TECHNO-SPHERE SAFETY OF NON-WASTE PRODUCTION

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A non-waste production approach is the Industry 4.0 strategy direction to minimize the industrial company technological load for the environment. A non-waste production applies the best available technologies and provides the complex prevention of the industrial rejections significant volume and its negative influence on the environment. A company of non-waste production interacts the nature safety alternative energy subsystems and implements the engineer cyber-systems (ECS) in the industrial recycling sections to regulate the air and being dropped water cleaning quality. The industrial company cyber-space proposed scheme equipped with ECS and realizes an item non-waste production. The interaction mechanisms of a non-waste production company and a recycling factory are described to provide the solid wastes final recycling until they receive a secondary raw material. The interaction scheme of a non-waste industrial production company and a recycling factory is proposed.
Figure 1. The cyber-space company scheme of a non-waste production.
Figure 2. The interaction scheme of a non-waste production industrial company and a recycling factory.
Objective contradictions after the commercial companies marginal profit and their significant expenses to support the ECS infrastructure, which makes it more complicated for a non-waste production strategy. The company expenses for repair and maintenance of ECS are negative for the business competitive state so that why they require some special measures to stimulate the industry for rational resources application and to reduce the technological load for the ecology.

As for the Industry 4.0 innovations the industrial equipment designers must concentrate for ECS projection to provide the company running water cleaning, atmospheric rejections filtration and other. An accompanying way to provide the industrial production ecological cleanliness is to develop the wastes recycling branch, which grant companies the secondary resources and services to utilize a non-condition production.

A non-waste production factory and a recycling factory interaction is done according to the circulating economy principles to minimize the contaminations rejection to the environment. The activity approach to organize of the raw material application closed system, which is a consequence of socially oriented position of the company owners who care of the natural resources preservation for the future generations.

Under the limited resources conditions and the inertial thinking vector to develop the companies for a non-waste production stated as the Industry 4.0 requires some optimizing of the company business processes and to apply in the technological cycles only the best technologies available to minimize the climate influence. In the modern industry aspect the catalysts to acquire new production results are CS and cyber-technologies integrated into company engineer infrastructure.

A non-waste production main component is a system of the company energy provision based on the alternative mineral natural resources transformation. A perspective energy source for a non-waste production according to the ecological targets and which are capable to generate the industrial quality electricity could be potency machines of mini hydro power plants, sun batteries, wind generators and bio fuel obtained after the human life activity products recycling.

To justify the ECS implementation into company infrastructure and additional administrative and control business expenses oriented for a non-waste production to justifies the regulator positive dynamics (the State) to develop the new generations ecological standards called for the Industry 4.0 ideas. The eco standards digital tools may control the industrial companies compliance the nature protection laws oriented for a global resources preservation.