



Bio-Process Systems Alliance

Advancing Single-Use Worldwide

SUT Glossary

BPSA Sustainability Committee

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<i>Term</i>	<i>Definition</i>
Biomanufacturing	The manufacturing of cells, viruses, proteins, antibodies, and nucleic acids for use as biotherapeutic, vaccine, vitamin, food, and chemical products. Biomanufacturing also includes waste processing using microbial systems. (Synonyms include bioprocessing and bioproduction)
CIP/SIP	Clean-in-Place and Steam-in-Place are cleaning and steam-sterilizing durable equipment, usually in its installed location, between uses.
Consumables	Process buffers, solvents, culture media and resins, and SU components
Co-products	A co-product is a second product intended for commercial use and is ordinarily used in the form produced by the process.
Durable process	A series of manufacturing operations composed of permanent equipment made of cleanable and re-usable materials that are used repeatedly with no major components that are used only once (Synonyms include traditional, stainless-steel, glass and steel, reusable, classical)
End user	Either the company employing bioprocessing to manufacture a product, or the customer employing the final biological product. It usually refers to the biomanufacturer.
End-of-life	The state of, or steps and process taken, when a material, consumable or equipment is no longer useful to the manufacturer. Means or state of final disposal.
Energy source	The means or way by which energy is produced for consideration in facility inputs, flows and balances
Environmental assessment	The assessment of environmental consequences (positive and negative) of a plan, policy, program, or projects.
Environmental impact (or burden)	The total effect upon one or more of the materials, consumables or equipment upon one or more of the identified environmental impact categories, usually during one phase of its life cycle, such as use.
Environmental Impact Assessment	Environmental assessment applied to actual projects. It is the process of identifying, evaluating and mitigating the biophysical and

	social consequences of development proposals prior to commitments being made.
Equipment	The durable elements of a SU process train, e.g., a housing or support.
Functional Unit	An operational constant or standard used to allow comparison of performance across many related processes. Often a productivity within a specified volume, dimension or weight.
Hybrid process	A series of manufacturing operations composed of various combinations of disparate processing equipment or operations, such as of SU and durable
Impact category	The environmental or natural systems damaged by an activity or emission. Often assigned to midpoint (physical or chemical change) or endpoint (where an adverse outcome occurs). Such as “greenhouse gas production”. (Synonyms include an environmental impact category)
Life cycle assessment	A tool to assess the environmental impacts of a product, process or activity throughout its <i>life cycle</i> ; from the extraction of raw materials through to processing, transport, use and disposal.
Life cycle impact assessment	An individual component of an LCA, assessing net effect of individual unit operations (or production sub-system) upon each impact category
Life cycle impact	The cumulative environmental impact of a material, consumable or equipment from cradle-to-grave or concept to disposal.
Life cycle stage	An individual unit operation (or production sub-system) and its product within the system boundary.
On-site activities	Those steps performed in the facility of immediate discussion. Be that site production of raw materials, biological product, or end-of-life activities. (Synonyms include on-site operations)
Process configuration	The overall complement of SU and durable components and/or the elements of, and the organization of, equipment within the process train.
Process scale	The size (e.g., volume) of the largest container or reactor in a manufacturing train or a metric of the material volume/mass of the process throughput.
Product type	Examples in biomanufacturing include cells, proteins, nucleic acids, biopharmaceuticals, vaccines, vitamins, food, chemicals or waste processing.
Single-use process	A series of manufacturing operations composed of equipment having removable product contact elements made of non-cleanable or re-usable materials that are used once only (Synonyms include deposable technology)
Siting geographies	The physical location of the final product manufacturing plant
Strategic environmental assessment	Applies to policies, plans and programs most often proposed by organs of state.
SU materials	Product intermediate containment, transfer and filtering products that are not cleaned and not re-used.
Supplier	Manufacturer of bioprocessing equipment, consumables, or materials
Supply chain	All the steps and activities employed in getting equipment, materials, or consumables or from their manufacturer to end-user.

Sustainability	Maintaining biological, social and physical systems to be diverse and productive over time and includes cultural preservation and social equity; economic and technical development; and resource and system conservation.
System boundaries	The entire scope of all processes involved in each operation, activity step and product addressed in an LCA study. The sum of all addressed life-cycle stages.