



## Objectively verifiable indicators and means of verification for all project work packages and their deliverables

Work Package / Deliverable Ref	Description	Verifiable quality indicators		Means of Verification
		Qualitative Indicators	Quantitative Indicators	
<b>Project Overall</b>		<ul style="list-style-type: none"> <li>Quality of project results</li> <li>Satisfaction of labour market needs</li> <li>Feedback from end-users</li> <li>International cooperation among EU and PC HEIs in education and research</li> <li>Knowledge assessment, employability of graduates</li> <li>Implementation of energy efficiency and climate change mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Partnership agreements</li> <li>Number of members involved in consortium</li> <li>Number of upgraded study programmes in PC universities</li> </ul>	<ul style="list-style-type: none"> <li>Work package progress reports</li> <li>Annual self-evaluation reports</li> <li>Independent evaluation reports</li> <li>Project (interim and closure) reports</li> </ul>
<b>WP1</b>	<b>Preparation for project activities</b>			
<b>WP1 Overall</b>		•	•	<ul style="list-style-type: none"> <li>Report on common capacity building methodology</li> <li>University registers</li> <li>Accreditation reports</li> <li>Needs analysis reports</li> <li>Project website</li> <li>Meeting minutes</li> <li>Work package progress reports</li> </ul>
<b>1.1</b>	Workshop and focus groups to analyse needs, gaps and possibilities for common curricula development	<ul style="list-style-type: none"> <li>Feedback from participants at workshop and focus group events</li> </ul>	<ul style="list-style-type: none"> <li>Number of workshop and focus group events</li> <li>Number of participants at events</li> <li>Time taken to finish the curricula development</li> </ul>	
<b>1.2</b>	Reports and BECK capacity building framework	<ul style="list-style-type: none"> <li>Feedback from MQCC</li> <li>Presentation on the appropriate meeting,</li> </ul>	<ul style="list-style-type: none"> <li>Number of reports on needs analysis</li> <li>Number of reports submitted on time</li> </ul>	



Work Package / Deliverable Ref	Description	Verifiable quality indicators		Means of Verification
		Qualitative Indicators	Quantitative Indicators	
		participants' feedback( opinion)	<ul style="list-style-type: none"> <li>Number of comments</li> <li>Common BECK capacity building framework</li> </ul>	<ul style="list-style-type: none"> <li>Annual self-evaluation reports</li> <li>Independent evaluation reports</li> </ul>
<b>1.3</b>	Guidelines and accreditation rules for the quality assurance of MOOCs	<ul style="list-style-type: none"> <li>Participants' (feedback) opinions</li> <li>Acceptance of the guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Number of guidelines and rules developed for the quality assurance of MOOCs</li> </ul>	<ul style="list-style-type: none"> <li>Project (interim and closure) reports</li> </ul>
<b>WP2</b>	<b>Development of New Adaptive MOOC Modules on Consumer's Behaviour Related to Energy Efficiency and Climate Change</b>			
<b>WP2 Overall</b>		•	•	<ul style="list-style-type: none"> <li>Report for the common BECK curriculum</li> </ul>
<b>2.1</b>	The framework report for the common curricular	•	<ul style="list-style-type: none"> <li>The framework report for the common BECK curriculum produced</li> </ul>	<ul style="list-style-type: none"> <li>Framework report for the common curricular</li> </ul>
<b>2.2</b>	The report on common grounds for teaching and learning	•	<ul style="list-style-type: none"> <li>The report on common grounds for teaching and learning produced</li> </ul>	<ul style="list-style-type: none"> <li>Report on common grounds for teaching and learning</li> </ul>
<b>2.3</b>	Training of teaching staff	<ul style="list-style-type: none"> <li>Participant feedback</li> <li>Diversity of participants</li> </ul>	<ul style="list-style-type: none"> <li>Number of teachers trained</li> </ul>	<ul style="list-style-type: none"> <li>Registers of PC universities</li> </ul>
<b>2.4</b>	Adaptive MOOCs specifications and teaching (learning) materials	•	<ul style="list-style-type: none"> <li>Number of MOOCs developed</li> </ul>	<ul style="list-style-type: none"> <li>Partners' websites</li> <li>Meeting minutes</li> <li>Work package progress reports</li> </ul>
<b>2.5</b>	Assessed, recognised and certificated adaptive MOOCs	<ul style="list-style-type: none"> <li>Official recognition of new adaptive MOOC modules and integration</li> </ul>	<ul style="list-style-type: none"> <li>Number of upgraded study programmes in PC universities</li> </ul>	<ul style="list-style-type: none"> <li>Annual self-evaluation reports</li> <li>Independent evaluation</li> </ul>



Work Package / Deliverable Ref	Description	Verifiable quality indicators		Means of Verification
		Qualitative Indicators	Quantitative Indicators	
	integrated to corresponding studies by universities in Russia, Bangladesh and Sri Lanka	into existing BSc/specialists, MSc, PhD study programmes	<ul style="list-style-type: none"> <li>Number of recognised and certificated MOOC modules available</li> </ul>	reports <ul style="list-style-type: none"> <li>Project (interim and closure) reports</li> </ul>
<b>WP3</b>	<b>Development and Exploitation of the Simulated Big Data Interuniversity Networked Affective Educational Centre</b>			
<b>WP3 Overall</b>		<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Attendance lists of training courses</li> <li>Training certificates</li> <li>Survey of students and teachers - report</li> <li>University registers</li> <li>BECK Centre functionality testing results</li> <li>Registered users of the Centre</li> <li>University registers, MOOCs available online, reports</li> <li>Meeting minutes</li> <li>Work package progress reports</li> <li>Annual self-evaluation reports</li> <li>Independent evaluation</li> </ul>
<b>3.1</b>	Simulated Big Data Interuniversity Networked Affective Educational Centre (BECK Centre)	<ul style="list-style-type: none"> <li>User friendly BECK centre</li> <li>Level of personalization</li> <li>Level of interest and happiness of users</li> <li>Feedback on using methodology and interface</li> <li>Conformance of BECK centre to labour market needs</li> </ul>	<ul style="list-style-type: none"> <li>BECK centre created</li> <li>Number of participating universities / organisations</li> <li>Number of Centre users</li> </ul>	
<b>3.2</b>	Training and lecturing	<ul style="list-style-type: none"> <li>Results of evaluations by stakeholders and local experts</li> <li>EU quality standards achieved</li> <li>Feedback of stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Number of courses</li> <li>Number of retrained teachers in PC universities</li> <li>Training certificates issued</li> </ul>	
<b>3.3</b>	Education of students	<ul style="list-style-type: none"> <li>Student feedback</li> <li>Student satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>Number of students</li> <li>Types of students</li> </ul>	



Work Package / Deliverable Ref	Description	Verifiable quality indicators		Means of Verification
		Qualitative Indicators	Quantitative Indicators	
			<ul style="list-style-type: none"> <li>• % of students completing courses</li> <li>• Number of trained executives working in built-environment organizations</li> <li>• Number of trained administrators/specialists working in construction and environment ministries</li> </ul>	reports <ul style="list-style-type: none"> <li>• Project (interim and closure) reports</li> </ul>
<b>3.4</b>	Feedback and quality improvement of MOOCs	<ul style="list-style-type: none"> <li>• Feedback of stakeholders</li> <li>• Benchmarking on improved MOOCs</li> <li>• Internal and external evaluations</li> </ul>	<ul style="list-style-type: none"> <li>• Number of improved MOOCs</li> </ul>	
<b>WP4</b>	<b>Quality assurance</b>			
<b>WP4 Overall</b>		<ul style="list-style-type: none"> <li>• Quality assurance requirements do not impose unreasonable administrative burden on partners</li> <li>• Project performance improves as a result of quality assurance activities</li> <li>• Achievement of quality objectives</li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring and Quality Control Committee established</li> </ul>	<ul style="list-style-type: none"> <li>• Meeting minutes</li> <li>• Quality plan</li> <li>• Annual self-evaluation reports</li> <li>• Work package progress reports</li> <li>• Annual self-evaluation reports</li> <li>• Independent evaluation reports</li> </ul>



Work Package / Deliverable Ref	Description	Verifiable quality indicators		Means of Verification
		Qualitative Indicators	Quantitative Indicators	
		<ul style="list-style-type: none"> <li>Project compliance with quality assurance best practice</li> </ul>		
<b>4.1</b>	Development of quality plan	<ul style="list-style-type: none"> <li>All partners participate in the formulation of suitable indicators</li> <li>Quality plan agreed by all partners</li> <li>Quality plan approved by the steering committee</li> <li>Feedback from the independent evaluator</li> <li>Performance indicators developed and agreed by all partners</li> <li>Work package progress reporting template developed</li> </ul>	<ul style="list-style-type: none"> <li>Quality plan produced</li> </ul>	
<b>4.2</b>	Internal monitoring of BECK results	<ul style="list-style-type: none"> <li>Self-evaluation exercise takes place at scheduled time</li> <li>Self-evaluation results are used to improve project delivery</li> </ul>	<ul style="list-style-type: none"> <li>Number of participants represented in the self-evaluation exercise</li> <li>Number of partner organisations represented in the self-evaluation exercise</li> </ul>	
<b>4.3</b>	External monitoring of BECK results	<ul style="list-style-type: none"> <li>Independent evaluators are appropriately qualified</li> </ul>	<ul style="list-style-type: none"> <li>Independent evaluator selected</li> <li>Independent evaluation takes place at scheduled time</li> </ul>	



Work Package / Deliverable Ref	Description	Verifiable quality indicators		Means of Verification
		Qualitative Indicators	Quantitative Indicators	
			<ul style="list-style-type: none"> <li>Independent evaluation reports produced on time</li> </ul>	
<b>WP5</b>	<b>Dissemination and exploitation</b>			
<b>WP5 Overall</b>		<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Number of peer reviewed conference articles</li> <li>Number of international peer reviewed journal articles</li> <li>Number of joint conference and journal articles</li> </ul>	<ul style="list-style-type: none"> <li>Dissemination and exploitation plan</li> <li>Work package progress reports</li> <li>Event participation registers</li> <li>Participant evaluations of events</li> <li>Dissemination activities report</li> <li>Publications in scientific journals and proceedings</li> <li>Summary books</li> <li>Project website</li> <li>Partners' websites</li> <li>Media reports</li> <li>Multilingual e-newsletters</li> <li>Project brochure</li> <li>Summary books</li> <li>Sustainability plan</li> </ul>
<b>5.1</b>	Dissemination and exploitation plan	<ul style="list-style-type: none"> <li>Consensus in dissemination and exploitation planning</li> <li>Diversity of activities</li> <li>Adequacy of schedule</li> <li>Geographical scope</li> </ul>	<ul style="list-style-type: none"> <li>Dissemination and exploitation plan</li> <li>Number of activities</li> <li>Number of stakeholders involved</li> </ul>	
<b>5.2</b>	Dissemination through branch organizations	<ul style="list-style-type: none"> <li>Verification from organisations</li> </ul>	<ul style="list-style-type: none"> <li>Number of events</li> <li>Number of participants</li> <li>Number of organisations</li> <li>Local/national radio/TV programs with information on project results</li> </ul>	
<b>5.3</b>	Dissemination through websites	<ul style="list-style-type: none"> <li>Usability</li> <li>Visibility</li> </ul>	<ul style="list-style-type: none"> <li>Project website</li> </ul>	



Work Package / Deliverable Ref	Description	Verifiable quality indicators		Means of Verification
		Qualitative Indicators	Quantitative Indicators	
		<ul style="list-style-type: none"> <li>Content quality</li> </ul>	<ul style="list-style-type: none"> <li>Links from partners' websites</li> <li>Number of visits to website</li> <li>Number of multilingual e-newsletters</li> <li>Project informative brochure available (online)</li> </ul>	
<b>5.4</b>	Printed dissemination material	<ul style="list-style-type: none"> <li>National and local language content</li> <li>Content quality</li> <li>Compliance with rules</li> </ul>	<ul style="list-style-type: none"> <li>Number of types of materials</li> <li>Number of copies distributed</li> <li>Number of project informative brochures (printed)</li> <li>Number of summary books produced</li> </ul>	
	Scientific publications	<ul style="list-style-type: none"> <li>number of publications in scientific journals and proceedings</li> </ul>	<ul style="list-style-type: none"> <li>level of publications / journals (for example index in Scopus etc...)</li> </ul>	
<b>5.5</b>	Conduction of dissemination events	<ul style="list-style-type: none"> <li>Participants' diversity: geographical, cultural, educational, disciplinary</li> <li>Media involvement</li> <li>Public participation</li> </ul>	<ul style="list-style-type: none"> <li>Number of international events that are (co)organised by partners</li> <li>Number of participants</li> <li>Number of events</li> </ul>	
<b>5.6</b>	Sustainability plan	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Sustainability plan developed</li> </ul>	
<b>WP6</b>	<b>Management</b>			



Work Package / Deliverable Ref	Description	Verifiable quality indicators		Means of Verification
		Qualitative Indicators	Quantitative Indicators	
<b>WP6 Overall</b>		<ul style="list-style-type: none"> <li>• Achievement of planned (qualitative) outputs</li> <li>• Activity progress (qualitative assessment)</li> <li>• Financial management meets European Commission requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Achievement of planned (quantitative) outputs</li> <li>• Activity progress (physical progress)</li> </ul>	<ul style="list-style-type: none"> <li>• Project (interim and closure) reports</li> <li>• Annual self-evaluation reports</li> <li>• Independent evaluation reports</li> <li>• Work Package progress reports</li> <li>• Meeting agendas</li> <li>• Meeting minutes</li> <li>• Participant registers</li> <li>• Participant evaluations of meetings</li> </ul>
<b>6.1</b>	A kick-off and coordination meetings	<ul style="list-style-type: none"> <li>• Feedback from participants</li> <li>• Actions arising from previous meeting minutes fulfilled</li> </ul>	<ul style="list-style-type: none"> <li>• Number of steering committee meetings held</li> <li>• Number of meeting attendees</li> </ul>	
<b>6.2</b>	Official and internal reports on project progress	<ul style="list-style-type: none"> <li>• Feedback from Commission on interim report</li> </ul>	<ul style="list-style-type: none"> <li>• Number of official and internal project progress reports</li> <li>• Reports produced on time</li> </ul>	