

IPLA Global Forum 2015
on
***Science-Policy-Business-Community Interface Towards a
Resource Efficient Nation: Minimum Landfilling and Maximum
Resource Recovery***



**World Trade Centre,
Moscow, Russian Federation, 6-8 October 2015**

Draft Summary

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I. Introduction

1. In a smart city or community, science, policy and businesses are closely tied to each other for their own success and survival. As evident in many eco-towns where economy and environment are integrated to create sustainable business opportunities, they have progressively built strong science-policy-business link and interdependency. At the same time, government policies supporting R&D-oriented industrial structure and environmental efforts by companies are critical to foster sustainable urban businesses in 3R areas. Sustainable waste management can lead to highly profitable business opportunities if national, local governments or urban local bodies create enabling policies, institutions, partnerships and investment regime for expanding market of environmental goods (equipment, technologies, eco-products, green energy, etc.) and services. 3R (reduce, reuse, recycle) as an economic industry offers competitive solutions to many environmental issues and benefits to communities provided 3Rs and resource efficiency are integrated into the macro-economic development policies. As 3R and resource efficiency can provide important complement to achieving many of the proposed SDGs and targets, local and national governments should consider science-based policy making for achieving a win-win situation (in terms environmental, social and economic benefits) of through 3R solutions.
2. Development and application of sound waste management technologies is critical in achieving resource efficiency in cities and municipalities. There is a need to advance not only standard technologies for the conventional waste management such as collection, transportation and disposal, but also socially, environmentally and financially sound and innovative technologies which contribute to the minimization of waste and the recovery of resource and energy from waste, such as 3Rs and recycling and waste-to-energy (WtE). With the diversification of waste streams worldwide as well as the growing presence of new emerging waste streams such as e-waste, plastics in chemicals, hazardous and toxic elements in the general waste stream and plastics in coastal marine environment, the complexity and daunting nature of waste management challenges have

gone beyond the capacity of local authorities and municipalities – in terms of technology, and institutional mandate.

3. It is necessary to elaborate and implement sustainable and sound waste management policies, in order to maximize the use of natural resources with as minimal environmental impact and waste generation as possible. In many developing cities and municipalities, there is a lack of capacity to access to, assess, transfer and adapt these waste management technologies. There is also a general perception that new technologies, such as 3Rs, are too expensive and advanced to develop and apply, whereas they are not always costly and complex. In order to promote sound waste management technologies, there is a need, first of all, to improve access to broad and up-to-date information and technologies and enhance understanding of what kind of technologies are available. Secondly, there is a need to assess and select waste management technologies that are suited to specific local conditions in order to ensure feasibility and sustainability of the technologies. Thirdly, cities and municipalities need to strengthen policies and institutional framework to promote transfer and adaptation of technologies, by, for example, setting environmental standards and regulations, creating markets and investments, and supporting research and development (R&D). All these processes require exchange, guidance, and assistance through international partnerships, including public-private partnership (PPP).
4. The United Nations Centre for Regional Development (UNCRD) (IPLA Global Coordinating Secretariat), Federal Supervisory Natural Resources Management Service (Rosprirodnadzor), International Centre for the Best Environmental Technologies (ICBET) (Sub-regional Secretariat of IPLA for the Russian Federation and other EAEU countries) and Department of Natural Resources and Environmental Protection of the City of Moscow co-organized the 2015 IPLA Global Forum from 6 to 8 October 2015, in Moscow, The Russian Federation, with the overall theme of “*Science-Policy-Business-Community Interface Towards a Resource Efficient Nation: Minimum Landfilling and Maximum Resource Recovery*”. The Forum was supported by the Ministry of Natural Resources and environment of Russian Federation, UNIDO Center for International Industrial Cooperation in the Russian Federation, Russian Academy of Science, Analytical Center for the Government of the Russian Federation, Interregional association of the socio-economic cooperation “Central Federal District”, the Chamber of Commerce and Industry and the Public Chamber of the Russian Federation. The Forum was organized in conjunction with the Fifth International Scientific-Practical Conference "Environmental Problems of Moscow", which was organized by the Department of Natural Resources and Environmental Protection of the City of Moscow celebrating the 15th anniversary since the establishment of the Department.
5. The Forum was attended by more than 200 participants from twenty-one countries (Austria, Belarus, Czech Republic, Dominican Republic, France, Finland, Germany, India, Italy, Ireland, Japan, Kazakhstan, Republic of Korea, Malaysia, Pakistan, Russian Federation, South Africa, Sri Lanka, Sweden, Switzerland, Thailand), including representatives from local and national governments, regional and sub-regional organizations, academic and research institutions, non-governmental organizations

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(NGOs), the private and business sector, as well as international and UN organizations and local observers and professionals on waste management from Russian Federation, including representatives of 50 regions of the Russian Federations, members of the Federal Council of the Federal Assembly, ministries and agencies of federal and regional level. In the course of three days, fifteen round table discussions, conferences and thematic sessions were organized under the overall framework of the 2015 IPLA Global Forum.

II. Opening Ceremony

6. Welcoming the participants of the Forum, Mr. Choudhury Rudra Charan Mohanty, Environment Programme Coordinator of UNCRD congratulated the Department of Natural Resources and Environmental Protection of the City of Moscow on the occasion of its 15th anniversary since its establishment. He expressed deep appreciation to ICBET, IPLA Sub-Regional Secretariat for Russia and other EAEU countries, and all supporting organizations for organizing the Forum. Giving a brief introduction on IPLA – a Rio+20 partnerships and its current membership level, Mr. Mohanty emphasized the need to have a coordinated efforts among government agencies, scientific and research community and private sector to achieve sustainable waste management and zero waste society. At the same time, there is an urgent need to bridge the financial, institutional and technological gaps at local and municipal level through proliferation of wide range of partnerships. Mr. Mohanty made a reference to new global Sustainable Development Goals (SDGs) under post-2015 development agenda adopted at the UN Summit on 25-27 Sep 2015, and thereby, the importance of sustainable management and lasting supply of natural resources to achieve any conceivable form of sustainable development.
7. Executive Director of the Association “Central Federal District”, Mr. Nikolai Konstantinov underlined that currently Russian Federation is on the verge of bringing significant changes in its environmental policy. The new environmental law enacted aims to improve the ecological situation in the country through organization of unified waste management system and development of interregional cooperation in the environmental field. Combining the efforts of regional executive authorities in the field of environmental protection of the Central Federal District, it aimed at reducing the landfills as one of the top priorities of the regional government policies.
8. Head of the Department of Natural Resources and Environmental Protection of the city of Moscow, Mr. Anton Kulbachevskiy stressed the importance of cooperation between the authorities, businesses and communities as the only basis for improving the quality of people’s life. He further informed that currently Moscow, home to 12 million people, has developed the environmental strategy of the metropolis for the period until 2030 through a highly participatory and consultative process involving more than 5000 citizens. The residents of Moscow have expressed their support aimed at improving the ecological conditions of Moscow and its regions around.

9. Head of the Department of the Ministry of Industry and Trade of the Russian Federation, Mr. Ilya Chigir emphasized the importance of exchange of information on new technologies and best international practices in the field of industrial waste recycling. The Ministry of the Industry and Trade has been assigned with an important task to develop the waste recycling industries and to create further appropriate conditions for the introduction of modern recycling technologies and equipment to promote the demand for secondary raw materials instead of virgin raw materials. Mr. Chigir informed that the policy of Russian Federation is directed at resource conservation and energy efficiency, and development of industries that would contribute to the reduction of volume of generated waste (considering that annually more than 40 million tons of municipal waste solely is generated in Russia), which would in turn provide an incentive to sustainable use of natural resources as well as improvement in people's quality of life.
10. Director of UNIDO Center for International Industrial Cooperation of the Russian Federation, Mr. Sergei Korotkov recognized the role of the international organizations in implementation of environmental policy, environmental projects, technology transfer and knowledge sharing. He appreciated and recognized the role of UNCRD in promoting the important objective of IPLA globally. Mr. Korotkov noted the important role of UN agencies in implementing environmental projects in different countries to reduce the negative environmental impacts. The UNIDO Center in the Russian Federation is focused on harmonization of Russian legislation and implementation of best global technologies and practices in the areas of waste management and cleaner production. He noted that the projects that are currently implemented in Russia with the technical assistance of UNIDO and with the support of the Ministry of Foreign Affairs and the Ministry of Natural Resources, have already been showing considerable success, both in terms of legislative initiatives and practical aspects.
11. Welcoming the participants, Ms. Natalya Sokolova, Head of State Environmental Supervision of Federal Supervisory Natural Resources Management Service (Rosprirodnadzor) emphasized the role of environmental education and awareness as the basis for a wider engagement of people on planet Earth in environmental projects, where people of all ages will be able to combine their efforts to preserve the pristine environment and reduce the amount of waste in different countries. To this regard, Mrs. Sokolova recognize the role of IPLA as a knowledge platform on international best practices in waste management.

III. Legislations and macro-economic policies promoting economic opportunities in 3Rs (reduce, reuse, recycle)

12. In the First Plenary Session- legislation and macro-economic policies promoting economic opportunities in 3Rs, Mr. CRC Mohanty of UNCRD shared the outcome of 3R and exchange the relevant experience in the field of 3R practice to provide the various

economic opportunities among municipal entities around the world. There is a symbiotic relationship between cities, industries and business given that they support each other for their sustainability. In this regard, cities and municipalities need to move from a linear or “one way” economy to a resource-efficient and even closed-loop or “circular” economy, which are exhibited by many Japanese, Korean and European cities. Economic opportunities exist in a number of areas such as green chemistry and nanotechnology, sustainable transportation, energy and water efficiency, sustainable farming, bio-economy, bio-products, green buildings and wastewater reuse for urban green spaces and urban agriculture, among others. Public private partnerships are critical for realizing business opportunities, and critically depend on macroeconomic and development policy settings such as, for instance, a circular economy policy. 3R as an economic industry offers competitive solutions to many urban environmental issues, provided 3Rs and resource efficiency are integrated into macroeconomic development policies (e.g. the circular economic policy of China). Eco-towns, eco-industrial parks and industrial symbiosis could significantly contribute to regional development. City governments and urban local bodies should recognize and publicize the excellent performance of private companies that carry out environmentally-sound operations. Along with consumers’ awareness (green consumerism) is a critical driver of sustainable urban practices and related green business opportunities, research and development oriented industrial structure and environmental efforts by companies are critical to fostering sustainable urban businesses in 3R areas.

13. The presentation and discussion leads to a number of relevant issues the Moscow is faced with such as municipal and industrial waste management in Moscow agglomeration, electrical and electronic equipment waste management, production from secondary resources for urban use “extended producer responsibility” and “green procurement” as a way for landfill reduction, investments in waste management, development of separate waste collection system for Moscow region, innovative technologies for sanitary landfills, 3R and zero waste principles in the context of Moscow region, ecosystem function rating of urban spaces of Moscow, Moscow landscape conservation, among others.
14. The current amendments to the environmental legislation of Russian Federation aim to reduce the landfill and to return the secondary raw materials to the economic turnover creating new business opportunities and at the same time, favourable conditions for the elimination of accumulated environmental and pollution problems through development and implementation of new waste management technologies. Therefore it is important for Russian Federation to exchange best practices and international experiences in the areas of environmental and recycling technologies.
15. Accepted in 2014, the environmental legislation in Russia delegated the authority and responsibility for the waste management from the municipal level to the regional authorities of the Russian Federation. From 2015, the Ministry of Industry and Trade of the Russian Federation is empowered by waste management related legislations and regulations, and for the first time waste management and recycling is assigned as a

separate industry of the Russian economics. It was urged that if the required waste industries are not developed, Russian Federation and neighbouring countries will face increasing number of abandoned landfills and illegal disposal of untreated wastes in near future. The market players and industries waste sector believe that lack of interagency coordination is one of the reasons of the ineffective management of industries in waste management sector. Currently the authorities in the field of waste management in Russia are divided among several ministries and agencies, and furthermore, there are no coherent and unified operating rules for the investors willing to invest in the development of recycling industries.

16. Dr. P.M. Modak of India discussed about the resource scarcity, resource consumption and waste generation. Wastes are often dumped leading to significant negative impact on human health and ecosystems. These negative impacts can be avoided if the waste is used as a resource and 3Rs are become an integral part into rules and policies. For big cities with population above 2 million and cities generating more than 300 tons per day (TPD) or more of combustible fraction of MSW are suitable for setting up waste-to-energy (WtE) power projects. For smaller small cities, regional facilities should be explored to promote composting, bio-methanation, and RDF (refused-derived fuel). Partnerships is the way to address the challenge and opportunities of waste to resources. Science & Technology are important but equally important are business models that promote innovation. Decentralized approaches play an important role and promise success.
17. Prof. Hans Bjork of Sweden shared successful business model with PPP involvement in the waste management system. Earlier focus in Sweden (and EU) had mainly been on the treatment of waste (landfilling -> recycling). By introducing the waste hierarchy, waste prevention and reuse are also clearly incorporated in the waste management. Waste Framework Directive (WFD) states that all member states must have a plan for waste prevention. The waste hierarchy means that waste is to be managed according to the following strategy – prevention, reuse, recycling, waste-to-energy and disposal. Deviations from the hierarchy may sometimes be necessary for technical, financial or environmental reasons. There is a significant decline in landfilling in Europe over the last two decades. There are several “players” taking part in the waste management activities of Sweden, and each actor has its role. The players include – waste generator (household, industries), municipalities, real estate owners, government agencies, producers (collection and treatment of waste within the producers responsibility) and contractors. Municipalities of Sweden can decide how to organise their own waste management activities – the right of municipal self-determination is laid down in the Swedish Constitution – and there are several organisational forms available to them such as - self-administration, municipal enterprises, independently or jointly with other municipalities, joint boards, and municipal associations. Collaboration is also conducted via the horizontal exchange of services between municipalities. Some municipalities also cooperate on specific issues such as joint procurements. Collaboration is a natural procedure that achieves the greatest possible environmental and social benefit, assures cost-efficient waste management and guarantees the supply of necessary competence,

which benefits municipal inhabitants and the environment alike. There are around 630 recycling centres throughout the country which combined receive about 20 million visits annually. The quantities of bulky waste and hazardous waste dropped off at recycling centres have increased significantly in recent years. Many municipalities are building new, larger centres better-suited to current waste quantities and number of visitors. The largest recycling centre in each municipality is, on average, available for a total of 46 hours per week, 12 hours per week during the evenings and weekends. As for economy for waste-to-energy in Sweden, the business models indicate that waste incineration is expected to be an economically competitive alternative for district heating production during the studied period up to the year 2030. This provides that the national need for this waste treatment method will be met.

18. Professor Jaehyuk Hyun, the President of Korea Society of Waste Management (KSWM), the member of IPLA, reported about the resource recirculation policy of Republic of Korea in moving towards a resource efficient economy. With the objective of establishing Sustainable Resource Circulation Economy and Zero Waste Society, Republic of Korea had introduced several good policy initiatives between 1993 and till date in phase by phase, which resulted in significant reduction in landfilling requirement, for instance, in case of domestic waste from 96% in 1982 to 16% in 2013; and for industrial waste from 80% in 1982 to 16% in 2013. Under the First Comprehensive Waste Management Plan (1993-2001), Korea implemented four major policies – (a) Minimization of Waste (through volume-based tipping system and reduction on packaging waste and food waste); (b) Waste to Resource (deposit-refund and allotment system, creating and supporting foundation of recycling industry, introduction of extended producer responsibility); (c) Stable Management of Waste (making foundation of incineration and landfill facility, setting up landfill leachate criteria, setting up dioxin emission criteria in incineration); and (d) Establishment of Base (promulgation of waste management law, statistical data acquisition of waste). By effecting volume based tipping system (1995~), Korea achieved significant reduction in waste generation from 1.33 kg/day/person in 1994 to 1.03 kg/day/person in 2004 saving in transportation and landfilling cost by about 6 billion US\$. Similarly, under the Second Comprehensive plan in waste management (2002-2011), Korea introduced six major policies such as – (a) Management of waste risk (human health risk); (b) Waste to resource (Value Management); (c) Reduction of waste (Curb on Waste Generated); (d) Management of environmental factor (state of art treatment technologies, zero waste system); (e) Management of economic factor (recycling industry); and (f) Management of social factor (participation of private sector). Several other policies such as EPR (2003), Resource Recirculation of Electric, Electronic and Automobiles (2008), Comprehensive Plan in “Waste to Energy” (2008-2020), among others, aim to help Korea to reduce use of natural resource and energy by minimizing the incineration and landfilling, and maximizing the recycling. To meet the share of national renewable energy (6.08 and 11% in 2020 and 2030, respectively), still around 70% of renewable energy would be supplied from waste and biomass. Waste to Energy has taken major fraction of renewable Energy in Korea.

19. There were a number of other interventions made with regard to macro-economic policies promoting economic opportunities in 3Rs. The Minister of Ecology and Natural Resources Management of Moscow region, Mr. Alexandr Kogan emphasized the regional aspects of the development of territorial planning scheme in Moscow region. Mr. Alexey Makrushin, Executive Director of the Association of organizations and experts in the sphere of housing and communal services "Development" shared the current state of legal regulatory acts on regional operators and schemes of territorial planning in the Russian Federation. Chairman of the Board of the Russian Association for Waste Recycling, Mr. Rodion Cherednichenko emphasized the potential of industrial waste as a source of secondary raw materials and underscored the principles of recycling as the main factor of resource efficiency. President of Chung Nam Green Environment Center of the Republic of Korea, Professor Jin-Do Chung shared the case of Korean cities and their achievements on realizing various eco-towns as means to promote urban green business opportunities in 3R areas. Mr. Alexandr Solovyanov, Deputy Director of the Federal State Institution Russian Scientific Research Institute of Environmental Protection shared the development of the national strategy on ecological safety. Dr. Viktor Haefeli, Swiss Federal Institute of Technology, Zurich, Switzerland shared the historical overview of waste management in Switzerland and presented the role of the cantons and municipal authorities.

IV. What lessons EPR can deliver to Municipalities and Local Authorities in developing and expanding their waste management services

20. The Forum recognized the role of EPR in delivering a number of benefits to municipalities and local authorities in developing and expanding their waste management services. Leading adviser of the Apparatus of the State Duma Committee on Natural Resources, Environment and Ecology, Ms. Elena Semiletova presented a report on legislative and economical constituents of EPR implementation on the regional level. The Deputy Head of the Department of Economics and Finance of the Ministry of Natural Resources and Environment of Russian Federation, Mr. Olga Filchenkova reported about the regulatory and legal support of EPR implementation in the Russian Federation. Mr. Viktor Kolesnik, Director of the Institute of Economics of Energy and Utilities of Russian Federation explained the formation of rates of ecological fees within the framework of extended producers responsibility (EPR). The Executive Director of the Non-profit Association "Industry for the environment" (RUSPEK), Mr. Lyubov Melanevskaya highlighted the risks and opportunities of EPR implementation from the business perspective. Mr. Vladimir Maryev, Director of ICBET (IPLA Sub-regional Secretariat) described the role and the position of the recycling enterprises in the establishment of the waste recycling industry in the Russian Federation in the context of EPR implementation. The international experience of EPR implementation, including an overview of the ASEKOL collective system in Czech Republic, was shared by Mr. Miroslav Drobný, Project Manager of ASEKOL.

21. The Forum recognized the role of regional cooperation in providing an opportunity to promote technology transfer, and to effectively deal with electrical and industrial and hazardous wastes, including new and emerging waste streams. Capacity building of municipal officials and other stakeholders and private sector can be enhanced through exchange and cooperation between cities, regions, industries and countries.

V. Parallel Sessions

22. Under the overall framework of the 2015 IPLA Global Forum, there were a number of Parallel Sessions organized under various sub-themes - Roundtable on 'Implementation of multilateral environmental agreements as a part of the system of chemical and environmental safety of the Russian Federation and other EAEU countries', Roundtable on 'Economics, investment and PPP's in the waste management field' National Meeting 'Environmental culture and education: a dialogue of regions', International Conference <Inventory and remediation of contaminated areas>, International Conference <Energy potential of waste>, International Conference <Municipal solid Waste (MSW) management in the Russian Federation- Issues and Solutions, Expanded Meeting of the Coordinating Council on waste management industry development of the Interregional Association "Central Federal District".
23. Under Parallel Session 1, the Roundtable on **"Implementation of multilateral environmental agreements as a part of the system of chemical and environmental safety of the Russian Federation and other EAEU countries"** was held with an objective to promote efforts towards realizing some of the key conventions such as the Stockholm Convention on Persistent Organic Pollutants (POPs), Basel Convention, Rotterdam Convention, Minamata Convention on Mercury and Strategic Approach to International Chemicals Management. The roundtable was participated by the representatives of Kazakhstan and Belarus Republics, the representatives of industrial enterprises dealing with POPs, the representatives of specialized agencies of UNO-UNIDO, UNEP, and Russian National Committee for UNEP. Ms. Tatiana Terekhova, the representative of Stockholm, Basel and Rotterdam Conventions Unite Secretariat greeted the participants of round-table discussion remotely. The roundtable discussion highlighted the issues of adherence to Stockholm Convention on Persistent Organic Pollutants, especially in relation to handling and storage of PCB and pesticides. It is observed that in recent years the work in the field of environmentally safe management of POPs in the Russian Federation, Belarus and Kazakhstan Republics has gained momentum with the assistance of various UN organizations, however there are still a considerable number of issues that require practical and operational solutions. There are a number of issues around monitoring of POPs in environment, tissues of living organisms and related technological equipment. Starting from their (POPs) safe transportation to storage and deactivation, all will require scientifically advanced solutions as well as better regional cooperation.

24. Under Parallel Session 2, the Roundtable on “**Economics, investment and PPP's in the waste management field**”, addressed a wide range of areas such as - development of public-private partnership in the field of waste management; fundamentals of pricing in the field of waste management; opportunities of state support for projects in the field of waste management; experience of the implementation of concessions in the field of waste management; investment projects of enterprises involved in the field of waste management; regional aspects of investment in the field of waste management; public-private-partnership (PPP) from the regulatory framework to the practical implementation; stimulating the investments towards resource efficiency; relevant legal and investment aspects of institutionalization of waste management field in the Russian Federation in the European context; interregional cooperation as a method of cost reduction for the regions of the Russian Federation; development of the industrial parks and clusters; investment potential in the field of waste management of the banks - OJSC “Gasprombank” and OJSC “Sberbank”, among others. The parallel session was chaired by Mr. Alexandr Bazhenov, General Director, Chairman of the Board of JSC "Federal Project Financing Center" (Group of Vnesheconombank) and Albina Dudareva, Deputy Executive Director and Chairman of the Presidium of Coordinating Council on Waste Management Industry Development of Association of the Interregional Socio-economic Cooperation “Central Federal District”.
25. Under Parallel Session 3, Russian National Meeting on "**Environmental culture and education: a dialogue of regions**", the results of activities of the Commission on Environmental Culture and Education of the Federal Environmental Council of the Ministry of Russia for 2015 were summarized and the program of activities in the field of development of ecological culture and education in the Russian Federation in 2016 were shared. Awarding ceremony on the results of National ecological festival for children “Ecodetstvo” (Eco-childhood) that was held on 5-7 June 2015 has also took place during the meeting: representatives of 85 federal subjects of the Russian Federation were awarded with the diplomas of the participant of “Russian Book of Records”; 11 regions were awarded as the winners by the results of National competition “Regional event of the first National ecological festival for children “Ecodetstvo”; the names of the winners of the online competition were announced.
26. The Parallel Session 4 on “**Inventory and remediation of contaminated areas**” addressed a number of issues such as - changes in the current legislation of hazardous waste treatments; incentive measures to increase the volume of recycling of hazardous waste of the oil industry; elimination of accumulated environmental damage in the area of hazardous waste management of the oil industry; issues of remediation of lands contaminated by oil spills; construction and remediation of waste disposal landfills; reduction of the number of territories withdrawn from economic circulation as a result of contamination by municipal solid waste and oil waste; and building infrastructure for the processing and recycling of the required volumes of industrial production. The participants also identified a number of issues requiring urgent solution such as – oil pollution of soils and water by oil waste (oil and oil products), some of which contain

highly toxic carcinogen posing real threat to human health and well-being; problem of identifying and eliminating the sources of pollution in the production and processing of oil in Russia; issue of responsibility for the past (cumulative) environmental damage, which is considered the weakest link of state and elaborated sectoral environmental regulation; closing the small dumps and large unmanaged landfills with simultaneous arrangement of interregional specialized processing facilities; remediation of disturbed and contaminated lands as a result of economic activities; lack of common information platform which could enable to combine the advantages of the market and administrative approach based on complete and accurate information about current domestic and foreign technologies for cleaning the oil contaminated soils; the need to engineer and launch the industrial technical facilities for processing (cleaning) of contaminated lands for its secondary use. The participants also proposed a number of recommendations to urgently address the above issues and for creation an economically viable and environmentally effective institutional and organizational prerequisites for reducing contamination of certain regions of the Russian Federation, including cleaning and remediation of lands, enhancing the efficiency of state and production control over compliance of environmental legislations.

27. The Parallel Session 5 on “**Energy potential of waste**”, addressed a number of relevant areas such as - regulatory support for the process of thermal neutralization and disposal of waste in the Russian Federation; pressing issues of the thermal destruction of wastes of various hazard classes in Russian Federation; prospects for the use of thermal methods of waste disposal for the Russian Federation; prospects and possibilities of RDF production in Russia; the role of the cement industry in the thermal destruction of waste; the possibility of generating energy from the combustion of solid fuels; specifics of regulatory support for "green" tariff in Russia; generation of energy through biogas potential of waste; and use of waste of agriculture and forestry, industry, for energy purposes.
28. The Parallel session 6 on “**Municipal solid waste (MSW) management in the Russian Federation - issues and solutions**”, witness a signing of an agreement between the Association of Socio-economic Interregional Cooperation “Central Federal District” and Interregional Industrial Corporation "Ecorecycling" with an objective to improve municipal waste management in Russian Federation. The session addressed a number of areas such as - pressing issues of regulatory and legal support for Municipal Solid Waste (MSW) management system in the Russian Federation; licensing of activities; transport logistics; Regional Operators’ activities; formation of territorial planning schemes; investment opportunities and guarantees to investors; modern technologies of MSW disposal and their applicability in the Russian Federation, among others.
29. Parallel Session 7 featured an **Expanded Meeting of the Coordinating Council on waste management industry development of the Interregional association “Central Federal District”** that unites 18 regions of the Central Russia with population over 35 million people and where almost half of all municipal waste of Russian Federation is

generated amounting to around 20 million tons. Chairman of the Coordinating Council of Association “Central Federal District”, Governor of the Orlov region, Mr. Vadim Potomskiy put forward a proposal, for consideration to the Government of the Russian Federation, on the idea of establishing a single regulator of the industry. Mr. Potomsky suggested that the Federal Agency for regulation of waste recycling and secondary resources will encourage the industry's development and create favourable conditions for attracting investment. A more detailed review on the activities of the Council in 2015 and major directions of activities for 2016 were provided by Albina Dudareva, Deputy Executive Director and Chairman of the Presidium of Coordinating Council on waste management industry development of Association of the Interregional Socio-economic Cooperation “Central Federal District”.

VI. Role of communities and their empowerment in advancing resource efficient and zero waste society

30. Addressing the role of communities and their empowerment in advancing resource efficient and zero waste society, Prof. C. Visvanathan focused on the roles of private sector in achieving a zero waste society. He addressed various business opportunities in waste sector and showed various case studies of the involvement of PPP to attain sustainable waste management. Informal waste sector plays a significant role in contributing towards waste collection, recovery, and recycling markets in developing countries, but there are many serious social, health, and labour issues involved. He showed that benefits of composting in the case of Dhaka, Bangladesh, and role of private manufactures in achieving zero waste society. The pro-poor community based composting program in Bangladesh could turn organic waste into compost (approximately 50,000 tons per year) creating 800 jobs and significant carbon credits (through CDM mechanism) with workers having access to health insurance, day care, and a free meal each day. Similarly, an estimated worldwide potential for new jobs in the circular economy could be between 9 to 25 million, and some estimates show that recycling business in China alone could be up to 14 billion USD. Private sector involvement could result in significant reduction of public costs for waste management. For instance, private sector involvement has reduced the waste service cost by at least 25% in UK, US & Canada and at least 20% in Malaysia. The role of information in waste business sector could not be ignored. For instance, located in India, Dharavi- Asia's largest slums is now labelled as the recycling centre of the country with an estimated 15,000 single room factories, employing around a quarter of a million people and turning over a staggering £700 million (\$US 1 billion) each year. Similarly, Waste-entrepreneurs of Bangkok named and licensed as “Zero Baht Shop” contribute to good business opportunities through waste exchange (recyclables are exchanged with daily grocery items). Private Sectors' involvement breaks various investment barriers in waste sector. While waste is increasing, resources are diminishing and getting costlier, thereby recirculating the resources (circular economy) trapped in waste is an unbeatable business opportunity. Growing environmental awareness and green consumerisms require

businesses to put environmental sustainability in the core of their manufacturing and/or service provision to close the loop.

31. The co-founder of the Local Governance Network in Bhubaneswar, India, Dr. Piyush Rout shared the example of Indian cities and municipalities, including the case of community initiatives for sustainable waste management at local level. Dr. Rout reported about the waste problems of Indian cities and municipalities, which are not planned properly and effectively as Zero waste society. He also pointed out how municipalities would be able to generate revenue from waste. Dr. Rout provided various examples of managing the waste problem at the local levels using social networking to ensure garbage is properly managed in commercial areas, pedestrian paths and including improving waste bin areas with beautifications. His presentation and discussion leads to encourage fostering excellence in Governance through innovation and social intervention are strong advocates of sustainability in urbanisation goals.

32. Ms. Reema Banerjee, Programme Coordinator of the Centre for Environment Education (CEE) in Kolkata, India, emphasized the significance of sustainability education in schools and communities towards attaining zero waste. She has shared the insights of activities and objectives of the Centre for Environment Education (CEE) that has been spearheading sustainability education on various aspects of waste management for behavioral change since last almost two decades. The objective of CEE's intervention on waste management in communities and schools has been towards achieving the principles of reduce, reuse and recycling of waste to divert maximum amount of waste from going to landfill. The interventions and education also aims at piloting best practices on waste management. The approach in sustainability education on waste management in schools has been focussed on involving the eco club students and spreading the awareness through them to the entire school and then using the peer students to connect the learnings to the community beyond school. The various capacity building and hands on training on waste audits, segregation, composting and waste paper recycling is provided to the students, which in turn enables them to implement the waste management strategy towards attaining zero waste in their schools. In the communities, the training on waste based entrepreneurship has also lead to more empowerment of the people who are already involved in the waste management. The behavioural change education has lead to increased reduction, recovering and recycling of waste in participating schools and communities, which in turn lead to their contribution towards zero waste. Professor Jaehyuk Hyun, the President of Korea Society of Waste Management (KSWM) attached importance to environmental education and awareness for the community in moving towards zero waste and sustainable cities sharing various examples from the Republic of Korea.

VII. Closing Session

33. Delivering the closing address, the Executive Director of Association of the Interregional Socio-economic Cooperation “Central Federal District”, Mr. Nikolay Konstantinov commented on the results of the 2015 IPLA Global Forum. Adopted in 2014, the environmental legislation delegates the authority and responsibility for waste management to the Federal subjects. Recently the Ministry of Industry and Trade has been assigned with new responsibilities in the field of waste management and for the first time, waste management and disposal has been indicated as a separate industry of the Russian economy. All of these legislative changes aim towards a meaningful transformation of the industry sector as well as a better future for the people of Russian Federation.

34. Mr. Vladimir Maryev, Director of ICBET – IPLA Sub-regional Secretariat for Russia and other EAEU countries and Head of the organizing committee of the IPLA Global Forum 2015, summed up the results of the Forum by introducing the “Moscow IPLA Declaration on Regional Cooperation for Waste Exchange and Resource Recovery towards Circular Economic Development” (Attachment 3) for adoption by the participants. He expressed hope that the Moscow IPLA Declaration would act as an important catalyst in combining the efforts and capabilities of state and municipal authorities, business community, academia and the general public towards sustainable waste management, efficient resource recovery and gradual phasing out of landfilling in the Russian Federation and other EAEU countries.

35. Delivering the final and closing remarks, Choudhury Rudra Charan Mohanty, Environment Programme Coordinator of UNCRD, extended his appreciation to the co-organizers and the participants of the IPLA Global Forum 2015. CRC Mohanty further noted that the Moscow IPLA Declaration is the first of such IPLA declaration which emphasizes the need for “regional cooperation” (inter-municipality, industry-industry, country-country, city-city, among others) in promoting waste exchange, resource recirculation and technology transfer towards waste as an economic industry. Regional cooperation is key to proliferate partnerships and partnerships are key to strengthen regional cooperation and technology transfer in waste management areas. CRC Mohanty also appealed to all Russian co-organizers and stakeholders to consider hosting a future Regional 3R Forum in Asia and the Pacific. He also urged to create a permanent expert platform under IPLA - RUSSIA for information and experience sharing and exchange in the areas of waste management and 3Rs.

36. Participants acknowledged and extended their sincere appreciation to the ICBET, Moscow and all supporting organizations of Russian Federation for their generous support and cooperation in hosting the 2015 IPLA Global Forum. The participants also expressed their hope that the organizers could continue their valuable support in promoting IPLA and its goals and objectives.

37. A technical field trip was organized for the participants to visit the Eco-Centre “Sparrow Hills” in Moscow, which demonstrated many best practices in the areas of 3R, water and energy efficiency, and environmental education, among others.

Annex 1: Moscow IPLA Declaration on Regional Cooperation for Waste Exchange and Resource Recovery towards Circular Economic Development, 7 October 2015

Annex-1

Moscow IPLA Declaration
on
Regional Cooperation for Waste Exchange and Resource Recovery towards Circular Economic Development

IPLA Global Forum 2015
6-8 October 2015, Moscow, Russian Federation

We, the representatives of city and local authorities, private sector and industries as well as the waste management stakeholders having met in Moscow, Russian Federation, on 6-8 October 2015, at the IPLA Global Forum 2015, to discuss and address the importance of science-policy-business-community interface towards maximum resource recovery and minimum landfilling towards a resource efficient society,

Recognizing the multiple co-benefits of 3R (reduce, reuse, recycle) through savings of resource, water, energy and cost and reduction of greenhouse gas (GHG) emissions, thereby contributing towards new circular economic development opportunities and creation of green jobs at local and national level,

Recalling the Daegu Declaration for Moving Towards Zero Waste through IPLA (2011) which called for practice-oriented knowledge network to help local authorities formulate innovative projects, select most appropriate technologies, access expertise, and promote waste exchange and waste-resource related opportunities, including financing opportunities.

Recalling the Borås IPLA Declaration Of the Private Sector on Moving Towards Resource Efficient and Zero Waste Societies (2013) which reinforced the important role public-private-
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partnerships (PPP) in providing number of benefits for both local authorities and the private sector, such as introduction of better technologies and management, creation of financing and investment opportunities, improved cost efficiency, and creation of new market and jobs for local communities,

Recalling the São Paulo IPLA Declaration of Municipalities and Local Authorities for Scaling up of National and International Public-Private Partnerships in Waste Sector for Achieving Sustainable and Resilient Cities (2014) which called for international cooperation (city-to-city, country-to-country) in building domestic technological and organizational expertise to make the developing cities and municipalities self-reliant in dealing with the growing generation of municipal solid waste, including new emerging waste streams such as electronic waste (E-waste), health-care waste, plastic waste, construction and demolition waste, and household hazardous waste,

Noting the outcome of the Sixth Regional 3R Forum in Asia and the Pacific (2015, Maldives) on the potential of 3R as an economic industry,

Recalling that the Rio+20 outcome – *The Future We Want*, which recognized sustainable and resilient cities as one of the priority areas for sustainable development, called for environmentally sound management of wastes through new innovative partnerships among the stakeholders,

Noting the post-2015 development agenda and the outcome document “*Transforming our world: the 2030 Agenda for Sustainable Development*”, which was adopted at the United National summit held at the United Nations headquarters in New York from 25 to 27 September 2015, and the calls therein made by the Heads of State and Government and High-Level Representatives at the 70th Session of the UN General Assembly for implementation of the new global Sustainable Development Goals (SDGs),

Noting further the Goal 11 of SDGs on making cities and human settlements inclusive, safe, resilient and sustainable and the underlined targets which specifically call, among others, to reduce adverse per capita environmental impact of cities including paying special attention to air quality and municipal and other waste management (Target 11.6),

Noting further the Goal 12 of SGDs on sustainable consumption and production and the underlined targets which specifically call, among others, to achieve by 2030 sustainable management and efficient use of natural resources (Target 12.2) and substantial reduction of waste generation through prevention, reduction, recycling and reuse (Target 12.5),

Noting further the Goal 14 on conservation and sustainable use of the oceans, seas and marine resources for sustainable development and the underlined targets which specifically call, among others, to prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution (Target 14.1),

Noting further the Goal 17 on strengthening the means of implementation and revitalizing the Global Partnership for Sustainable Development and the underlined targets which specifically call, among others, to enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism (Target 17.6) and to encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships (Target 17.17).

Recognizing that the rapid urbanization, unsustainable consumption and production, resource depletion, resource equity together with lasting supply of natural resources, climate change, environmental and ecosystem degradation, among others, which will form the most critical road blocks to realizing sustainable societies in post-2015 development era, and thereby, acknowledging the fact that advancing sustainable waste management and resource efficient economic development measures with appropriate policies, institutions, technological choice and adaptation, 3R infrastructures development, and wide range of partnerships is crucial in addressing these challenges,

Recognizing further the significance of regional cooperation and network for waste exchange and resource recovery and their potential to create new partnerships and circular economic development opportunities in post-2015 development era, and to that regard, acknowledging the important role the local and municipal authorities, business and industry sectors, scientific

and research community, NGOs and citizens can play in realizing sound resource recirculation and resource efficient societies,

Recognizing that the countries of the Eurasian Economic Community (EAEC) develop on the way of improvement their own environmental legislation, evolving priority wastes recycle before dumping, develop and make significant amendments to environmental legislation which is directed to usage of the best available technologies and environmental practices, reducing landfill burial, formation of the wastes recycling industry, the introduction of extended producer responsibility for produced products recycling and the development of separate wastes collection, the formation of a unified state information system in the field of waste management,

hereby express our good-will and voluntary intention to –

1. work collectively to promote regional cooperation and various partnership options towards waste exchange, resource recovery and recirculation in the interest of material and resource efficiency;
2. support policies and institutions towards efficient use of resources, water and energy, and promote usage of all forms of recyclable waste materials and renewable energy, including waste to energy, in order to achieve waste prevention and minimization;
3. work collectively towards creating a strong science-policy-business-community interface to promote 3R and waste management as an circular economic industry;
4. work collectively towards building state-of-the-art resource recovery facilities and 3R infrastructures for progressively phasing out of landfilling with better choice and better adaptation of technologies through South-South and North-South cooperation;
5. work collectively to promote consumers' awareness towards green purchasing or consumerism, which is a critical driver for promoting sustainable urban practices and related green business opportunities for circular economic development;
6. work collectively to foster various partnership and cooperation models that enhance trade, connectivity and investment in such a way that opportunities for sustainable resource management, waste minimization and low-carbon development are mainstreamed into development agendas;
7. utilize IPLA and other relevant platforms to promote country-country cooperation in exchanging valuable experiences and ideas, transferring knowledge and technologies,

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including development of collaborative projects and public-private-partnerships (PPP) for 3R infrastructure development, such as eco-industrial zones, science parks, eco-towns, waste-to-energy schemes, waste recovery and recycling schemes, composting schemes in rural areas, among others;

8. utilize IPLA and other relevant platforms to foster city-city, sister city and inter-municipal cooperation, both at national and international levels, in exchanging practical experiences and ideas in 3R and waste management areas leading to circular economic development opportunities;
9. utilize IPLA and other relevant platforms to explore multi-sector partnerships and collaboration in policymaking and promotion of sustainable business models, involving the public, private and business sectors, and Scientific and Research Institutions; including exchange of information on sustainable financing models for 3Rs;
10. utilize IPLA and other relevant platforms to foster industry-industry cooperation, both at national and international level, for creating local and regional markets for recyclable products; and
11. explore every opportunity to tap various expertise, knowledge, technical knowhow and best practices available in 3R and waste management areas by accessing various national and international processes, sources, knowledge platforms and clearing house mechanisms such as SCP Clearing House of the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP), UNIDO Green Industry Initiative for Sustainable Industrial Development, Technology Facilitation Mechanism coordinated by the United Nations, UN DESA Sustainable Development Knowledge Platform, Regional 3R Forum in Asia and the Pacific, and the other United Nation bodies; and
12. put efforts towards operationalizing mutual coordination and collaborative mechanisms with the involvement of municipal authorities, scientific and research community, and business community for the protection of freshwater resources (both ground and surface) as well as coastal and ocean resources and species (flora and fauna) through development and application of appropriate waste and pollution prevention measures and technologies.

Moscow, Russian Federation, 7 October 2015