

uncertain future in accordance with the new international legally binding instrument, which is under discussions in the United Nations.

1. There is no direct mentioning of submarine cables or pipelines in the resolution taken by the United Nations General Assembly on holding the Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (hereinafter, the Document). But it is indicated that the work and results of the Intergovernmental Conference should be fully consistent with the provisions of the Convention.

2. The issues in the new Document, that will probably have an impact on the freedom to lay submarine cables and pipelines beyond areas of national jurisdiction, include: (1) management tools and (2) environmental impact assessments which are the mechanism used to protect and conserve marine environment and biodiversity.

3. The objective of High Seas Governance (and, as a matter of fact, constant objective of the marine law) is how to balance these two allegedly competing but equally valuable interests: protection of marine environment and biodiversity and freedom of the high seas to lay submarine cable and pipelines in the areas beyond national jurisdiction.

The historical function of the marine law has always been in balancing the competing types of use and interests. In the face of new challenges and potential conflicts the way to reach this balance remains the same: flexibility based on cooperation, consultations and compromise.

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**GELDIMYRAT ANNAYEV**

Polotsk State University

**PhD, Ass. Prof. SIARHEI YAKUBOUSKI**

Polotsk State University

**PhD, Ass. Prof. YULIYA BULAUKA**

Polotsk State University

## **OIL SORBENTS FROM AGRICULTURAL WASTE: A CIRCULAR ECONOMIC APPROACH**

Introduction. Today, about two hundred types of various sorbents are produced and used in the world for oil spills remediation, which in turn are subdivided into natural organic, inorganic and synthetic. The quality of sorbents is determined by their absorption capacity in relation to oil and oil products, buoyancy after oil sorption, the possibility of oil desorption, regeneration or utilization of the sorbent [1, 2]. The purpose of this study is to obtain natural sorption materials for the remediation of oil pollution by utilizing agricultural waste [3].

Materials and methods. Agricultural waste was used for the study, namely a mixture of husks of agricultural crops of the Liozno grain base; hulls of sunflower, peanut, buckwheat, barley, radish; cotton bolls; pericarp peas, beans, rapeseed. All samples are with a particle size of 0.25-1 mm. For them, the basic physical and chemical properties have been determined: humidity according to GOST 12597-67, bulk density according to GOST 16190-70, pH of the water extract according to GOST 32327-2013, adsorption activity for iodine according to GOST 6217-74, adsorption activity for methylene blue according to GOST 4453-74, pore volume by the "molecular probe" method according to GOST 17219-71 and oil capacity according to GOST 33627-2015.

Results. The moisture content in the selected samples is about 5% wt., which indicates a high ability to dry the samples; potentiometric titration established that the aqueous extract has a weakly acidic medium, and the bulk density of the samples averages about 100 g / 100 cm<sup>3</sup>, which is comparable with industrial sorption materials. The adsorption activity of the samples with respect to iodine is about 20%, and after treatment with a weak NaOH solution it increases by 30% and is similar to the enterosorbent brand "Polyphepan", i.e. has comparable microporosity. The adsorption activity for methylene blue, which indirectly characterizes the sorption capacity in relation to petroleum products, for the studied samples of agricultural crops is about 100 mg / g (after treatment with an alkali solution it increases by more than 10%) and is similar to Polyphepan in this indicator. Using the molecular probe method, it was found out that agricultural waste is characterized by a highly developed total porosity (the total pore volume in water reaches 1.5 cm<sup>3</sup> / g) with a wide pore size distribution.

The sorption capacity in relation to West Siberian oil (density at 20 °C: 860 g / cm<sup>3</sup>) is more than 3 g / g (after treatment of the samples with water and alkali solution it increases), i.e. the oil capacity of agricultural waste is higher than the economically effective value for industrial analogues. Table 1 shows the sorption capacity for sunflower husks, cotton bolls and a mixture of husks of agricultural crops of the Liozno grain base in relation to oil and oil products: lighting kerosene (density at 20 °C: 775 g / cm<sup>3</sup>), diesel fuel (density at 20 °C: 825 g / cm<sup>3</sup>) and vacuum distillate (density at 20 °C: 905 g / cm<sup>3</sup>) of samples depending on the type of processing in g / g.

Table 1 – Sorption capacity of samples in relation to oil and oil products

Type of raw material	Product	Initial sample (without treatment), g / g	Solid residue, g / g		
			after cold water extraction	after hot water extraction	after alkaline treatment
Sunflower husk (lat. <i>Helianthus annuus</i> )	oil	3,3	3,8	3,9	5,5
	lighting kerosene	2,1	2,5	2,6	2,8
	diesel fuel	2,2	3,1	2,9	3,0
	vacuum distillate	3,9	3,8	4,6	4,2
Agricultural husk mixture (lat. <i>Folliculi rusticarum fruges</i> )	oil	10,8	9,6	8,6	6,7
	lighting kerosene	5,2	4,7	4,3	2,3
	diesel fuel	7,2	4,9	5,6	3,0
	vacuum distillate	8,2	8,4	9,1	8,0

Analysis of the sorption capacity in relation to oil products made it possible to establish that heavy oil products are absorbed by all samples of agricultural crops much more efficiently than light ones. The linear increase in the sorption capacity of the samples with an increase in the density of the oil product allows us to make the assumption that there is a process of physical sorption due to the forces of molecular interaction, mainly dispersion. The value of the oil capacity of the mixture of agricultural husks in an unprocessed form surpasses the most widely used sorbent for the elimination of oil pollution Spill-Sorb (up to 9 g / g), while the cost of obtaining oil sorbents by utilizing agricultural waste does not exceed \$100 per ton.

**Conclusion.** Utilization of agricultural waste to produce oil sorbents will expand their range, reduce the burden on the environment and obtain an economic effect.

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**NATALIYA V. ARAKELIANTS**

Donbas National Academy of Civil Engineering and Architecture

**MARIYA A. PALKINA**

Donbas National Academy of Civil Engineering and Architecture

### **SOLVING THE SOCIAL PROBLEMS OF THE REGION USING THE TENDERS MECHANISM**

A fundamental requirement for the sustainable development of any region is to ensure an adequate standard of living for its people. It is necessary to develop an appropriate mechanism for dealing with social problems, for its achievement. Nowadays, Donbass has a complex geopolitical situation, which makes it possible to develop a specific branch of industry and mineral and raw material sector. The low investment attractiveness of medium and small businesses in the productive sector to private investment, including in the construction sector, is a the endemic problems characteristic obstacle to the sustainable development of the territories. The lack of development of the investment and construction complex leads to a number of problems not only in the economic sector but also in the social sector, such as: lack of social support programs for the population, waste of natural resources and the high level of pollution affecting the social and working life of the population. Scientific novelty of the research consists in the development of a mechanism for solving social problems of the region by improving the procedure of contract bidding. The argument of the need to develop an appropriate mechanism is based on a study of the legal framework and scientific literature of domestic and foreign authors.

One of the reasons for the lack of social and economic development of the region is the low activity of entrepreneurs in the production sector of the economy, which entails a decrease in tax revenues, reduction of jobs and purchasing power of the population. As one of the methods of stimulating the activity of the investment sector can be used the state social procurement involved in the formation of demand for various socially significant projects, such as new construction, repair, reconstruction and rehabilitation restoration of housing stock, construction of infrastructure facilities in the region (playgrounds; engineering networks; production and installation of various treatment facilities, etc) [1].

Lack of normative acts regulating the process in Donbass legislation regulating the process of formation and placement of the state social order. However, in dealing with social problems of the region through the tender process, it is advisable to apply the experience of the Russian Federation in this area, as an example.

A critical review of the current situation in the construction complex of Donbass shows that the construction organizations competing in the process of contract bidding, have low success rate. This is due to a discrepancy in the quality of construction products to those requirements that are put forward by consumers; shortcomings of the procedure of contract bidding in the construction, which is expressed in an incomplete representation of its competitive advantages; inefficiency of information support system of contract bidding and as a consequence, reducing the level of provision of construction companies with orders. The mechanism of contract bidding is