



## IFPRI BRIEF TEMPLATE

Check One:    Project                       Review                       Collaboration  
                    Workshop                       Other

<b>Descriptive Title</b>	Circular economy of production scrap and complex materials
<b>Working Title<sup>1</sup></b>	Circular economy of production scrap and complex materials
<b>Technical Area<sup>2</sup></b>	Comminution & Separation
<b>Date</b>	13.06.2023
<b>Short Description</b>	For the recirculation of valuable materials we need new process technologies especially in the field of mechanical recycling, i.e. comminution and separation. Due to the wide variety of materials and products not only one process chain will meet the requirements, but specifically designed solutions for each material have to be developed. In this regard, also new technologies are required especially for complex material composites.
<b>Objectives</b>	In the production of many products the materials are very cost decisive. Moreover, for a sustainable future, the loss or downgrading of materials must be avoided and materials must be recycled in order to reduce the ecological footprint, especially the Global Warming Potential. For this purpose, production rejects as well as end-of-life products must be recycled, i.e. crushed and mechanically separated as far as possible before the particles are then further processed chemically, thermally or metallurgically. Especially the size reduction of elastic materials as well as the size reduction and separation of complex composite materials or products is challenging here.
<b>Scope</b>	The process technologies and chains available today as well as emerging future technologies for mechanical recycling will be highlighted in a workshop for different products or materials, including: <ul style="list-style-type: none"> <li>- elastic plastics</li> <li>- tough composite plastics</li> <li>- batteries</li> <li>- fuel cell membranes</li> <li>- catalysts</li> <li>- construction residues.</li> </ul>

<sup>1</sup> Title used in meeting agendas and file archives

<sup>2</sup> One or more from the following list: W = wet systems; D = dry systems; F = particle formation; SR = size reduction; M = modeling; SE = systems engineering

	<p>On this basis, three rounds of workshops shall be held to discuss (as first suggestion),</p> <ul style="list-style-type: none"> <li>a) which materials and products are suitable for mechanical recycling and which particles sizes should be achieved</li> <li>b) which technologies are available in general, and for which products and materials they are applicable</li> <li>c) which future technologies are required to secure a high recycling rate and a high purity of the secondary material</li> </ul>
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<b>Recommended Contractors (2 or 3)</b>		
Name	Institution	Email Address

<b>Submitted By:</b>	
Name	Organization
J. Hart	Imerys
A. Kwade	TU Braunschweig