

## **Greetings to participants of the MAREX company questionnaire**

Dear Ladies and Gentlemen,

Thank you very much for spending your precious time to answer our questionnaire which is a substantial part of the project:

*Management of Mineral Resource Extraction in Hoa Binh Province. A Contribution to Sustainable Development in Vietnam (MAREX)*

MAREX is a joint German-Vietnamese research project dealing with the building boom in the Hanoi metropole region and its environmental impacts. The main focus is on the management of mineral resource extraction, encompassing the topics of processing, use and recycling. Having this in mind, the project is seen as a contribution to sustainable development in Vietnam.

The project is co-sponsored by the Vietnamese Ministry of Science and Technology (MoST) and the German Federal Ministry of Education and Research (BMBF). Our special thanks go to the Government of Hoa Binh Province which is substantially supporting the project with financial input and man power.

Only with your responses, we will get to know the real needs of the branch and plan objectives that serve common needs of the industry accordingly. All recipients will get access to the core results of the project. Among other results, one result shall be a *Guideline on Cleaner Production in the Mining Industry of Hoa Binh*.

Many thanks to your contribution!

Vu Anh Minh

Project Manager/The Leibniz Institute of Ecological Urban and Regional Development  
(Project leader Germany)

Dresden, Germany, January 4, 2018

## **Technical remarks on the questionnaire**

The period of implementation the survey is from Thursday, 14<sup>th</sup> April 2016 to Monday, 16<sup>th</sup> May 2016.

All content of this questionnaire has been produced by the German-Vietnamese project consortium which is listed in the project brochure enclosed to this letter. The C+E Consulting and Engineering Company from Chemnitz, Germany, was the main designer of the questionnaire.

The questionnaire is targeting local state-owned and private companies in the province of Hoa Binh which extract and treat natural resources to be used as construction materials.

Our local institutional partner for project implementation is the Environmental Protection Agency – Department of Natural Resources and Environment – Hoa Binh Province. It will distribute the questionnaire to local companies and collect the responses.

Please note that we are upholding the international standards of scientific research. This means, we will use your data only for scientific purposes and anonymize all data in scientific reports and publications. As a consequence, all names of the respondents are hidden. All originals of completed questionnaires will be kept in Germany for proofing matters and for further scientific research, solely within the framework of MAREX.

The results will be statistically analyzed and should serve as a comprehensive basis to shed light on the current local practice on construction materials extraction in Hoa Binh. As a consequence, we will get a starting point on how to improve the technology deployment, overall efficiency, and environmental compatibility of mining gravel, sand, and basalt for the construction industry.

# Dự án Quản lý việc khai thác tài nguyên khoáng sản tại tỉnh Hoà Bình - một đóng góp cho sự phát triển bền vững ở Việt Nam (MAREX)

Project  
Management of Mineral Resource Extraction in Hoa Binh Province. A Contribution to Sustainable Development in Vietnam (MAREX)

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## Bản hỏi thông kê các doanh nghiệp khoáng sản

Questionnaire on quarrying companies in Hoa Binh Province

### Phần 1: Thông tin tổng quát

Part 1 - General Information

<b>Tên công ty:</b> Name of the Company	..... ..... ..... ..... .....
<b>Pháp nhân công ty:</b> Legal form	<input type="checkbox"/> sole proprietorship <input type="checkbox"/> TNHH Limited company <input type="checkbox"/> Joint stock company <input type="checkbox"/> Other: _____
<b>Licensing authority:</b>	
<b>Date of license approval:</b>	
<b>Total approved volume:</b>	
<b>End date of license:</b>	
<b>Project duration (years):</b>	
<b>Specific conditions of the project:</b>	

<b>Foreign investor involved?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Start date of operation:</b>		
<b>Coordinates of production site (cadastre information):</b>	Longitude: _____ Latitude: _____	
<b>Operating area:</b>	Plot 1: _____ ha Plot 2: _____ ha	
<b>Number of employees:</b>		
<b>Most recent final accounts - Annual turnover (in VND or USD):</b>	Last audit year: _____ <input type="checkbox"/> _____ VND or <input type="checkbox"/> _____ USD	
<b>Most recent final accounts - Annual profit (VND or USD):</b>	Last audit year: _____ <input type="checkbox"/> _____ VND or <input type="checkbox"/> _____ USD	
<b>Annual subsidiaries from the state (VND):</b>		
<b>Are you cooperating with other mining companies?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>If YES: Which one?</b>		
<i>In what aspects?</i>		
<b>If NO: Would you like to?</b>		
<i>In what aspects?</i>		
<b>Please state the annual composition of your fees and taxes:</b>	<i>Kind of fee/tax</i>	<i>Total sum per fee/tax</i>
	Royalties	

	Environmental protection tax:	
	Land rental fee:	
	Licence fee:	
	Other:	
<b>Please state your annual expenses for environmental protection fee?</b>	<i>Material</i>	<i>Amount per year (t/m<sup>3</sup>)</i>
	<input type="checkbox"/> Clay	
	<input type="checkbox"/> Limestone	
	<input type="checkbox"/> Basalt	
	<input type="checkbox"/> Other 1:	
	<input type="checkbox"/> Other 1:	

**Part 2 - Statements on extraction activities (multiple selection possible)**

Production Output	Final product	Annual output (in t/m <sup>3</sup> )	Daily output (in t/m <sup>3</sup> )
	<input type="checkbox"/> Clay		
	<input type="checkbox"/> Limestone		
	<input type="checkbox"/> Basalt		
	<input type="checkbox"/> Cement		
	<input type="checkbox"/> Concrete		
	<input type="checkbox"/> Other:		
Final processing in company?	<input type="checkbox"/> Yes <span style="margin-left: 150px;"><input type="checkbox"/> No</span>		
Outbound delivery quantity per year / customer	<input type="checkbox"/> Further processing (please underline metric unit): <input type="checkbox"/> Cement: _____ t / m <sup>3</sup> <input type="checkbox"/> Concrete: _____ t / m <sup>3</sup>  <input type="checkbox"/> Construction <ul style="list-style-type: none"> <li>○ Infrastructure</li> <li>○ Building construction</li> </ul> <input type="checkbox"/> Other customers: 1) _____ _____ 2) _____ _____ 3) _____ _____		
Where is your usual key market?	<input type="checkbox"/> Hanoi <span style="margin-left: 150px;"><input type="checkbox"/> Hoa Binh Province</span> <input type="checkbox"/> Other markets/provinces: 1) _____ 2) _____ 3) _____		





### Part 3 - Materials preparation technology

<b>Technology</b>	<input type="checkbox"/> crushing <span style="margin-left: 200px;"><input type="checkbox"/> milling</span> <input type="checkbox"/> other: _____
<b>Technology for sorting, seizing or other separator systems</b>	<input type="checkbox"/> sorting: _____ <input type="checkbox"/> seizing: _____ <input type="checkbox"/> other: _____
<b>Annual water utilization (in m<sup>3</sup>)</b>	<input type="checkbox"/> Watering: _____ m <sup>3</sup> p.a. <input type="checkbox"/> Dewatering: _____ m <sup>3</sup> p.a. <input type="checkbox"/> Wastewater: _____ m <sup>3</sup> p.a. <input type="checkbox"/> Other: _____
<b>Age and brand of materials preparation devices</b>	1. sort of device: _____ brand: _____ age (y): _____  2. sort of device: _____ brand: _____ age (y): _____  3. sort of device: _____ brand: _____ age (y): _____
<b>Required product quality</b>	<input type="checkbox"/> grain size: _____ <input type="checkbox"/> purity: _____ <input type="checkbox"/> water content: _____ <input type="checkbox"/> other: _____

## Part 4 - Environmental Aspects

<b>Required product quality</b>	<input type="checkbox"/> grain size: _____ <input type="checkbox"/> purity: _____ <input type="checkbox"/> water content: _____ <input type="checkbox"/> other: _____
<b>Energy demand</b>	<input type="checkbox"/> Electricity: _____ <input type="checkbox"/> Coal: _____ <input type="checkbox"/> Gas: _____ <input type="checkbox"/> Diesel: _____
<b>Known emission data</b>	<input type="checkbox"/> Wastewater: _____ <input type="checkbox"/> Dust: _____ <input type="checkbox"/> CO: _____ <input type="checkbox"/> SO <sub>2</sub> : _____ <input type="checkbox"/> NO <sub>2</sub> : _____
<b>Reference standards for emission data measurement (e.g. QCVN, etc.)</b>	1) _____ 2) _____ 3) _____
<b>Measures for reduction of environmental impacts:</b>	1) _____ 2) _____ 3) _____
<b>Measures for reduction of energy consumption:</b>	1) _____ 2) _____ 3) _____
<b>Other measures/technologies in Cleaner Production</b>	1) _____ 2) _____ 3) _____

<b>Annual amount on excavation residues</b>	Kind of residue: _____ Amount of residue: _____
<b>Annual amount on residues from preparation</b>	<input type="checkbox"/> Kind of residue: _____ <input type="checkbox"/> Amount of residue: _____
<b>Annual amount on tailings (t/m<sup>3</sup> per year)</b>	
<b>Treatment of tailings</b>	1) _____ 2) _____ 3) _____
<b>What is the most important challenge to your business?</b>	_____ _____ _____

## Part 5 – Measures in Occupational Health and Safety (OSH)

<b>Dust containment / minimization</b>	<input type="checkbox"/> measure 1: _____ <input type="checkbox"/> measure 2: _____ <input type="checkbox"/> measure 3: _____ <input type="checkbox"/> measure 4: _____
<b>Personal protective equipment</b>	<input type="checkbox"/> safety helmet <input type="checkbox"/> protective shoes <input type="checkbox"/> gloves <input type="checkbox"/> protective masks <input type="checkbox"/> protection goggles <input type="checkbox"/> protective clothing
<b>Noise protection</b>	<input type="checkbox"/> measure 1: _____ <input type="checkbox"/> measure 2: _____ <input type="checkbox"/> measure 3: _____ <input type="checkbox"/> measure 4: _____
<b>Vibration reduction</b>	<input type="checkbox"/> measure 1: _____ <input type="checkbox"/> measure 2: _____ <input type="checkbox"/> measure 3: _____ <input type="checkbox"/> measure 4: _____
<b>Utilization of explosives</b>	<input type="checkbox"/> measure 1: _____ <input type="checkbox"/> measure 2: _____ <input type="checkbox"/> measure 3: _____ <input type="checkbox"/> measure 4: _____
<b>Working time / duration of shifts</b>	<input type="checkbox"/> Shift 1: _____ <input type="checkbox"/> Shift 2: _____ <input type="checkbox"/> Shift 3: _____
<b>Additional measures in OSH</b>	<input type="checkbox"/> measure 1: _____ <input type="checkbox"/> measure 2: _____ <input type="checkbox"/> measure 3: _____ <input type="checkbox"/> measure 4: _____