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## Podzemno uplinjanje premoga na Premogovniku Velenje

### Underground coal gasification at the Coal Mine Velenje

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#### POVZETEK

Energetske, ekonomske in okoljevarstvene zahteve 21. stoletja so še vedno v prid razvoju podzemnega uplinjanja premoga (PUP). Vse dosedanje izkušnje in pridobljeno znanje pri že izvedenih raziskavah je smiselno čim bolj izkoristiti za razvoj tehnologije. Iz pregleda raziskav, ki so povezane s tematiko PUP in so bile izvedene v Jugoslaviji lahko ugotovimo, da se je strokovna javnost že leta 1962 zavedala potencialov PUP. S teoretičnimi raziskavami so vseskozi sledili dogajanju v svetu, praktične raziskave pa so bile usmerjene pretežno v karakterizacijo potencialnih ležišč, ki so primerne za izvedbo PUP. V letu 2008 smo na Premogovniku Velenje ustanovili Čiste premogovne tehnologije (CCT), da bi v okviru proizvodnje električne energije zagotavljali pogoje za prenos znanja, rezultatov raziskav in tehnologij v prakso. Dejavnosti CCT, ki so usmerjene v izvajanje R&D projektov, spremljanje novosti in pridobivanje evropskih sredstev, so razdeljene v več sklopov med katerimi je tudi PUP. Projekt smo zadnja štiri leta izvajali pod okriljem operacije Razvojni center energija (RCE), ki je bila sofinancirana iz evropskih in slovenskih razvojnih sredstev. V članku so prikazani rezultati projekta PUP, kot so: izbor lokacije, priprava rudarsko tehnične dokumentacije, izvedba pripravljalnih del in vrtin za izvedbo pilotnega testa PUP.

**Ključne besede:** podzemno uplinjanje premoga, nekonvencionalna izraba premoga, sintetični plin.

#### POVZETEK

Energy, economic and environmental requirements of the 21<sup>st</sup> century are still in favour of the development of the technology underground coal gasification (UCG). It is reasonable to use all the lessons learned and knowledge gained in previously conducted researches to develop the UCG technology completely. Based on a data review, which was carried out in Yugoslavia, it can be concluded that the expert knew the potential of the UCG back in 1962. Experts followed the trend in UCG around the world with its theoretical researches, practical researches were focused mostly the characterization of the potential coal beds

which could be suitable for UCG. In 2008, Clean coal technology (CCT) research group was established at the Coal Mine Velenje with the purpose to provide the knowledge, results and technologies transfer into practice. CCT activities, which are focused into implementation of the R&D projects, searching new technologies and collaboration at projects funded by European funds, are divided into several sections, including the UCG. UCG project was implemented in last four years under the operation Research centre Energy (RCE), which was funded by European and Slovenian research funds. Article presents the results of the project UCG, which are: site selection, preparation of the technical documentation, preparatory work and drilling boreholes for the UCG pilot test.

**Key words:** underground coal gasification, unconventional coal extraction, synthetic gas.