

RWE Power list of topics (contact: Jannis Boyan / +49-162-2945202 / jannis.boyan@rwe.com)	Doctoral thesis	Master thesis	Seminar paper	Bachelor thesis	Discipline	Processing period
Capacity optimization of conveying routes for "M2 wet" handling			X		Mining	possible immediately
Practical investigation into the identification of various overburden materials with a focus on online or offline analysis options to improve material flow routing		X			Operations management systems, mining, electrical engineering	possible immediately
Development of algorithms for the evaluation of scanner information on spreaders in terms of stability of the dumped material to improve excavator/spreader deployment		X				possible immediately
Load-factor forecast for excavators and spreaders in the opencast lignite mines of RWE Power AG		X	X			possible immediately
Weak point analysis system for materials handling systems		X	X	X	Mining	possible immediately
Identification of optimum operating ranges for pumps in frequency converter operation in connection with BIOS		X	X		Water management	possible immediately
Use of alternative pipe cleaning methods in higher-level pipe systems, taking account of operational and economic aspects		X	X		Water management	possible immediately
Development of solution concepts for improving piezometer availability			X		Water management	possible immediately
GIS-supported determination of groundwater availability in groundwater basins			X		Water management	possible immediately
Examination of the new well design to determine the iron clogging behaviour of submersible motor pumps			X	X	Mechanical /civil engineering	possible immediately
Production of detailed interim use concepts for the operating and filling phase of the Inden mine's final void		X	X			possible immediately
Technical and economic evaluation of options for using the water surface of the future Inden pit lake in front of the townships in the lake's surroundings for providing pier/pontoon solutions		X	X			possible immediately
Technical/economic evaluation of agricultural recultivation of special sites (e.g. Garzweiler, Fortuna and Inden overburden dumps, excavator transport route)				X		possible immediately
Description and technical/economic evaluation of alternative sealing systems for power plant residue landfills in the Rhenish mining area		X	X			possible immediately
Technical/economic evaluation of options for depositing power plant residues of the large-scale power plants located along the North-South railway on the Vereinigte Völle power plant residue landfill		X	X			possible immediately
Share of fine particulates in total dust emissions caused by wind erosion of surfaces and dumps		X		X	Pollution control	possible immediately
Total dust emission balance of RWE's opencast mines	X				Pollution control	possible immediately
Optimization of decision criteria based on a mining-related evaluation system		X			Industrial engineering, mineral resources & power engineering	possible immediately
Possibilities of using expert systems to support mining operations			X	X	Mining, business informatics	possible immediately
Use of expert systems in lignite logistics	X	X	X		Mining, business informatics	possible immediately
Use of expert systems in opencast mine planning	X	X	X		Mining, business informatics	possible immediately
Examination and evaluation of alternative landfill concepts for power plant residues in the Rhenish lignite mining area		X			Mining	possible immediately
Identification and prioritization of energy-saving measures in mining operations using the example of the Hambach opencast mine		X			Mining	possible immediately
Preparation of a quality management manual for geological sampling, recording and evaluation in drilling operations			X		Mining / mineral resources engineering	possible immediately
Optimization of water withdrawal from drainage sumps containing fine-grained sediment and lignite lumps			X		Mineral resources engineering	possible immediately
Use of existing/supplementary camera systems for weak point analysis			X	X	Mineral resources engineering	possible immediately
Examination of logistics processes at POG-MI (provision of material and equipment for mechanical construction sites in the Garzweiler opencast mine)			X		Mechanical engineering / logistics	possible immediately
Verification of the design of brakes at the shunting head drives of the Jackerath belt junction in the Garzweiler opencast mine			X		Mechanical engineering / design	possible immediately
New (used) bending press at POG-MI: For which type of components is bending more advantageous and for which type of components welding on plates?		X	X	X	Mechanical / manufacturing engineering	possible immediately
Identification of cost-cutting potential in the carbon footprint offered by a reduction in moisture content of raw lignite through the targeted use and optimization of dust control in the lignite logistics process		X	X			possible immediately
Gravimetric exploration of channel structures in the Hambach opencast mine		X			Geosciences, coal quality	open
Evaluation of geophysical borehole data by means of neural networks		X			Geosciences	open
Higher-level performance indicators in maintenance - Lignite system vs. industry		X	X	X	Mechanical / industrial engineering	possible immediately
Modular structure of work plans in gearbox maintenance		X	X	X	Mechanical / industrial engineering	possible immediately
Parameter-based variant selection using the example of gearbox maintenance		X	X	X	Mechanical / industrial engineering	possible immediately
Concept for monitoring and analysing the wear of carbon brushes on motors			X		Mining	
Options for homogenizing ash contents and avoiding temporary ash peaks in the lignite supplied by the Inden mine to the Weisweiler power plant and economic repercussions					Mining	