

## **EU-TEMPUS Project**

**TIWaSiC**

**“Advanced Training in Integrated Sustainable Waste Management  
for Siberian Companies and Authorities”**



## **WORK PACKAGE 3 “Incentive system”**

### **OUTCOME REPORT**

#### **D3.2.**

### **Survey of possible barriers for cleaner production in the Russian industry**

Prepared by:

*Olga Ulanova, Irkutsk National Research Technical University  
Julia Zeilinger, Felicitas Schneider, Stefan Salhofer, University of Natural Resources and Life  
Sciences, Vienna*

Date:

*February, 2015*

## CONTENT

<b>Abstract .....</b>	<b>4</b>
<b>1. Introduction .....</b>	<b>5</b>
<b>2. Methods.....</b>	<b>5</b>
<b>3. Results .....</b>	<b>6</b>
<b>Question 1: General information.....</b>	<b>6</b>
<b>Question 2: Types and quantity of waste.....</b>	<b>8</b>
<b>Question 3: Responsibilities for waste management.....</b>	<b>8</b>
<b>Question 4: Implemented measures for waste avoidance, separation and collection.....</b>	<b>9</b>
<b>Question 5: Barriers to implement measures for waste avoidance, separation and collection .....</b>	<b>10</b>
<b>Question 6: Necessary measures to address waste management problems in a better way .....</b>	<b>11</b>
<b>Question 7: Satisfaction level of completed training courses .....</b>	<b>14</b>
<b>4. Conclusion and Recommendations.....</b>	<b>15</b>
<b>5. Acknowledgement.....</b>	<b>16</b>
<b>6. Annex I .....</b>	<b>17</b>
<b>7. Annex II .....</b>	<b>23</b>

## LIST OF FIGURES

Figure 1: Spatial distribution of respondents.....	7
Figure 2: Distribution of respondents by number of employees.....	8
Figure 3: Implemented measures for waste avoidance, separation and collection.....	9
Figure 4: Survey question No. 5 - Barriers to implement measures for waste avoidance, separation and collection.....	10
Figure 5: Respondents' answers regarding implementation barriers.....	11
Figure 6: Survey question No. 6: Necessary measures to address waste management issues in a better way .....	12
Figure 7: Respondents' answers regarding necessary measures in order to improve waste management issues .....	12

## Abstract

In 2014, a survey of possible barriers for cleaner production in the Russian industry was conducted with the objective to look for obstacles for the implementation of environmentally-friendly measures in the field of waste management.

The survey results indicate that lack of financial resources and economic incentives appear to be the main barriers, along with perception of minor importance of environmental issues and lack of specialized knowledge. In order to improve environmental friendly business management, implementation of adequate legal conditions, implementation of an appropriate incentive system, expansion of training courses in regard to technical and organisational issues are necessary.

In the course of this project an incentive system will be developed, from which companies should benefit, who support employee training and implement measures to improve their waste management system. Therefore, an efficient mix of policy instruments has to be found. Based on the results of the survey, environmental tax benefits, voluntary certification in accordance with ISO 14000, simplified fees and charges and extension of training possibilities can be recommended.

## 1. Introduction

In order to promote the implementation of environmentally beneficial measures in businesses and companies in the field of waste management, various policy instruments and incentive schemes have to be implemented.

In order to identify potential improvements from waste management and develop feasible alternatives for incentive systems, a sociological survey was conducted among waste management and industrial companies in Russia. This allows an authentic insight into the waste management business and its barriers and obstacles, but also provides an opportunity to learn more about measures which have already been implemented and might serve as best-practice examples. Thus, waste management stakeholders had the opportunity to make a statement of urgent issues and desirable modifications regarding Russian waste management systems.

The development of educational courses in order to improve waste management in Russian companies will be based on survey results, as well as demand-oriented adjustments in the field of policy instruments.

## 2. Methods

In summer of 2014, a survey of possible barriers for cleaner production in the Russian industry was conducted with the objective to look for obstacles and barriers for the implementation of a new system of business development in environmental policy.

Due to prior experience concerning ecological surveys in various regions of Russia (Kaliningrad, St. Petersburg, Moscow and Irkutsk), the method of choice for this survey was to send out questionnaires for completion by postal mailing. Two slightly different types of questionnaires were developed, firstly “Survey on waste handling companies” and secondly “Survey on waste producing companies”. Both of the questionnaires are contained in Annex I and II in a Russian, German and English version.

A total of about 510 questionnaires were sent or handed out for completion to participants of various conferences and round tables, covering a total of 13 regions in Russia. 120 questionnaires were returned. 8 of them were invalid and had to be excluded, due to the fact that they were not filled-out properly. This led to a total of 112 questionnaires which were evaluated, representing a response rate of around 22%. The data was analysed and evaluated using MS-Excel.

The questionnaires were filled out by chairs of companies, heads of production departments, environmental management officers, chief engineers and persons responsible for handling of industrial and municipal waste.

The main objective of the survey was to evaluate the actual prevailing opinion of those target groups regarding actual existing problems and barriers of governmental economic promotion in the field of disposal of industrial and municipal waste in regions of the Russian Federation.

The findings of the survey should eventually support the achievement of following main tasks:

- To evaluate the level of current measures to reduce waste generation and to foster waste separation and recycling. Where necessary, there should be particular attention on reasons, why such measures are not executed.

- Actual existing problems and barriers of governmental economic promotion are discussed and reviewed in cooperation with directors of companies, engineers and specialized personnel responsible for handling industrial and municipal waste.
- Based on the study results, recommendations should be formulated for the development of alternatives to the system of governmental economic promotion of companies in the Russian Federation.

### 3. Results

The questionnaires consist of seven questions:

1. General information about the company, such as name, region, number of employees, area of business as well as business activities.
2. List of categories and quantities of waste, which is generated by business activities and practical handling of waste streams
3. Responsible person for waste management and their main tasks
4. List of implemented measures for avoidance, separation and collection waste
5. List of reasons why such measures have not been implemented
6. List of necessary measures in order to better address companies' waste problems or challenges.
7. Level of satisfaction with current regional training courses concerning waste management

#### Question 1: General information

In the course of the survey, the questionnaires of 112 industrial companies generating or handling industrial and municipal waste were analysed.

Industrial enterprises and companies from 13 regions participated in the survey. A majority of 74% of all returned questionnaires originates from only 4 regions, namely Primorsky Krai, Leningrad Region, the Trans-Baikal Territory and Kemerovo Region - as shown in Figure 1.

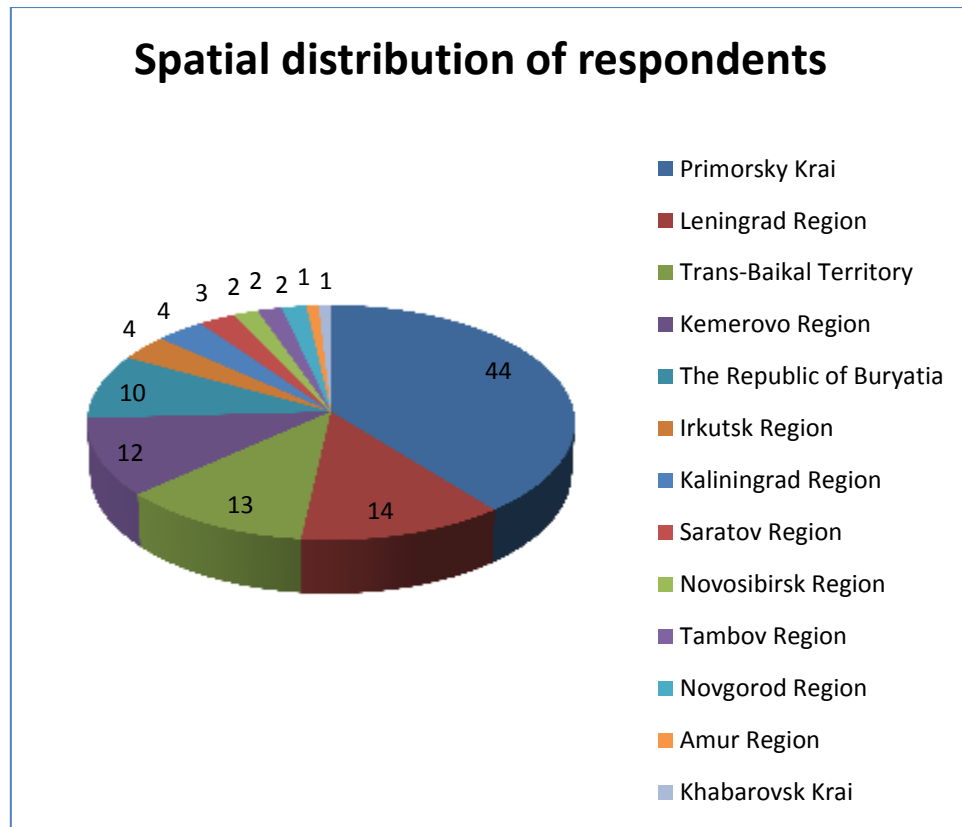


Figure 1: Spatial distribution of respondents

The participating companies can be divided into two major groups, firstly large industrial enterprises as waste generators (representing 57% of the respondents) and secondly companies handling industrial and municipal waste (representing about 43% of the respondents).

The group of large industrial enterprises can be subdivided to the following industry sectors:

- municipal management
- mining industry
- heat and energy supply
- transport companies (e.g. transshipment, railway transportation)
- chemical industry
- forestry and timber industry
- metallurgical industry
- others (e.g. food industry, ship building industry, cement production, machine engineering)

The second group of companies is specialised in waste management, and is operating in the following sectors:

- processing of construction waste and other large volume waste streams
- plastics processing
- collection (and further processing) of secondary raw materials (such as glass, metal, waste fabrics / rags, scrap tyres and others)
- disposal of hazardous waste (e.g. lamps containing mercury, waste oil)

The industrial enterprises and companies were further clustered according to their number of employees, as shown in Figure 2.

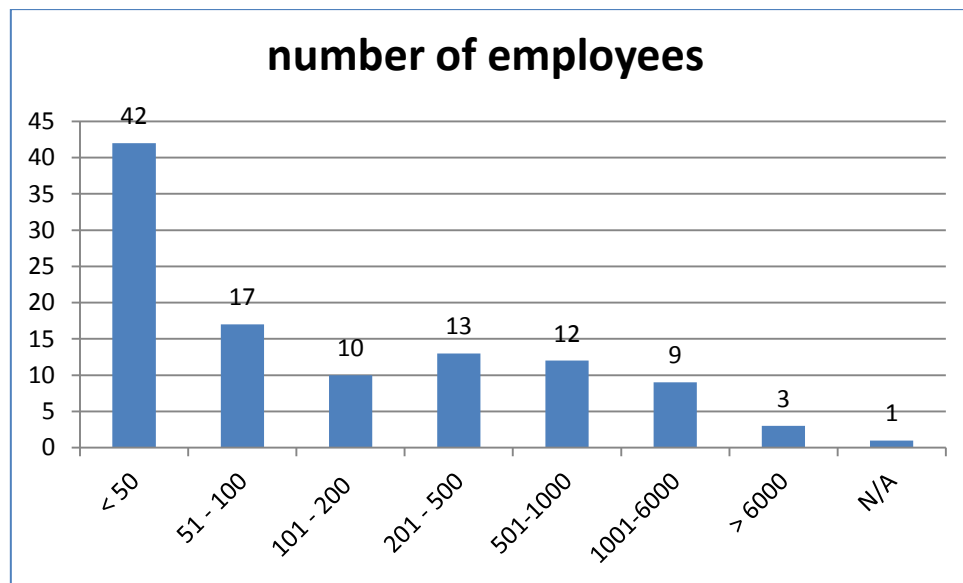


Figure 2: Distribution of respondents by number of employees

The majority of industrial enterprises with more than 1000 employees are located in the regions of Primorsky Krai and the Republic of Buryatia. Those enterprises are active in the mining sector, water and wastewater treatment, heat and power generation, machine construction, cargo handling or cement industry.

### Question 2: Types and quantity of waste

This report will not go into detail concerning the waste quantities and composition specified in the questionnaires due to the fact that the respondents provided information of very different quality thus making it difficult to collate the results. Furthermore, the question is not the main focus of this study.

### Question 3: Responsibilities for waste management

A majority of the respondents stated that there is a person responsible for waste management in their company. There are however differences where these persons are located organisationally. Those are the most common answers to who is responsible for waste management:

- Production manager
- CEO resp. deputy director
- Environmental engineer resp. senior engineer
- Executive director
- Waste management officer
- Head of department resp. environmental department
- Environmental expert
- Qualified employees
- All employees resp. each department
- Others

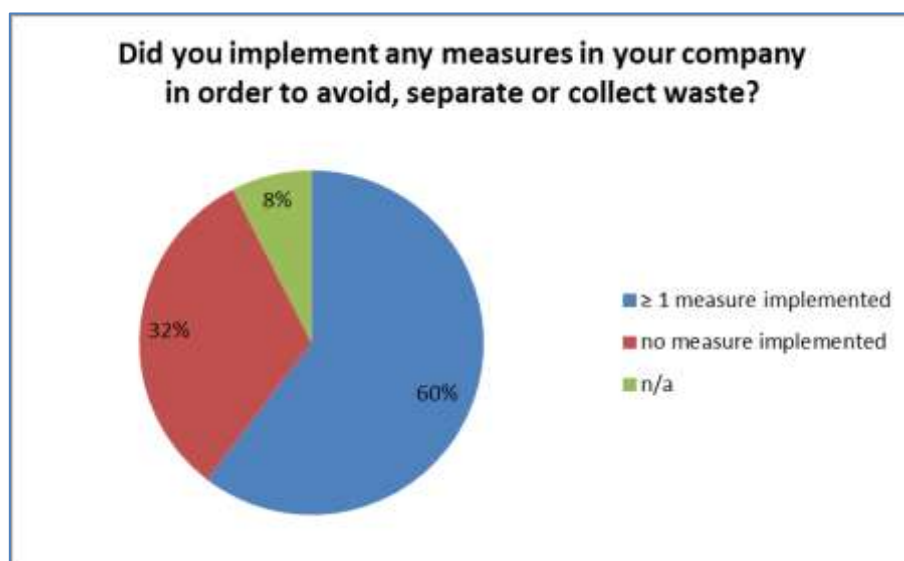


Similarly, there are differences in the responsibilities of those employees in charge of waste management. Several examples of main tasks and responsibilities are listed below:

- fulfilment and implementation of governmental regulations
- documentation and reporting
- organizational tasks regarding waste collection, temporary storage and disposal
- organization and improvement of process management
- (environmental) monitoring and controlling
- projects aiming for reduction of environmental impacts
- training of new staff and employees
- management, monitoring and disposal of hazardous waste
- compliance with environmental standards, environmental safety and / or technical regulations
- waste management planning
- risk reduction
- marketing of secondary raw materials
- accounting of environmental taxes and charges
- management of hand-over to third parties
- other (administrative) activities

#### **Question 4: Implemented measures for waste avoidance, separation and collection**

Regarding the question whether or not there were any measures implemented in order to avoid, separate and collect waste, the majority of the respondents listed at least one measure (see Figure 3). Several respondents named only one measure, whereas others listed a whole set of measures.



*Figure 3: Implemented measures for waste avoidance, separation and collection*

By far, the most frequently mentioned measure was the introduction of separate collection of waste. Furthermore, several other measures were indicated, such as reprocessing of waste into the production process or improved quality and therefore better marketing of secondary raw materials. Reduction of quantity and volume of waste, either by waste prevention or waste compacting, was also mentioned. Additionally, waste materials were processed into substitute fuels and recycling or reconditioning systems for selected waste streams (e.g. plastics, waste oils, ash) were implemented. Another measure, which was listed several times were the hand-over of waste to service providers who are licensed to process them, especially regarding hazardous materials. Also, harmful materials from production were disposed of or reused in an environmentally friendly way or substituted by other materials. New technological advances regarding production processes or sorting facilities and the like led to better yields and less amounts of waste, better sorting quality and less energy consumption. Besides, a few other measures were mentioned but not included in this report, as only the most frequent answers were listed.

#### Question 5: Barriers to implement measures for waste avoidance, separation and collection

One particularly interesting aspect of this survey was the question, why companies did not implement any or more measures in order to avoid, separate or collect waste in an environmentally friendly way. In order to classify the answers, the respondents could choose from 5 pre-set answers, each with the option to add further comments, as shown in Figure 4. Multiple answers were allowed.

5. If not, what are the reasons for not having implemented such measures yet?	
Reason	Please name all reasons
Lack of economic incentives in the field of waste management	
Lack of specialised knowledge in the field of waste management	
Lack of support by company management	
Minor importance of environmental issues	
Others (please specify)	

Figure 4: Survey question No. 5 - Barriers to implement measures for waste avoidance, separation and collection

Figure 5 shows the distribution of answers, from which the most frequent answer was lack of economic incentives regarding waste management. Also, minor importance of environmental issues and lack of specialised knowledge in the field of waste management seem to be relevant barriers for the respondents. Whereas only few indicate that there was too little support by company management.

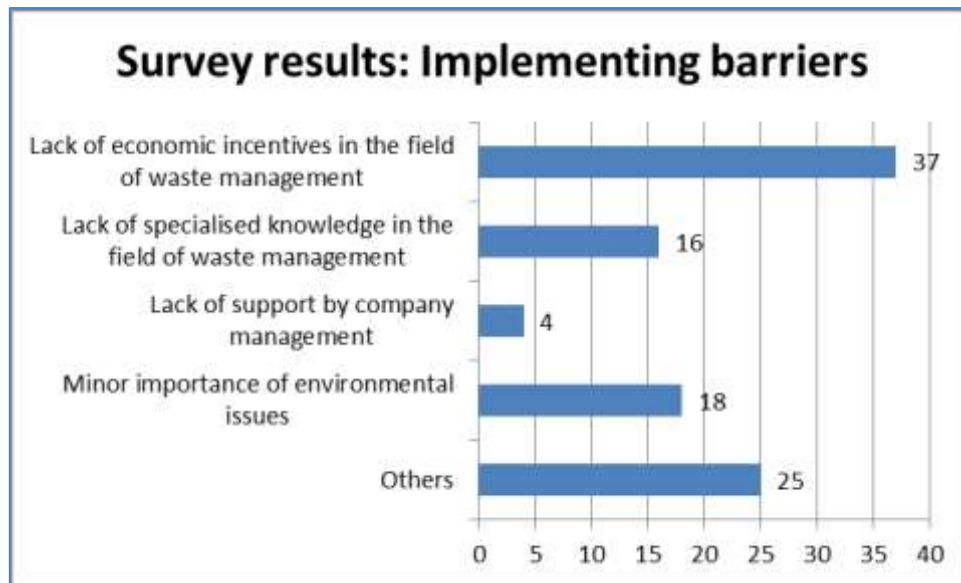


Figure 5: Respondents' answers regarding implementation barriers

It is worth going into more details regarding the last response option “others”, which was selected by a larger number of respondents and reveals several further barriers. Financial difficulties and insufficient financing was mentioned by several respondents making the costs of implementing measures too high. Another issue was the lack of governmental support or support by authorities. Also, the lack of recycling companies in the region can hinder measures to avoid, separate and collect waste. It was also stated that there was either not enough waste material for processing or insufficient production capacities. Low demand and the high complexity at the same time impair implementation of measures, and so does the high labour turnover caused by low wages by which qualified workers were lost. Finally, another group of respondents stated, that in their companies only small quantities of waste are produced and therefore, waste management issues are not relevant to them or that they don't need or want external support.

#### **Question 6: Necessary measures to address waste management problems in a better way**

The following section was designed to deepen the understanding of what support is needed by companies in order to improve current waste management issues. Similarly to the previous question, a list of pre-set answers was available, each with the option to add further comments. Again, multiple answers were allowed. The response options are listed in Figure 6.

6. What kind of support for companies is necessary in order to address waste management problems in your company in a better way?

<i>Measures</i>	<i>Please name all measures</i>
Effective legal base in the field of waste management at both federal and regional level	
Educational training on the organisational level, e.g. environmental management systems	
Educational training on the technical level, e.g. on recycling processes	
Financial funding of environmental measures (please list all measures for financial funding and specify planned efficiency)	
Others (please specify)	

Figure 6: Survey question No. 6: Necessary measures to address waste management issues in a better way

Figure 7 shows the referring results, which will be described in detail.



Figure 7: Respondents' answers regarding necessary measures in order to improve waste management issues

### Effective legal base in the field of waste management

With a total of 60 responses, the most common answer referred to the need of an effective legal base in the field of waste management, at both federal and regional level in order to achieve an optimized waste management system.

Several companies indicate difficult general conditions due to the fact, that some law are contradictory or not clearly defined, e.g. regarding the distinction of waste incineration and incineration with energy recovery or meeting end-of-waste criteria. Besides, legislation should be effective and attainable, also in a local context. Some comments point out that current environmental legislation would only complicate waste management activities since the main focus is on reporting and other bureaucratic burdens rather than actually improving waste management practices. Therefore, a common concern was a revision of waste legislation.

Another suggestion was simplified authorisation procedures, e.g. the purchase of land designated for landfills. Also, legal difficulties regarding medical waste were mentioned.

### **Financial funding of environmental measures**

In the opinion of 56 respondents economic incentives and financial support by authorities are essential in order to improve Russian waste management systems.

Frequently mentioned were taxes, e.g. optimisation of tax incentives. A number of examples were suggested, such as tax benefits for major investments, tax reductions for companies which work with best available technologies in their production processes or tax incentives, especially in the field of land taxes and wealth taxes, for companies which participate in environmental programmes in order to mitigate negative impacts from industry. Furthermore, tax reductions and subsidies for SME should be considered so that they are able to operate profitably in the field of waste management after a shorter period of time.

One further note refers to technologies at the state of the art, for example drafting a nationwide programme for modernising existing technologies and implementing new methods for waste management. In the field of large scale projects, private public partnerships should be promoted.

Another request was a faster depreciation of long-term assets with regard to effective implementation to measures to reduce environmental impacts. Also, co-financing programmes to improve waste management infrastructure in settlements were requested, for example to make a widespread introduction of waste containers for separate collection possible.

Several other suggestions have been made, e.g. state subsidies for environmentally oriented companies or application of efficient technologies, reductions of rental costs, availability of favourable loans and credits, customs exemptions regarding import of advanced technologies, establishment of standard charges for waste disposal, earmarked environmental protection charges, stimulation of sustained economic activity in the field of waste management, promotion of alternative fuels originating from waste, reduction of bureaucracy, ...

### **Advanced training on organisational and technical level**

Advanced trainings can be considered key measures in order to improve waste management practice. This is also indicated by the survey results: 50 respondents think that advanced technical trainings are a necessary measure, and additional 42 respondents plead for advanced trainings on organisational level.

In this regard, training programmes in the field environmental management systems and promoting certifications such as ISO 14000 was suggested. Additionally, available funding opportunities should be addressed. It would be desirable to

implement nationwide advanced waste management training programmes for specialists and managers at affordable prices. Another suggestion refers to information measures such as workshops in social media campaigning, in order to inform the public on responsible handling of waste.

In the field of trainings on a technical level, particular emphasis should be placed on best available technologies, technical innovations and analysis of waste.

### **Other measures in order to address waste management issues in a better way**

Last but not least 14 respondents mentioned further measures, which they considered necessary in order to address waste management issues in an improved manner. These include:

- Development of networks of waste management companies and industrial companies, including state owned enterprises, private companies, SMEs (in analogy with the handling of “secondary raw materials” in the USSR).
- Establishment of knowledge databases in order to contribute to knowledge exchange (e.g. regarding availability of regional waste management companies)
- Establishment of a waste production database, e.g. focussing on all waste streams that are potential secondary raw materials for other companies.
- Implementation of regional programmes in order to create favourable conditions and state of the art technologies for waste collection, separation, recycling and disposal.
- Elimination of illegal landfills
- Ban on depositing recyclables
- Stricter penalties and enforcement of regulations
- Extensive network of waste treatment plants on a regional level
- Introduction of deposit / refund systems to promote the recovery of secondary raw materials resp. certain hazardous substances, e.g. regarding (mercury containing) light bulbs
- Improved leasing offers for hardware and equipment
- Increase of demand for recycled material
- Simplified documentation

### **Question 7: Satisfaction level of completed training courses**

The last question of the survey gave respondents the possibility to express their level of satisfaction of completed training courses in the field of waste management. The majority (58) of the respondents expressed satisfaction, whereas 23 respondents were not satisfied and 25 gave no reply or did not attend to a relevant training course or were not interested in waste management training courses.

Reasons for the satisfaction of the respondents were teachers with high professional competence, organisational skills and teaching methods. Several respondents are interested in participating in advanced trainings again due to the fact that they appreciate the (international) experience, consider it beneficial and reasonable for the company or want to increase their knowledge.

Among the negative responses, the most frequently reason for dissatisfaction is a lack of training courses in the region (this applies in particular for the remote regions



with poor infrastructure). Additionally, the courses are offered on an irregular basis. Another key problem is the lack of practical relevance resp. the lack of application possibilities in the company. Training courses were perceived as too formal. Several respondents state, that they had not received any information about training courses, although the need for such courses is existent. Another issue is a poor price-performance ratio namely very high cost but poor quality, e.g. regarding teaching performance, poor structuring and organisational skills, lack of required contents. The courses did not bring additional benefit for some of the participants, due to the fact that all of the course contents were also easily available on the internet and thus bringing no new skills to the company.

## 4. Conclusion and Recommendations

The aim of the survey was to gain a better understanding of the (economic) situation of companies in order to implement measures to reduce, separate and collect waste streams and promote recycling.

The results of this survey shall become the basis for determining appropriate and feasible incentive systems in order to improve Russian waste management systems. Therefore, an efficient mix of policy instruments needs to be found.

Based on the survey findings, several recommendations can be made:

- Expansion of environmental tax benefits, e.g. in regard to land and wealth taxes
- Enabling of faster depreciation of long-term assets with regard to effective implementation to measures to reduce environmental impacts
- Reduction of factors necessary for calculating the amount of payment for negative environmental impacts.
- Promotion of best available technologies
- Regulation of environmental services through licensing of waste management companies.
- Voluntary certification in accordance with ISO 14000
- Establishment of knowledge databases
- Opening of training and consultation centres of advanced training and further education on environmental management systems and management of industrial and municipal waste and secondary raw materials.

Additionally, the responsible authorities should have competences, such as the control of deposit systems for packaging, adjusted tariffs in regard to mixed and separated waste, determination of waste charges and supporting public-private partnerships.

Further considerations should be given to the idea of revising legislation in the field of waste management in order to make them more consistent and easier to fulfil. Measurable parameters and indicators – comparable to EU legislation – are needed.

With regard to the development of advanced training programmes, there should be a focus on practical relevance and hands-on exercises, advanced training methods and learning materials.

It should be pointed out that previous experience from the Soviet era (e.g. state supply (GOSSNAB), Institute of secondary raw materials (WIWR)) should be taken into consideration. Additionally, international cooperation and the exchange with international experts and consultants should be emphasized. Initiatives and wider adoption of best environmental management practices should be encouraged in order to accelerate the modernisation of technical infrastructure of industrial enterprises and the green business sector.

## 5. Acknowledgement

We have received major support in conducting this survey from the European-Russian Centre for innovations, ecology and economic development (EURORUSS e.V.), National Union of Enterprises concerned with Waste Management Moscow (NUEWM), East Siberia State University of Technology and Management, Ulan-Ude (ESSUTM), Far Eastern Federal University Vladivostok (FEFU), National Research Irkutsk State Technical University (ISTU), Administration of Irkutsk (AI) and Transbaikal State University Chita (TSU). Special thanks to Ms Olga Tschernova for translating the questionnaires.

The project TIWaSiC is funded by the TEMPUS IV Programme of the European Union.



## 6. Annex I



### Questionnaire on waste handling companies

The objective of the Russian-European project „ADVANCED TRAINING IN INTEGRATED SUSTAINABLE WASTE MANAGEMENT FOR SIBERIAN COMPANIES AND AUTHORITIES” (TIWaSiC) [www.tiwasic.de](http://www.tiwasic.de) is the development of educational courses in order to improve waste management in Russian companies. Those educational courses are designed to obtain information on available „know-how” (best-practice examples) on handling of industrial waste and the environmental management system in Europe and Russia. In order to identify potential improvements from waste management and develop feasible alternatives for incentive systems, we would request you to answer the following questions. It only takes a few minutes!

#### 1. General information:

<i>Business name / Region / City</i>	<i>Number of employees</i>
<i>Activities of the company (please name all activities):</i>	
Collection	
Recovery	
Cleaning	
Recycling	
Deposition	
Landfilling	

#### 2. Types of waste and quantity of waste, which are generated in your company? How do you actually handle your waste in practise? (Processing / utilisation in own plant, transfer to external processing to other waste management companies, disposal, selling as secondary raw material.) Please complete the table below!

Types of Waste (if possible follow FKKO*)	Volume of waste generated per year, in m <sup>3</sup>	Handling of waste (in practice)			
		Processing / utilisation in own plants, m <sup>3</sup>	Transfer to external processing / utilisation to other waste management companies (please state name of external company), m <sup>3</sup>	Disposal (please state name of landfill operator and indicate, if landfill holds a license), m <sup>3</sup>	sales as secondary raw material, m <sup>3</sup>

\* - FKKO – Federal Waste Classification Catalogue of Russia

(If you need to continue this table, please use an extra sheet)



3. Responsibilities: Is there a person responsible for waste management in your company? What are the main tasks of this person?

---



---

4. Did you implement any measures in your company in order to avoid, separate and collect waste? If yes, please specify.

---



---

5. If not, what are the reasons for not having implemented such measures yet?

Reason	Please name all reasons
Lack of economic incentives in the field of waste management	
Lack of specialised knowledge in the field of waste management	
Lack of support by company management	
Minor importance of environmental issues	
Others (please specify)	

6. Which measures are necessary in order to address waste management problems in your company in a better way?

Measures	Please name all measures
Effective legal base in the field of waste management at both federal and regional level	
Advanced training on the organisational level, e.g. environmental management systems	
Advanced training on the technical level, e.g. on recycling processes	
Financial funding of environmental measures (please list all measures for financial funding and specify planned efficiency)	
Others (please specify)	

7. Are you satisfied with the training courses in the field of waste management in your region? If not, please specify why not?

---



---

Thank you for participating in this survey!

Contact information:



### Анкета „Обращение с отходами“

Целью российско-европейского проекта „КОМПЛЕКСНОЕ УСТОЙЧИВОЕ УПРАВЛЕНИЕ ОТХОДАМИ“ для СОТРУДНИКОВ ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЙ И ГОССЛУЖАЩИХ РЕГИОНОВ СИБИРИ (TIWaSiC) [www.tiwasic.de](http://www.tiwasic.de) является разработка курсов повышения квалификации для улучшения управления отходами на предприятиях. Данные курсы должны предоставить информацию о наилучших достижениях в сфере обращения с производственными отходами и системе экологического менеджмента в России и Европе. Чтобы выяснить потенциальные области для улучшения обращения с отходами и возможности развития системы экономического стимулирования на предприятиях, просим Вас заполнить данную анкету. Это займет всего несколько минут!

#### 1. Общие данные:

Наименование предприятия/регион/город	Общее количество сотрудников
Осуществляемый вид деятельности (указать все виды):	
Сбор	
Использование	
Обезвреживание	
Переработка	
Размещение	
Захоронение	

#### 2. Виды образующихся производственных отходов, объём образования, практика использования (переработка на собственном предприятии, передача для переработки предприятиям переработчикам, захоронение, продажа в качестве сырья). Заполнить таблицу.

Виды отходов (желательно согласно ФККО)	Объём образования в год, м3	Практика использования			
		переработка на собственном предприятии, м3	передача для переработки предприятиям переработчикам (указать название предприятия переработчика), м3	захоронение на полигоне (указать наименование и обслуживающую организацию, наличие/отсутствие лицензии у полигона), м3	продажа в качестве сырья, м3

(для продолжения таблицы используйте, пожалуйста, дополнительный лист)



3. Распределение ответственности: есть ли на предприятии ответственное лицо за обращение с отходами? Основные обязанности ответственного лица?

---



---

4. Были ранее реализованы на предприятии меры по сокращению объёмов образования отходов, их разделённому сбору? Если да, то какие?

---



---

5. Если нет, то по каким причинам они до сих пор не реализованы?

Причины	Указать все причины
Отсутствие экономических стимулов обращения с отходами	
Отсутствие профессиональных знаний в области обращения с отходами у персонала	
Недостаточная поддержка со стороны руководства	
Низкая степень осознания важности экологических проблем на предприятии	
другие (пожалуйста, укажите какие)	

6. Какие меры необходимы для оптимизации системы обращения с отходами на предприятии?

Меры	Указать все меры
Действенные правовые основы по обращению с отходами на федеральном и региональном уровне	
Повышение квалификации персонала в организационной области, например, знакомство с системой экологического менеджмента	
Повышение квалификации в технической области, например, изучение способов переработки отходов	
Экономическое стимулирование деятельности по обращению с отходами со стороны государства (перечислить меры по стимулированию и указать планируемую эффективность)	
другие (пожалуйста, укажите какие)	

7. Удовлетворяют ли вас курсы повышения квалификации по обращению с отходами, проводимые в вашем регионе? Если не удовлетворяют, укажите, пожалуйста, почему.

---



---

Благодарим Вас за участие в анкетировании!

**Контакты:**



### Fragebogen zum Umgang mit Abfällen

Das Ziel des russisch-europäischen Projektes „ADVANCED TRAINING IN INTEGRATED SUSTAINABLE WASTE MANAGEMENT FOR SIBERIAN COMPANIES AND AUTHORITIES“ (TIWaSiC) [www.tiwasic.de](http://www.tiwasic.de) ist die Entwicklung von Fortbildungskursen um das Abfallmanagement in russischen Betrieben zu verbessern. Diese Fortbildungskurse sollen auch Auskunft über das „Know-How“ (Best-Practice-Beispiele) für den Umgang mit Industrieabfällen und über das Umweltmanagementsystem in Europa und Russland geben. Um Verbesserungspotenziale in der Abfallwirtschaft festzustellen und realisierbare Alternativen für Anreizsysteme entwickeln zu können, möchten wir Sie bitten, die nachstehenden Fragen zu beantworten. Es nimmt nur wenige Minuten in Anspruch!

1. Allgemeine Angaben:

Betriebsname/Region/Stadt	Anzahl der Mitarbeiter
Tätigkeit des Unternehmens (alle Tätigkeiten nennen):	
Sammlung	
Verwertung	
Reinigung	
Recycling	
Ablagerung	
Deponierung	

2. Abfallarten und -volumen, die im Betrieb anfallen, realer Umgang mit Abfällen in der Praxis? (Verwertung in eigene Anlagen, Übergabe zur externen Verwertung an anderen Entsorgungsunternehmen, Deponierung, Verkauf als sekundärer Rohstoff). Bitte füllen Sie die folgende Tabelle aus.

Abfallart (möglichst nach dem FKKO*)	Abfallvolumen pro Jahr, m <sup>3</sup>	Umgang mit Abfällen in der Praxis			
		Verwertung in eigene Anlagen, m <sup>3</sup>	Übergabe zur externen Verwertung an anderen Entsorgungs- unternehmen (bitte Name des Entsorgungsunterneh- mens angeben), m <sup>3</sup>	Deponierung (bitte Name von Deponie und Service-Betrieb, sowie ob die Deponie eine Lizenz hat, angeben), m <sup>3</sup>	Verkauf als sekundärer Rohstoff, m <sup>3</sup>

\* - FKKO –das Föderale Klassifikationsverzeichnis der Abfälle in Russland

(für die Fortsetzung der Tabelle verwenden Sie bitte ein zusätzliches Blatt)



3. Verantwortlichkeiten: gibt es im Betrieb eine verantwortliche Person für Abfälle? Welche Funktion übt diese Person aus?

---



---

4. Wurden die Maßnahmen bisher im Betrieb umgesetzt, um Abfälle zu vermeiden, getrennt zu sammeln? Wenn ja, welche?

---



---

5. Wenn nicht, aus welchen Gründen sind sie noch nicht umgesetzt?

Grund	bitte alle Gründe nennen
Fehlende wirtschaftliche Anreize im Bereich der Abfallwirtschaft	
Fehlendes Fachwissen von Personal im Bereich Abfallwirtschaft	
mangelnde Unterstützung durch Geschäftsführung	
geringe Bedeutung von Umweltthemen	
andere (bitte nennen)	

6. Welche Maßnahmen sind notwendig, um Abfallprobleme im Betrieb besser lösen zu können?

Maßnahmen	bitte alle Maßnahmen nennen
Wirksame Rechtsgrundlagen im Bereich der Abfallwirtschaft auf der föderalen und regionalen Ebene	
Weiterbildung im organisatorischen Bereich, z.B. Umweltmanagementsysteme	
Weiterbildung im technischen Bereich, z.B. Recyclingverfahren	
Finanzielle Förderung von Umweltmaßnahmen (Maßnahmen zur Förderung bitte aufzählen und geplanten Effizienz nennen)	
andere (bitte nennen)	

7. Sind Sie mit den Weiterbildungskursen in der Abfallwirtschaft, die in Ihrer Region stattfinden, zufrieden? Wenn nicht, warum?

---



---

Vielen Dank für Ihre Teilnahme an der Umfrage!

Kontakt:

## 7. Annex II



### Questionnaire on waste producing companies

The objective of the Russian-European project „ADVANCED TRAINING IN INTEGRATED SUSTAINABLE WASTE MANAGEMENT FOR SIBERIAN COMPANIES AND AUTHORITIES” (TIWaSiC) [www.tiwasic.de](http://www.tiwasic.de) is the development of educational courses in order to improve waste management in Russian companies. Those educational courses are designed to obtain information on available „know-how” (best-practice examples) on handling of industrial waste and the environmental management system in Europe and Russia. In order to identify potential improvements from waste management and develop feasible alternatives for incentive systems, we would request you to answer the following questions. It only takes a few minutes!

#### 1. General information: Industry sector (see list)

Industry sector	Please choose industry sector of your company	Company name / region / city	Number of employees	Main production processes
Mining industry including raw material extraction and accumulation of minerals				
Metallurgical industry				
Chemical industry and petrochemical sector				
timber processing industry and pulp and paper industry				
Municipal management, including <ul style="list-style-type: none"> <li>• water treatment and purification</li> <li>• waste industry</li> </ul>				
Others (please specify)				

#### 2. Types of waste and quantity of waste, which are generated in your company? How do you actually handle your waste in practise? (Processing / utilisation in own plant, transfer to external processing to other waste management companies, disposal, selling as secondary raw material.) Please complete the table below!

Types of Waste (if possible follow FKKO*)	Volume of waste generated per year, in m <sup>3</sup>	Handling of waste (in practice)			
		Processing / utilisation in own plants, m <sup>3</sup>	Transfer to external processing / utilisation to other waste management companies (please state name of external company), m <sup>3</sup>	Disposal (please state name of landfill operator and indicate, if landfill holds a license), m <sup>3</sup>	sales as secondary raw material, m <sup>3</sup>






\* - FKKO – Federal Waste Classification Catalogue of Russia

(If you need to continue this table, please use an extra sheet!)

3. Responsibilities: Is there a person responsible for production waste in your company? What are the main tasks of this person?

---



---



---

4. Did you implement any measures in your company in order to avoid, separate and collect waste? If yes, please specify.

---



---

5. If not, what are the reasons for not having implemented such measures yet?

Reason	Please name all reasons
Lack of economic incentives in the field of waste management	
Lack of specialised knowledge in the field of waste management	
Lack of support by company management	
Minor importance of environmental issues	
Others (please specify)	

6. What kind of support for companies is necessary in order to address waste management problems in your company in a better way?

Measures	Please name all measures
Effective legal base in the field of waste management at both federal and regional level	
Educational training on the organisational level, e.g. environmental management systems	
Educational training on the technical level, e.g. on recycling processes	
Financial funding of environmental measures (please list all measures for financial funding and specify planned efficiency)	
Others (please specify)	

7. Are you satisfied with the training courses in the field of waste management in your region? If not, please specify why not?

---



---

Thank you for participating in this survey!

Contact information:





### Анкета „Обращение с производственными отходами“

Целью российско-европейского проекта „КОМПЛЕКСНОЕ УСТОЙЧИВОЕ УПРАВЛЕНИЕ ОТХОДАМИ“ для СОТРУДНИКОВ ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЙ И ГОССЛУЖАЩИХ РЕГИОНОВ СИБИРИ (TIWaSiC) [www.tiwasic.de](http://www.tiwasic.de) является разработка курсов повышения квалификации для улучшения управления отходами на предприятиях. Данные курсы должны предоставить информацию о наилучших достижениях в сфере обращения с производственными отходами и системе экологического менеджмента в России и Европе. Чтобы выявить потенциальные области для улучшения обращения с отходами и возможности развития системы экономического стимулирования на предприятиях, просим Вас заполнить данную анкету. Это займет всего несколько минут!

#### 1. Общие данные: отрасль (смотрите список)

Отрасль	Выбрать отрасль Вашего предприятия	Наименование предприятия /регион/город	Общее количество сотрудников	Основные производственные процессы
Горнодобывающая и горнообогатительная отрасль				
Металлургический комплекс				
Химическая и нефтехимическая промышленность				
Деревообрабатывающая и целлюлозно-бумажная промышленность				
Жилищно-коммунальное хозяйство, в том числе: Водоподготовка/очистка ▪ Сфера обращения с отходами				
другая (пожалуйста, укажите какая)				

#### 2. Виды образующихся производственных отходов, объём образования, практика использования (переработка на собственном предприятии, передача для переработки предприятиям переработчикам, захоронение, продажа в качестве сырья). Заполнить таблицу.

Виды отходов (желательно согласно ФККО)	Объём образования в год, м3	Практика использования			
		переработка на собственном предприятии, м3	передача для переработки предприятиям переработчикам (указать название предприятия переработчика), м3	захоронение на полигоне (указать наименование и обслуживающую организацию, наличие/отсутствие лицензии у полигона), м3	продажа в качестве сырья, м3

(для продолжения таблицы используйте, пожалуйста, дополнительный лист)



3. Распределение ответственности: есть ли на предприятии ответственное лицо за обращение с производственными отходами? Основные обязанности ответственного лица?

4. Были ранее реализованы на предприятии меры по сокращению объёмов образования отходов, их раздельному сбору, вторичному использованию? Если да, то какие?

5. Если нет, то по каким причинам они до сих пор не реализованы?

Причины	Указать все причины
Отсутствие экономических стимулов обращения с отходами	
Отсутствие профессиональных знаний в области обращения с отходами у персонала	
Недостаточная поддержка со стороны руководства	
Низкая степень осознания важности экологических проблем на предприятии	
другие (пожалуйста, укажите какие)	

6. Какая поддержка необходима предприятиям для решения проблем обращения с отходами? Какие меры необходимы для оптимизации системы обращения с производственными отходами?

Меры	Указать все меры
Действенные правовые основы по обращению с отходами на федеральном и региональном уровне	
Повышение квалификации персонала в организационной области, например, знакомство с системой экологического менеджмента	
Повышение квалификации в технической области, например, изучение способов переработки отходов	
Экономическое стимулирование деятельности по обращению с отходами со стороны государства (перечислить меры по стимулированию и указать планируемую эффективность)	
другие (пожалуйста, укажите какие)	

7. Удовлетворяют ли вас курсы повышения квалификации по обращению с отходами, проводимые в вашем регионе? Если не удовлетворяют, укажите, пожалуйста, почему.

Благодарим Вас за участие в анкетировании!

**Контакты:**



### Fragebogen zum Umgang mit Abfällen aus der Produktion

Das Ziel des russisch-europäischen Projektes „ADVANCED TRAINING IN INTEGRATED SUSTAINABLE WASTE MANAGEMENT FOR SIBERIAN COMPANIES AND AUTHORITIES“ (TIWaSiC) [www.tiwasic.de](http://www.tiwasic.de) ist die Entwicklung von Fortbildungskursen um das Abfallmanagement in russischen Betrieben zu verbessern. Diese Fortbildungskurse sollen auch Auskunft über das „Know-How“ (Best-Practice-Beispiele) für den Umgang mit Industrieabfällen und über das Umweltmanagementsystem in Europa und Russland geben. Um Verbesserungspotenziale in der Abfallwirtschaft festzustellen und realisierbare Alternativen für Anreizsystem entwickeln zu können, möchten wir Sie ersuchen, die nachstehenden Fragen zu beantworten. Es nimmt nur wenige Minuten in Anspruch!

#### 1. Allgemeine Angaben: Branche (siehe Liste)

Branche	Branche ihres Unternehmens auswählen	Betriebsname/ Region/Stadt	Anzahl der Mitarbeiter	Hauptproduktionsprozessen
Bergbau inklusive der Rohstoffgewinnung und der Anreicherung der Mineralien				
Metallurgische Industrie				
Chemische Industrie und Petrochemie				
Holzverarbeitende sowie Zellstoff- und Papierindustrie				
Kommunalwirtschaft inklusive: ▪ Wasseraufbereitung und –reinigung ▪ Abfallwirtschaft				
andere (bitte nennen)				

#### 2. Abfallarten und –volumen, die im Betrieb anfallen, reale Umgang mit Abfällen in der Praxis? (Verwertung in eigene Anlagen, Übergabe zur externen Verwertung an anderen Entsorgungsunternehmen, Deponierung, Verkauf als sekundärer Rohstoff). Bitte füllen Sie die folgende Tabelle aus.

Abfallart (möglichst nach dem FKKO*)	Abfallvolumen pro Jahr, m <sup>3</sup>	Umgang mit Abfällen in der Praxis			
		Verwertung in eigene Anlagen, m <sup>3</sup>	Übergabe zur externen Verwertung an anderen Entsorgungsunternehmen (bitte Name des Entsorgungsunternehmens angeben), m <sup>3</sup>	Deponierung (bitte Name von Deponie und Service-Betrieb, sowie ob die Deponie eine Lizenz hat, angeben), m <sup>3</sup>	Verkauf als sekundärer Rohstoff, m <sup>3</sup>

(\* - FKKO –das Föderale Klassifikationsverzeichnis der Abfälle in Russland



3. Verantwortlichkeiten: gibt es im Betrieb eine verantwortliche Person für Produktionsabfälle? Welche Funktion übt diese Person aus?

---



---

4. Wurden die Maßnahmen bisher im Betrieb umgesetzt, um Abfälle zu vermeiden, getrennt zu sammeln, zu verwerten? Wenn ja, welche?

---

5. Wenn nicht, aus welchen Gründen sind sie noch nicht umgesetzt?

Grund	bitte alle Gründe nennen
Fehlende wirtschaftliche Anreize im Bereich der Abfallwirtschaft	
Fehlendes Fachwissen von Personal im Bereich Abfallwirtschaft	
mangelnde Unterstützung durch Geschäftsführung	
geringe Bedeutung von Umweltthemen	
andere (bitte nennen)	

6. Welche Unterstützung der Betriebe ist notwendig, um Abfallprobleme im Betrieb besser lösen zu können? Welche Maßnahmen sind notwendig, um das betriebliche Abfallmanagement zu verbessern?

Maßnahmen	bitte alle Maßnahmen nennen
Wirksame Rechtsgrundlagen im Bereich der Abfallwirtschaft auf der föderalen und regionalen Ebene	
Weiterbildung im organisatorischen Bereich, z.B. Umweltmanagementsysteme	
Weiterbildung im technischen Bereich, z.B. Recyclingverfahren	
Finanzielle Förderung von Umweltmaßnahmen	
andere (bitte nennen)	

7. Sind Sie mit den Weiterbildungskursen in der Abfallwirtschaft, die in Ihrer Region stattfinden, zufrieden? Wenn nicht, warum?

---

Vielen Dank für Ihre Teilnahme an der Umfrage!

Kontakt: