

Scope of the Steel Technical Groups – TGA

TGA1 IRON- AND STEELMAKING

With reference to the [Council Decision \(EU\) 2021/1094 of 28 June 2021](#) the scope of TGA1 includes the following points

8 (a) new and improved breakthrough near-zero-carbon iron- and steel-making processes and operations, with particular attention to carbon direct avoidance or smart carbon usage, or both;

8 (b) [Upstream] steel process and process chain optimisation (including the reduction and pre-reduction of iron-ore, iron- and steel-making, processes based on recycled scrap melting, secondary metallurgy);

8 (c) steel [upstream] process integration and process efficiency in near-zero-carbon steel production;

8 (d) maintenance and reliability of [upstream] steel production tools;

8 (e) techniques for increasing recyclability, recycling and reuse of steel and developing a circular economy;

8 (f) techniques for increasing the energy efficiency of steel production by recovery of waste heat, prevention of energy losses, hybrid heating techniques and energy management solutions;

8 (g) innovative technologies and solutions for the iron- and steel-making processes promoting cross-sector activities, demonstration projects integrating zero-carbon energy production or contributing to a clean hydrogen economy.

10 (a) techniques for recycling obsolete steel and by-product from various sources and improvement of the quality of steel scrap;

10 (b) treatment of waste and recovery of valuable secondary raw materials, including slags, inside and outside the steel plant;

10 (e) utilisation of process gases and elimination of waste gases emissions from [upstream] steel production;

TGA2 DOWNSTREAM STEEL PROCESSING

With reference to the [Council Decision \(EU\) 2021/1094 of 28 June 2021](#) the scope of TGA2 includes the following points

8 (b) [Downstream] steel process and process chain optimisation (including casting, rolling, finishing and coating operations) via instrumentation, detection of properties of intermediate and final products, modelling, control and automation, including digitalisation, application of big data, artificial intelligence and any other advanced technologies);

8 (c) steel [downstream] process integration and process efficiency in near-zero-carbon steel production;

8 (d) maintenance and reliability of [downstream] steel production tools;

8 (f) techniques for increasing the energy efficiency of [downstream processes in] steel production by recovery of waste heat, prevention of energy losses, hybrid heating techniques and energy management solutions;

8 (g) innovative technologies and solutions for the [downstream] processes promoting cross-sector activities, demonstration projects integrating zero-carbon energy production or contributing to a clean hydrogen economy.

10 (e) utilisation of process gases and elimination of waste gases emissions from [downstream] steel production;

TGA3 CONCEPTION OF STEEL PRODUCTS

With reference to the [Council Decision \(EU\) 2021/1094 of 28 June 2021](#) the scope of TGA3 includes the following points

9 (a) new advanced steel grades;

9 (b) improvement of steel properties such as mechanical and physical properties, suitability for further processing, suitability for various applications and various working conditions;

9 (c) prolonging service life, in particular by improving the resistance of steels and steel structures to heat and corrosion, mechanical and thermal fatigue and other deteriorating effects;

9 (d) predictive simulation models on microstructures, mechanical properties and production processes;

9 (f) standardisation of testing and evaluation methods;

TGA4 STEEL APPLICATIONS AND SOLUTIONS FOR EXISTING AND NEW MARKETS

With reference to the [Council Decision \(EU\) 2021/1094 of 28 June 2021](#) the scope of TGA4 includes the following points

9 (e) technologies relating to the forming, welding and joining of steel and other materials;

9 (g) high-performance steels for applications like mobility, including sustainability, eco-design methods, retrofitting, lightweight design and safety solutions.

10 (d) design of steel grades and assembled structures to facilitate the easy recovery of steel for recycling or reuse;

10 (f) life cycle assessment and life cycle thinking concerning steel use.

TGA5 STEEL FACTORIES - SMART AND HUMAN

With reference to the [Council Decision \(EU\) 2021/1094 of 28 June 2021](#) the scope of TGA5 includes the following points

8 (b) [Holistic approaches to] steel process and process chain optimisation via instrumentation, detection of properties of intermediate and final products, modelling, control and automation, including digitalisation, application of big data, artificial intelligence and any other advanced technologies;

10 (c) pollution control and protection of the environment in and around the workplace and the steel plant (gaseous, solid or liquid emissions, water management, noise, odours, dust, etc.);

10 (f) life cycle assessment and life cycle thinking concerning steel production;

10a (a) developing and disseminating competencies to keep pace with new near-zero-carbon steel production processes, such as digitalisation, and to reflect the principle of lifelong learning;

10a (b) improving working conditions, including health, safety and ergonomics in and around the workplace.