point pressure from available information (T. GLR) from geothermal processes to prevent degassing</a>
421	"Raies, Ines (1,2); Kohler, Eric (1); Fleury, Marc (1); Ledésert, Béatrice (2)"	<a href="#">Identification and understanding of colloidal destabilization mechanisms in geothermal processes</a>
424	"Fleury, Marc (1); Catinat, Maxime (2,3); Brigaud, Benjamin (2); Antics, Miklos (3); Ungemach, Pierre (3)"	<a href="#">Permeability estimation from NMR logs in a limestone geothermal aquifer</a>
436	"Kohl, Thomas (1); Bremer, Judith (1); Schill, Eva (1,2); Kolditz, Olaf (3); Shao, Haibing (3); Sass, Ingo (4); Zimmermann, Günther (4)"	<a href="#">GeoLaB - Geothermal Laboratory in the Crystalline Basement</a>
462	"Halldorsdottir, Sæunn (1); Berre, Inga (1); Keilegavlen, Eirik (1); Axelsson, Gudni (2,3)"	<a href="#">Thermal fracturing and heat transfer below the superhot IDDP1 well in Krafla, NE Iceland</a>
485	"Broda, Benedikt (1); Köhl, Bernhard (1); Schlegel, Philipp (1); Eichinger, Florian (3); Iannotta, Joy (3); Kuhn, Dietmar (2); Seibt, Andrea (5); Teitz, Sebastian (6); Würdemann, Hilke (4)"	<a href="#">Site-specific solutions to reduce calcium carbonate precipitations in production wells in the South German Molasse Basin – Results from EvA-M 2.0 project</a>
1158	"Luo, Wen (1); Vardon, Philip (1); Dieudonné, Anne-Catherine (1); Cox, Barbara (2)"	<a href="#">Numerical study of fluid loss into a thief zone overlying a geothermal reservoir</a>
1161	"Salinas, Pablo; Regnier, Geraldine; Jaquemyn, Carl; Pain, Christopher C; Jackson, Matthew D"	<a href="#">Geothermal reservoir modelling using Dynamic Mesh Optimisation</a>
1162	"Firth, Hayley; Regnier, Geraldine; Salinas, Pablo; Jaquemyn, Carl; Jackson, Matthew D"	<a href="#">Well-Doublet Location Optimisation for Aquifer Thermal Energy Storage using Dynamic Mesh Optimisation and Surface Based Modelling</a>

1181	"Pogacnik, Justin (1); Harcouet-Menou, Virginie (1); Zarrouk, Sadiq (2); McLean, Katie (3); Snyder, Diana (1)"	<a href="#">Pressure Response in Geothermal Injecton Well MOL-GT-02; Balmatt, Belgium</a>
1216	"Major, Marton (1); Daniilidis, Alexandros (2); Mejer Hansen, Thomas (1); Khait, Mark (2); Voskov, Denis (2)"	<a href="#">Thermal response of a fluvial geothermal system with different methods for representing heterogeneity – An example from the Gassum Formation</a>
1261	"Kottsova, Anna (1,2); Bruhn, David (2); Saar, Martin (1); Veeger, Floris (3); Brehme, Maren (1,2)"	<a href="#">Clogging mechanisms in geothermal operations: theoretical examples and an applied study</a>
1305	"Pervin, Mollika; Haque, Ashadul; Uz Zaman, Asad; Arman, Miah Raihan Mahmud; Chowdhury, Fahim; Rahman, Mohammad Azizur"	<a href="#">Development of geofluid knowledgebase system (KBS) to optimize geothermal energy production</a>
1306	"Kruszewski, Michal (1,2); Montegrossi, Giordano (3); Backers, Tobias (2); Saenger, Erik H. (4,1,2)"	<a href="#">In-Situ Stress State of the Ruhr Region (Germany) and Its Implications for Geothermal Energy Utilization</a>
1360	"Hefny, Mahmoud (1,2); Setiawan, Muhammad Bhakti (3); Hammed, Mohamed (4); Qin, Chao-Zhong (5); Ebigbo, Anozie (6); Saar, Martin O. (1,7)"	<a href="#">Optimizing fluid(s) circulation in a CO2-based geothermal system for cost-effective electricity generation</a>
1403	"CHABAB, Salaheddine; POULAIN, Marie; DUCOUSSO, Marion; CEZAC, Pierre"	<a href="#">Thermodynamic modelling to predict the bubble point pressure from available information (T, GLR) from geothermal processes to prevent degassing.</a>
1421	"Raies, Ines (1,2); Kohler, Eric (1); Fleury, Marc (1); Ledésert, Béatrice (2)"	<a href="#">Identification and understanding of colloidal destabilization mechanisms in geothermal processes</a>
1424	"Fleury, Marc (1); Catinat, Maxime (2,3); Brigaud, Benjamin (2); Antics, Miklos (3); Ungemach, Pierre (3)"	<a href="#">Permeability estimation from NMR logs in a limestone geothermal aquifer.</a>



1436	"Kohl, Thomas (1); Bremer, Judith (1); Schill, Eva (1,2); Kolditz, Olaf (3); Shao, Haibing (3); Sass, Ingo (4); Zimmermann, Günther (4)"	<a href="#">GeoLaB - Geothermal Laboratory in the Crystalline Basement</a>
<b>4.5. Energy conversion systems and supply</b>		
203	"Sowizdżał, Anna (1); Andresen, Trond (2); Miecznik, Maciej (3); Frengstad, Bjørn S. (4); Liszka, Marcin (5); Gładysz, Paweł (1); Pająk, Leszek (1); Chmielowska, Anna (1); Tomaszewska, Barbara (1); Løvseth, Sigurd W. (2); Stenvik, Lars A. (4); Gawron, Marcel (5)"	<a href="#">EnerGizerS - Enhanced Geothermal Systems (EGS) using supercritical carbon dioxide as a working medium in Polish and Norwegian conditions</a>
425	"Schifflechner, Christopher; Wieland, Christoph; Spliethoff, Hartmut"	<a href="#">Efficient and flexible plant configurations for geothermal tri-generation systems with an Organic Rankine Cycle</a>
1203	"Sowizdżał, Anna (1); Andresen, Trond (2); Miecznik, Maciej (3); Frengstad, Bjørn S. (4); Liszka, Marcin (5); Gładysz, Paweł (1); Pająk, Leszek (1); Chmielowska, Anna (1); Tomaszewska, Barbara (1); Løvseth, Sigurd W. (2); Stenvik, Lars A. (4); Gawron, Marcel (5)"	<a href="#">EnerGizerS - Enhanced Geothermal Systems (EGS) using supercritical carbon dioxide as a working medium in Polish and Norwegian conditions</a>
1425	"Schifflechner, Christopher; Wieland, Christoph; Spliethoff, Hartmut"	<a href="#">Efficient and flexible plant configurations for geothermal tri-generation systems with an Organic Rankine Cycle</a>
123	"Shafagh, Ida; Rees, Simon; Loveridge, Fleur"	<a href="#">The Effect of Boundary Conditions on Heat Transfer through Energy Walls</a>
140	"Gupta, Aakash; Loveridge, Fleur; Shafagh, Ida; Rees, Simon"	<a href="#">An analytical approach to evaluate the heat transfer through embedded retaining walls</a>
156	"VOIRAND, Antoine (1); MARAGNA, Charles (1); VEYRON, Mathilde (2); CLAUSSE, Marc (2)"	<a href="#">A New Borefield Dymola Model Accounting for Groundwater Flow and Complex Borefield Geometries</a>

167	"Suft, Oliver; Bertermann, Dr. David"	<a href="#">Long-term Monitoring Concept Of A Very Shallow Horizontal Collector System</a>
189	"Meibodi, Saleh; Loveridge, Fleur"	<a href="#">Modelling and Simulation of Energy Walls Coupled with a Ground Source Heat Pump using TRNSYS</a>
202	"Kordas, Olga (1); Nikiforovich, Eugene (2)"	<a href="#">Steady – state quantitative and qualitative characteristics of geothermal energy extracted by Heat Pumps: Geothermal Energy Limit</a>
377	"Cadelano, Gianluca (1); Galgaro, Antonio (2); Dalla Santa, Giorgia (2); Di Sipio, Eloisa (2); Bortolin, Alessandro (1); Bernardi, Adriana (1)"	<a href="#">Evaluation of different metal anti-corrosion countermeasures on coaxial ground loop heat exchangers for shallow geothermal applications</a>
404	"Staudacher, Lars; Peter, Osgyan"	<a href="#">Geothermal deicing using a two-phase borehole heat exchanger</a>
408	"Urchueguía, Javier (1); Sanner, Burkhard (2); Gonzalez, Rosa (3); Zirgulis, Giedrius (4); Caputcu, Ayten (5); Saner Okan, Burcu (6); Bayonas, Antonio (7); Bartoli, Flavia (8); Shuster, Michael (9)"	<a href="#">Advanced materials and improvements for borehole heat exchangers - final results from project GEOCOND</a>
428	"Van de Ven, Adinda (1); Koenigsdorff, Roland (1); Neth, Fabian (1); Zorn, Roman (2); Schüppler, Simon (2); Huttenloch, Petra (2); Steger, Hagen (3); Albers, Anna (3); Karrer, Hanne (4); Fuchs, Martin (4); Kainzlsperger, Michael (4)"	<a href="#">Advanced thermal and geophysical test methods of shallow geothermal systems</a>
1123	"Shafagh, Ida; Rees, Simon; Loveridge, Fleur"	<a href="#">The Effect of Boundary Conditions on Heat Transfer through Energy Walls</a>
1140	"Gupta, Aakash; Loveridge, Fleur; Shafagh, Ida; Rees, Simon"	<a href="#">An analytical approach to evaluate the heat transfer through embedded retaining walls</a>

1163	"Bhamji, Imran (1); Mittal, Garima (2); Taddei Pardelli, Paolo (3); Ingvi Snorrason, Davíð (4); Csaki, Ioana (12); Ingi Ólafsson, Dagur (5); Anxionnaz-Minvielle, Zoe (6); Pálsson, Halldór (7); Ragna Ragnarsdóttir, Kolbrún (8); Kjellgren, Per (9); Chowdhury, Fahim (10); Defensor, John (11); Paul, Shiladitya (2); Ósk Haraldsdóttir, Helen (8); Martelo, David (1); Khan, Raja (1); Kale, Namrata (1); Cormorant, Guillaume (13); Karlisdóttir, Sigrún Nanna (7); Pálsson, Halldór (7)"	Anti-corrosion and anti-scaling of geothermal heat exchangers
1167	"Suft, Oliver; Bertermann, Dr. David"	<a href="#">Long-term Monitoring Concept Of A Very Shallow Horizontal Collector System</a>
<b>4.6. Energy conversion systems and supply</b>		
123	"Shafagh, Ida; Rees, Simon; Loveridge, Fleur"	<a href="#">The Effect of Boundary Conditions on Heat Transfer through Energy Walls</a>
156	"VOIRAND, Antoine (1); MARAGNA, Charles (1); VEYRON, Mathilde (2); CLAUSSE, Marc (2)"	<a href="#">A New Borefield Dymola Model Accounting for Groundwater Flow and Complex Borefield Geometries</a>
167	"Suft, Oliver; Bertermann, Dr. David"	<a href="#">Long-term Monitoring Concept Of A Very Shallow Horizontal Collector System</a>
189	"Meibodi, Saleh; Loveridge, Fleur"	<a href="#">Modelling and Simulation of Energy Walls Coupled with a Ground Source Heat Pump using TRNSYS</a>
202	"Kordas, Olga (1); Nikiforovich, Eugene (2)"	<a href="#">Steady – state quantitative and qualitative characteristics of geothermal energy extracted by Heat Pumps: Geothermal Energy Limit</a>
377	"Cadelano, Gianluca (1); Galgaro, Antonio (2); Dalla Santa, Giorgia (2); Di Sipio, Eloisa (2); Bortolin, Alessandro (1); Bernardi, Adriana (1)"	<a href="#">Evaluation of different metal anti-corrosion countermeasures on coaxial ground loop heat exchangers for shallow geothermal applications</a>
404	"Staudacher, Lars; Peter, Osgyan"	<a href="#">Geothermal deicing using a two-phase borehole heat exchanger</a>

408	"Urchueguía, Javier (1); Sanner, Burkhard (2); Gonzalez, Rosa (3); Zirgulis, Giedrius (4); Caputcu, Ayten (5); Saner Okan, Burcu (6); Bayonas, Antonio (7); Bartoli, Flavia (8); Shuster, Michael (9)"	<a href="#">Advanced materials and improvements for borehole heat exchangers - final results from project GEOCOND</a>
428	"Van de Ven, Adinda (1); Koenigsdorff, Roland (1); Neth, Fabian (1); Zorn, Roman (2); Schüppler, Simon (2); Huttenloch, Petra (2); Steger, Hagen (3); Albers, Anna (3); Karrer, Hanne (4); Fuchs, Martin (4); Kainzlsperger, Michael (4)"	<a href="#">Advanced thermal and geophysical test methods of shallow geothermal systems</a>
1123	"Shafagh, Ida; Rees, Simon; Loveridge, Fleur"	<a href="#">The Effect of Boundary Conditions on Heat Transfer through Energy Walls</a>
1140	"Gupta, Aakash; Loveridge, Fleur; Shafagh, Ida; Rees, Simon"	<a href="#">An analytical approach to evaluate the heat transfer through embedded retaining walls</a>
1167	"Suft, Oliver; Bertermann, Dr. David"	<a href="#">Long-term Monitoring Concept Of A Very Shallow Horizontal Collector System</a>
1202	"Kordas, Olga (1); Nikiforovich, Eugene (2)"	<a href="#">Steady - state quantitative and qualitative characteristics of geothermal energy extracted by Heat Pumps: Geothermal Energy Limit</a>
<b>4.7. Operation of geothermal systems</b>		
110	"Oppelt, Lukas; Grab, Thomas; Pose, Sebastian; Storch, Thomas; Fieback, Tobias"	<a href="#">Innovative heat exchanger design to avoid fouling</a>
150	"Dietmaier, Annette; Baumann, Thomas"	Multiple sensor data fusion applied to geothermal reservoir management
159	"Zacherl, Lilly; Omid, Mohamad; Baumann, Thomas"	Scalings in Geothermal Systems: Quantifying and Modeling the Role of Degassing
182	"Banshoya, Shin Irgens; Berre, Inga; Keilegavlen, Eirik"	<a href="#">Simulation of reactive transport in fractured geothermal reservoirs</a>
200	"Cercllet, Léo; Pasquier, Philippe; Courcelles, Benoît"	<a href="#">Quantify the Impact of Groundwater Treatment on Carbonate Scaling in Standing Column Well</a>

227	"RAMIREZ, REINALDO (1); Giardinella, Sebastiano (2); Diaz, Rosario (1)"	<a href="#">Conversion of Oil Brownfield in a Geothermal Sustainable and Renewable Energy Field</a>
249	"Jeßberger, Jaromir; Heberle, Florian; Brüggemann, Dieter"	<a href="#">Integration of a high temperature heat pump into geothermal systems</a>
254	"Zotzmann, Jörg (1); Feldbusch, Elvira (1); Richter, Mirko (2); Aibibu, Dilbar (2); Regenspurg, Simona (1)"	Adsorptive removal of lead from geothermal fluid under high temperature/high pressure conditions to prevent Pb induced scaling
257	"Schmittbuhl, Jean (1); Lambotte, Sophie (1); Lengliné, Olivier (1); Grunberg, Marc (2); Jund, Hélène (2); Dobre, Cécile (1); Vergne, Jérôme (1); Cornet, François (1); Masson, Frédéric (1)"	<a href="#">Analysis of the recent induced seismicity below the city of Strasbourg, France</a>
263	"Schäfer, Dennis; Böhmer, Felix; Wechsung, Michael; Hansper, Jil"	<a href="#">Next-Gen Geothermal Power – Putting CO2 to Work</a>
288	"Fechner, Dorothee (1,2); Kondek, Milena (1); Kölbel, Thomas (1); Kolb, Jochen (2)"	<a href="#">CO2 handling in binary geothermal systems – a modelling approach for different CO2 contents, amount total dissolved solids and pressure-temperature conditions</a>
317	"Ji, Yinlin; Hofmann, Hannes"	<a href="#">Influence of thermal stress on injection-induced fault slip: An integrated laboratory and numerical study</a>
356	"Shoeibi Omrani, Pejman; Poort, Jonah; Wasch, Laura; Twerda, Aris"	<a href="#">Impact of geochemical uncertainties on geothermal fluid production and scaling precipitation in geothermal plants and facilities</a>
373	"Rhodes, Andrew (1); van Unen, Marianne (2); Liu, Wen (1)"	<a href="#">Techno-economic Analysis of a Low Temperature Geothermal District Heat Pump Network in The Netherlands</a>
392	"Jähnichen, Sabine (1); Degering, Detlev (1); Heberling, Frank (2); Hoffmann, Richard (3); Kuhn, Dietmar (4); Langenmaier, Michael (2); Otto, Tobias (1); Seibt, Andrea (5); Uhde, Jörg (3)"	<a href="#">Characterization of scales from a geothermal plant in the Upper Rhine Graben after long-term application of an inhibitor combination</a>

399	"Kummerow, Juliane; Goldberg, Tanya; Giese, Ronny"	<a href="#">Kinetics of scale formation of calcite and amorphous silica from hot brines monitored by impedance spectroscopy: An experimental study</a>
449	"Ruliandi, Dimas; Cahyadi, Dede; Budiyanto, Eko Nugroho; Lathieful Haq, Muhammad"	<a href="#">Analysis of Load Limit and Governor Free Selection Mode in Geothermal Power Plant Operation And Its Impact on The Steam Gathering System</a>
489	"Schneider von Deimling, Thomas (1,2); Bertermann, David (3); Assmann, Lisa Marie (1); Langer, Moritz (1,2)"	Modelling the potential of very shallow geothermal installations under consideration of climate change
1200	"Cerclet, Léo; Pasquier, Philippe; Courcelles, Benoît"	<a href="#">Quantify the Impact of Groundwater Treatment on Carbonate Scaling in Standing Column Well</a>
1227	"RAMIREZ, REINALDO (1); Giardinella, Sebastiano (2); Diaz, Rosario (1)"	<a href="#">Conversion of Oil Brownfield in a Geothermal Sustainable and Renewable Energy Field</a>
1249	"Jeßberger, Jaromir; Heberle, Florian; Brüggemann, Dieter"	<a href="#">Integration of a high temperature heat pump into geothermal systems</a>
1263	"Schäfer, Dennis; Böhmer, Felix; Wechsung, Michael; Hansper, Jil"	<a href="#">Next-Gen Geothermal Power – Putting CO2 to Work</a>
1288	"Fechner, Dorothee (1,2); Kondek, Milena (1); Kölbel, Thomas (1); Kolb, Jochen (2)"	<a href="#">CO2 handling in binary geothermal systems – a modelling approach for different CO2 contents, amount total dissolved solids and pressure-temperature conditions</a>
1373	"Rhodes, Andrew (1); van Unen, Marianne (2); Liu, Wen (1)"	<a href="#">Techno-economic Analysis of a Low Temperature Geothermal District Heat Pump Network in The Netherlands</a>
1392	"Jähnichen, Sabine (1); Degering, Detlev (1); Heberling, Frank (2); Hoffmann, Richard (3); Kuhn, Dietmar (4); Langenmaier, Michael (2); Otto, Tobias (1); Seibt, Andrea (5); Uhde, Jörg (3)"	<a href="#">Characterization of scales from a geothermal plant in the Upper Rhine Graben after long-term application of an inhibitor combination</a>
1449	"Ruliandi, Dimas; Cahyadi, Dede; Budiyanto, Eko Nugroho; Lathieful Haq, Muhammad"	<a href="#">Analysis of Load Limit and Governor Free Selection Mode in Geothermal Power Plant Operation And Its Impact on The Steam Gathering System</a>

4.8. Integration of geothermal into the circular economy		
345	"Jagert, Felix; Alms, Katharina"	<a href="#">Modeling of brine-rock interactions in German geothermal systems for future lithium recovery</a>
351	"Alms, Katharina (1); Jagert, Felix (1); Gehrke, Ilka (2)"	<a href="#">Co-production of geothermal energy and lithium from geothermal waters in Germany</a>
395	"Jagert, Felix; Güldenhaupt, Jonas; Nardini, Isabella"	Hydrogeochemical exploration of deep groundwater in fractured sandstone aquifers for CO <sub>2</sub> -Mineral-Carbonation: A case study in Bochum, Germany
4.9. Other		
101	"Toth, Aniko Nora (1); Lund, John W. (2); Huttrer, Gerry (3); Fenerty, David K. (4)"	<a href="#">Current world situation for geothermal energy production, based on WGC2020+1 reports from 88 countries</a>
109	"Yurteri, Cansu; Kurttaş, Türker"	<a href="#">Hydrogeochemical and Isotopic Investigations of Kiran (Mucur-Kırşehir) Hot and Mineralized Waters, Central Anatolia, Turkey</a>
160	"Regnier, Geraldine; Salinas, Pablo; Jackson, Matthew D."	<a href="#">A novel simulation methodology to quantify the risk of saltwater contamination of freshwater aquifers during Aquifer Thermal Energy Storage</a>
197	"Blake, Sarah (1); Mather, Ben (2); Dunphy, Rory (3); Companyà, Joan (4)"	<a href="#">New all-island deep temperature maps for Ireland</a>
210	"Schulze, Maximilian (1); Jahn, Sandro (1); Stefánsson, Andri (2); Driesner, Thomas (3)"	<a href="#">Understanding properties of superhot fluids for exploration and development of supercritical resources</a>
217	"Lager, Daniel (1); Haslinger, Edith (1); Friedrich, Robin (1); Dragisa, Pantelic (1); Hoyer, Stefan (2); Rupprecht, Doris (2)"	<a href="#">Thermophysical properties of a subsoil drill core for geothermal energy applications</a>
226	"Schaming, Marc (1); Schmittbuhl, Jean (1); Fremand, Alice (2,3); Turlure, Mathieu (2); Grunberg, Marc (2)"	<a href="#">CDGP - the data center for deep geothermal data in Alsace</a>
242	"Fasci, Maria Letizia; Lazarotto, Alberto; Acuña, José; Claesson, Joachim"	<a href="#">GSHPsDesigner: an open access tool for ground-source heat pumps designers and decision makers</a>

245	"Monaghan, Alison; Kuras, Oliver; Boon, David; Wilkinson, Paul; Meldrum, Phil; Harrison, Harry; Inauen, Cornelia; Swift, Russell; Chambers, Jonathan; Abesser, Corinna; Starcher, Vanessa; Shorter, Kirsty; MacAllister, Donald John; Spence, Michael"	<a href="#">Time-series geophysical and hydrogeological characterisation for mine water geothermal research at the UK Geoenergy Observatory in Glasgow, UK.</a>
293	"Harpers, Nick (1); Forbes Inskip, Nathaniel (1); Allen, Michael John (2); Faulkner, Daniel (2); Buckman, Jim (1); den Hartog, Sabine (1)"	<a href="#">Effects of chemical alteration on frictional properties in a deep, granitic, geothermal system in Cornwall: Direct shear experiments on granite gouges at near in-situ conditions</a>
297	"Starczewska, Magdalena; Sowiżdżał, Anna; Kaczmarczyk, Michał"	<a href="#">LIFE CYCLE ASSESSMENT OF ENHANCED GEOTHERMAL SYSTEM</a>
325	"Lassin, Arnault (1); Felipe dos Santos, Pedro (2); Ducouso, Marion (2); Cézac, Pierre (2); André, Laurent (1,3)"	<a href="#">Experimental measurements and modelling of thermodynamic properties of NaCl-CaCl<sub>2</sub> aqueous solutions up to high temperatures and CO<sub>2</sub> pressures</a>
327	"PAVULURI, Saideep (1); CLARET, Francis (2); TOURNASSAT, Christophe (1,3); ANDRE, Laurent (1,2); SOULAIN, Cyprien (1)"	<a href="#">porousMedia4Foam – a generic open-source reactive transport toolbox based on OpenFOAM</a>
359	"Suherlina, Lily (1); David, Bruhn (1); Brehme, Maren (2)"	<a href="#">Updated Conceptual Models of the Lahendong High-Enthalpy Geothermal Field</a>
367	"Kinscher, Jannes (1); Broothaers, Matsen (2); Francesca, De Santis (1); Ben, Laenen (2); Jean, Schmittbuhl (3); Emmanuelle, Klein (1)"	<a href="#">Origin and hazard of induced seismicity at the Balmatt geothermal doublet (Belgium)</a>
370	"De Santis, Francesca; Klein, Emmanuelle; Thoraval, Alain; Contrucci, Isabelle; Kinscher, Jannes"	<a href="#">Case analysis of seismicity related to the exploitation of deep geothermal energy</a>



371	"Doran, Hannah R. (1,3); Renaud, Theo (2); Brown, Christopher (1); Kolo, Isa (1); Falcone, Gioia (1); Sanderson, David (3)"	<a href="#">Radioactive waste as anthropogenic heat source: shallow geothermal applications</a>
382	"Saadat, Ali; Kranz, Stefan; Norden, Ben; Blöcher, Guido; Virchow, Lioba; Piekarski, Jan-Kristian; Regenspurg, Simona"	<a href="#">Geothermal district heating in Berlin: An ATEs field study in Berlin-Adlershof</a>
410	"Hemmerle, Hannes (1); Ferguson, Grant (2); Blum, Philipp (3); Bayer, Peter (1)"	<a href="#">Development of the geothermal potential of an urban aquifer over half a century</a>
412	"Regenspurg, Simona; Kieling, Katrin; Acksel, Daniel"	<a href="#">Geothermal potential and activities in the Berlin - Brandenburg region</a>
416	"Frick, Maximilian (1); Kranz, Stefan (1); Norden, Ben (1); Bruhn, David (2,3); Fuchs, Sven (1)"	<a href="#">Identifying the geothermal and heat storage potential of the shallow to deep subsurface of the North German Basin</a>
423	"Schifflechner, Christopher; Irl, Matthäus; Molar-Cruz, Anahi; Keim, Maximilian; Loewer, Markus; Ferrand, Thomas; Wieland, Christoph; Spliethoff, Hartmut"	<a href="#">Optimized pipe diameter and insulation thickness of long-distance heat interconnection pipelines</a>
426	"Nazari Moghaddam, Rasoul; van Doorn, Marcel; Dos Santos, Auribel; Sanders, Jan; Oskarsson, Hans; Hellberg, Per-Erik"	<a href="#">Development of a thermally stable scale Inhibitor-dissolver with a multi-scale inhibition approach</a>
429	"Stemmler, Ruben; Hammer, Vanessa; Blum, Philipp; Menberg, Kathrin"	<a href="#">Potential of Shallow Aquifer Thermal Energy Storage in Germany</a>
430	"Ramirez-Guzman, Angel Andres (1); Hung, Pham (1); Bär, Kristian (1); Sass, Ingo (2)"	Matrix acidification experiments for Remlinger sandstone samples in reservoir conditions.

478	"Borović, Staša (1); Pola, Marco (1); Pavić, Mirja (1); Briški, Maja (1); Kosović, Ivan (1); Frangen, Tihomir (1); Urumović, Kosta (1); Matoš, Bojan (2); Pavičić, Ivica (2); Terzić, Josip (1)"	<a href="#">Multidisciplinary Approach to Conceptual Modelling of Hydro-thermal Systems in Croatia - HyTheC</a>
492	"Kirsch, Reinhard (2); Rüter, Horst (1)"	<a href="#">Molten salt latent heat storage for demand-based electricity supply from renewable energies</a>
1130	"Chowdhury, M A H; Asaduzzaman, A K M; Ahmed, T; Ahmad, T I; Ahmed, M"	<a href="#">Environmental impacts of GeoHex and standard materials adopted for monophasic heat exchangers in geothermal power plants</a>
1160	"Regnier, Geraldine; Salinas, Pablo; Jackson, Matthew D."	<a href="#">A novel simulation methodology to quantify the risk of saltwater contamination of freshwater aquifers during Aquifer Thermal Energy Storage</a>
1197	"Blake, Sarah (1); Mather, Ben (2); Dunphy, Rory (3); Companyà, Joan (4)"	<a href="#">New all-island deep temperature maps for Ireland</a>
1217	"Lager, Daniel (1); Haslinger, Edith (1); Friedrich, Robin (1); Dragisa, Pantelic (1); Hoyer, Stefan (2); Rupprecht, Doris (2)"	<a href="#">Thermophysical properties of a subsoil drill core for geothermal energy applications</a>
1293	"Harpers, Nick (1); Forbes Inskip, Nathaniel (1); Allen, Michael John (2); Faulkner, Daniel (2); Buckman, Jim (1); den Hartog, Sabine (1)"	<a href="#">Effects of chemical alteration on frictional properties in a deep, granitic, geothermal system in Cornwall: Direct shear experiments on granite gouges at near in-situ conditions</a>
1297	"Starczewska, Magdalena; Sowiżdżał, Anna; Kaczmarczyk, Michał"	<a href="#">LIFE CYCLE ASSESSMENT OF ENHANCED GEOTHERMAL SYSTEM</a>
1327	"PAVULURI, Saideep (1); CLARET, Francis (2); TOURNASSAT, Christophe (1,3); ANDRE, Laurent (1,2); SOULAIN, Cyprien (1)"	<a href="#">porousMedia4Foam – a generic open-source reactive transport toolbox based on OpenFOAM</a>

1423	"Schifflechner, Christopher; Irl, Matthäus; Molar-Cruz, Anahi; Keim, Maximilian; Loewer, Markus; Ferrand, Thomas; Wieland, Christoph; Spliethoff, Hartmut"	<a href="#">Optimized pipe diameter and insulation thickness of long-distance heat interconnection pipelines</a>
1492	"Kirsch, Reinhard (2); Rüter, Horst (1)"	<a href="#">Molten salt latent heat storage for demand-based electricity supply from renewable energies</a>