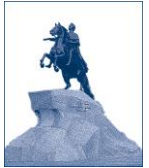




# Санкт-Петербургский кластер чистых технологий для городской среды. Лучшие практики.

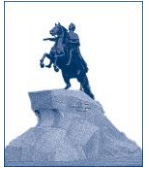
**St.Petersburg cleantech cluster for  
urban environment.  
Best practices.**



## Mission of the Cluster.

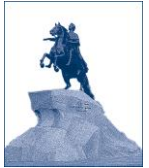
**Making St. Petersburg environmentally friendly and safe for the residents of the city, combining clean technologies in all sectors of the economy and supply chains.**

**Миссия Кластера.  
Сделать Санкт-Петербург экологичным и безопасным для проживания городом, объединить чистые технологии во всех секторах экономики города и производственно-сбытовых цепочках его деятельности.**



The main objective of the Cluster. Developing and implementing effective and mutually beneficial joint projects and programs (cluster projects) based on the integration of the substantial, financial, technological and other resources of the participants, as well as attracting external funding.

**Основная цель деятельности Кластера.**  
**Разработка и реализация эффективных и взаимовыгодных совместных программ и проектов (кластерных проектов), основанных на объединении информационных, финансовых, технологических, и иных ресурсов участников, а также на привлечении внешнего финансирования.**



### Thematic focus areas of Cluster:

- Saving of Energy Resources,
  - Energy Efficiency,
  - Smart City / Smart Grid,
- Green Building / Ecohouse,
  - Waste Management,
  - City Transport,
  - IT for Cleantech,
- Clean Industrial Processes in urban environment,
  - Biofuel,
  - Solar & Wind Energy.

### Предметные области Кластера:

- Сбережение энергоресурсов,
- Энергоэффективность,
- Умный город / умные сети,
- Зеленое здание/экодом,
- Обращение с отходами,
- городской транспорт,
- ИТ для чистых технологий,
- Чистые производственные процессы в городской среде,
- Биотопливо,
- Солнечная и ветровая энергия.



## St.Petersburg cleantech cluster for urban environment

### Санкт-Петербургский кластер чистых технологий для городской среды



**Финляндия / Finland**

- Green Net Finland 
- SYKLI – Школа окружающей среды Финляндии
- Fatman Oy 



**Норвегия / Norway**

- GREEN ENERGY ONE AS 
- Nordic Commodities AS 



**Дания / Denmark**

- ООО «Данфосс»  



**Доминиканская Республика / Dominican Republic**

- Prozon SRL



**Япония / Japan**

- ООО «САМИ» 

Кластер объединяет 60 предприятий и организаций.  
60 Cluster members

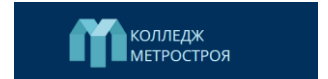
Численность работников организаций членов кластера более 44 тыс. человек.  
In cluster 44 thousand people

Общий объем выпуска промышленной продукции организациями Кластера на территории Санкт-Петербурга составил в 2017 году 5 млрд. руб.  
Products cluster in St. Petersburg in 2017 and 5 billion rubles



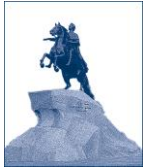
- «Центр энергосбережения» СПб ГБУ
- «Городское объединение домовладельцев» НП
- «МежРегионРазвитие» СРО НП предприятий жилищного комплекса
- «ИННОКОР» ООО
- «Центр Консалтинга «Панацея» ООО
- «БИОЭКОЛОГИЯ» ООО
- «Ассоциация центров инжиниринга и автоматизации» АНО
- «ТЕРМОТРОНИК» ЗАО
- «Центр Европейских Строительных Технологий» ООО
- Санкт-Петербургский Кластер неформального образования в интересах устойчивого развития в составе 4 организаций участников
- «Актей Дизайн» ООО
- «МЕГАДОР» ООО
- «Инвайро» ООО
- «Зеркало Петербурга» ООО
- Территориально-отраслевой кластер АГРОПОЛИС «АЛЬКИАГРОБИОПРОМ»
- Научно-производственная фирма «НЕО+» ООО
- АВТОСТАНКОПРОМ» ООО
- Курганский государственный университет
- «Ассоциация центров поддержки малого и среднего предпринимательства Калининградской области» НП
- Санкт-Петербургский инновационно-технологический кластер энергосбережения в ЖКХ и промышленности
- «Торговая компания «Аргос-Трейд» ООО
- Санкт-Петербургский Политехнический университет имени Петра Великого
- «ПсковРегионИнфо» социально-консультационный центр АНО
- «Мотор Лайф» ООО
- «АйГудс Ру» ООО
- «Драйв» ООО
- «НПФ «Разработка и внедрение технологий» ООО
- Алексей Алексеевич ИП
- Санкт-Петербургское учебно-реабилитационное предприятие «Свет» ООО
- «Компетенс аудит» ООО
- МЦСЭИ «Леонтьевский центр» ЗАО
- НПО «Котлотехника-Северный Контур» ООО
- «Альфа» ООО
- «НеваПорта» ООО
- «НаноПульс» ООО
- «МУФТЫ НСК» ООО
- «VT Технологии» ООО
- «ТАЙРМЕН ГРУПП» ООО
- Беломоев Федор Валентинович ИП
- Торговый дом "КИМ« ООО
- «Колледж метростроя» СПб ГБОУ
- Завод по переработке пластмасс имени «Комсомольской правды» ООО
- «ДААФ» ООО
- «РЕНОВА» ООО
- «Центр энергоэффективных и чистых технологий» АНО

## Cluster members from Russia Российские члены Кластера





## Лучшие практики / Best practices



### Projects:

- Energy services for the urban environment
- Effective light
- Clean technologies in transport
- Industrial Park of clean technologies for the urban environment
- Ekolend

### Проекты:

- Энергосервис для городской среды
  - Эффективный свет
- Чистые технологии на транспорте
- Индустриальный парк чистых технологий для городской среды
  - Эколенд



Saint-Petersburg  
Cleantech Cluster  
for urban environment

Санкт-Петербургский  
Кластер Чистых технологий  
для городской среды



Saint-Petersburg  
Cleantech Cluster  
for urban environment

Санкт-Петербургский  
Кластер Чистых технологий  
для городской среды



Leontief Centre



БИЗНЕС-ИНКУБАТОР  
«ИНГРИЯ»  
ТЕХНОПАРК САНКТ-ПЕТЕРБУРГА

**Project:**

- ✓ 14 participants (5 new);
- ✓ Active negotiations with potential investors;
- ✓ Flexible variative offer depending on the request;
- ✓ With the support of the KPPI.

## Лучшие практики / Best practices

1. Energy block Enviro: the energy heart of the village is an environmentally safe unit of thermal waste disposal.
2. Water cleaning system: water in the water supply system cleans the unit of TWELL.
3. in the village vehicles are electric, which are charged from charging stations Avt &Co.
4. Near the houses are waste compactors WALLE.
5. An energy efficient heater Megador saves energy and provides heat at home.
6. Electric tricycles iGoods deliver food
7. On the outskirts there is a parking for taxis on gyroplanes GiroLIDAR.
8. Motion sensor Nanopulse provides security.
9. Energy-efficient LED street lights Innokor.

## Cluster project ECOLAND



Members of the Cluster of Clean Technologies for the Urban Environment, Green Startups of the Business Incubator "Ingria" are cooperating to implement innovative technologies within the program "Smart St. Petersburg"





# Лучшие практики / Best practices



**Model of activity:**

engineering: the delivery of own equipment, development of technology, localization of partners technologies, technological calculations, design, incl. non-standard equipment, automation of technical processes; implementation of supervision and commissioning.

**Consumer industries:**

industrial plants, oil companies, medical institutions, HOAs, municipal institutions

**Legal entity:**

Enviro Ltd

**Specialization:**

technologies of environmentally safe waste management, WTE

**Strategic partners:**

**Envirotherm GmbH:** exchange of technologies, implementation of German technologies

**S-Metall Ltd:** production of equipment

**Benefits:**

Only proven technologies

High quality of the product at a reasonable price



[www.enviro.su](http://www.enviro.su)

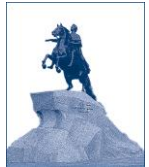


## About company





# Лучшие практики / Best practices



## Own technology:

Hybrid units of thermal waste disposal,  
50-2000 kg/h

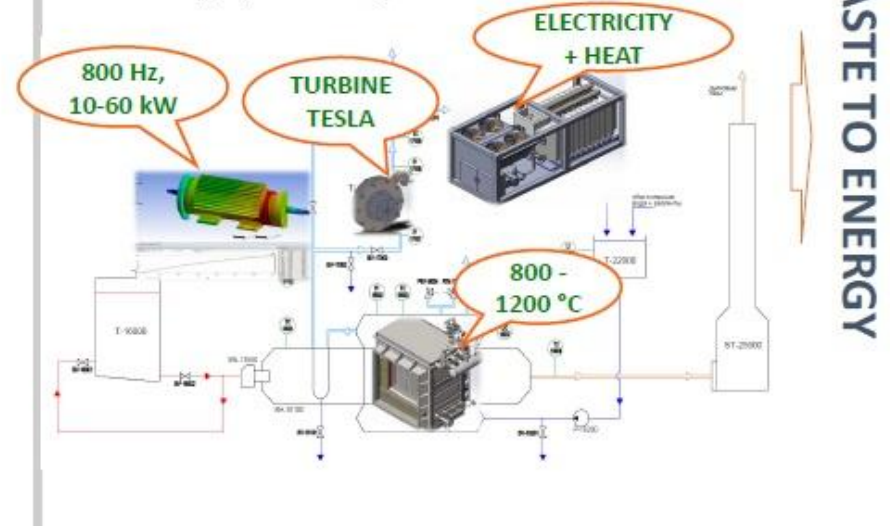
- + Combine two processes: pyrolysis and combustion;
- + Burn solid, pasty and liquid industrial and municipal waste;
- + Meet the requirements of Directive 2010/75/EC;
- + Have low maintenance costs (1,25 kg/h off-spec liquid fuel, 7 kW/h electricity for 50 kg/h);
- + Mobile models for 50 kg/h and 150 kg/h.



## Product

### Development:

Heat to energy converter utilizes the excess heat (800°C and above) of the exhaust gas, converting it into electricity and heat.





## Лучшие практики / Best practices



**iGoods is a green grocery delivery service from 54 supermarkets of 6 retail chains in Russia**

**igoodS.ru**  
сервис доставки продуктов



**iGoods** delivers grocery on ecologically friendly tricycles in large cities, therefore decreasing CO<sub>2</sub> emissions (more than 72 000 l. of gasoline saved) and saving valuable time for citizens (about 550 000 hours saved in 3 years)

### **iGoods**

- same prices as in outlets
- delivery from 90 min with 30 min slots (waiting window)
- charge is only for ₺249 (€3,19\*)

### **iGoods has**

- automated system of collection and execution of orders
- outstanding IT-solutions in logistics and payment system



\* exchange rate: €1 = ₺78



## Лучшие практики / Best practices



### iGoods is a green grocery delivery service from 54 supermarkets of 6 retail chains in Russia



**Start date** – oct 2015, in St. Petersburg, Russia

**Regions:** St. Petersburg, Moscow, Kazan', Belgorod, Surgut

#### Key figures

- Attracted ₺150 mln (€1,92 mln\*) in 2 rounds
- Turnover – upto ₺15 mln (€0,19 mln\*) / outlet a month
- Revenue – ₺120 mln (€1,5 mln\*) / month
- Retention rate – 65%
- Franchisees – 42 (Aug 2018)

#### Plans

- 2019 – launch in all Russian cities with over 1 mln citizens
- 2020 – attract 3<sup>rd</sup> round of investments and enter European market

#### Contacts

Grigoriy Kunis, CEO

[kunis@igoods.ru](mailto:kunis@igoods.ru)

\* exchange rate: €1 = ₺78





# Лучшие практики / Best practices



RJ  
RENOVA  
PROJECT

## ООО Renova

### Our services

Industrial design

Development of electronics

Development of software solutions

R&D and prototypes development

### We are looking for

Partners

Dealers

Customers

Investors



**Dmitry Konnov**  
Director General

<http://www.renovaproject.ru/>  
[http://renova-geo.ru/  
start@renovaproject.ru](http://renova-geo.ru/start@renovaproject.ru)  
8(931) 533-48-60



RJ  
RENOVA  
PROJECT

## Field controller GEOPRIME

- ❖ GEOPRIME (the earlier version was called GT2) is a field controller and application that is used by construction and land surveyors and works with a smartphone, connected to a total station of any brand.
- ❖ GEOPRIME provides three principal functions: automatic rotation and scaling of the drawing on the screen of the smartphone, as well as automatic search for an element in the drawing.
- ❖ GEOPRIME can immediately transfer the received data to the office of the designer or the customer, has a huge potential to use BIM and other advanced technologies.



- Fully developed software and hardware.
- In accordance with R&D, product samples for the amount of 4 million rubles were created and sold.
- The device is tested for more than 1.5 years in the field.



## Лучшие практики / Best practices



### Braille Glove is a device of Russian company K.Pro that replaces hearing and voice for deaf-blind people



The Braille Glove is the first device that allows:



Communication (hearing and speech) is possible through tactile signals that are based on principle of six-point font Louis Braille.

- ◆ a **deaf-blind** person to communicate
- ◆ to replace speech to those who have had a **stroke**
- ◆ **blind** people to have access to a mobile phone

#### Key testing results

Learning period	Speed of speech perception	Speed of typing
3-4 weeks	36 words per minute	25 words per minute

#### Partners



Organization of testing

Patenting

Technical expertise

#### Plans for 2018-2020

- ◆ Industrial batch manufacturing
- ◆ International market launch

#### Contacts

- ◆ Theodor Belomoev, CEO
- ◆ e-mail: [welcome@komilfo.pro](mailto:welcome@komilfo.pro)



## Лучшие практики / Best practices



### Energy Service Contracts

#### Energy Service Contracts – ESCO

FIRST identifies energy saving solutions based on the most efficient technology – without any cost or obligation for the customer. The customer and FIRST enters into an Energy Service Contract, where FIRST takes care of financing, installation of equipment, operations and maintenance and all practical work for the contract period. FIRST also prepares reports that documents the saving. The savings will give reduced energy bills for the customer and will also be used to pay back the money that the investors has used to pay for the investment

- ✓ The partners are the Non Profit Homeowners Association of St Petersburg and the Norwegian investment company Green Energy One AS. For the purpose of the implementation, the partners has formed the company FIRST St Petersburg Energy Service Company, where each partner owns 50% of the shares.





## Лучшие практики / Best practices



### International cooperation

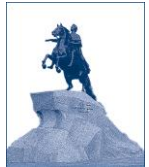
- ✓ OOO FIRST St Petersburg Energy Service Company OOO has established one of the most promising concepts in energy efficiency in Russia. The partners are the Non Profit Homeowners Association of St Petersburg and the Norwegian investment company Green Energy One AS. where each partner owns 50% of the shares.
- ✓ FIRST has together with Green Energy One and the Homeowners Association entered into an agreement about the energy efficiency investments in 250 000 m<sup>2</sup> apartment buildings in St. Petersburg, estimated 20 – 25 buildings and investments of up to 125 mill RUB.
- ✓ Future savings will depend on type of project and status of buildings. Typical simple pay back time for projects are 2 – 5 years, some also less than this. The first investment in Industrialniy pr 11 was completed in June 2015, with equipment from Danfoss (DK) and Ecoterm (RUS).
- ✓ FIRST in cooperation with Green Energy One also plan to expand the business and establish activities in other countries.



НП «Городское объединение домовладельцев» Санкт-Петербурга  
Huseierforeningen I St Petersburg

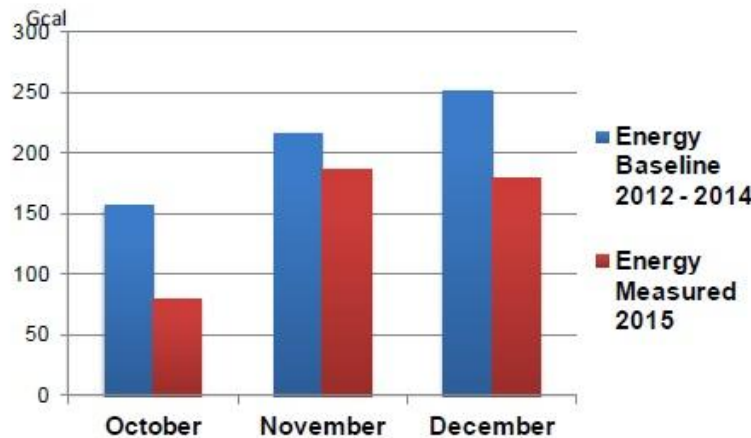


# Лучшие практики / Best practices



## The Investments

- Typical investments will be in tube insulation, valves, meters for hot and cold water, automated lighting systems, etc typical cost in each building 3 – 5 mill RUB.
- The documented savings in Q4 2015 from the first investment case are 30 %. Future savings will depend on type of project and status of buildings.



Example of apartment building in St Petersburg



## Лучшие практики / Best practices



### Tire Saving Technology

Engineering company that provides cost effective solutions aimed to save tires and optimize its budget, reduce labor costs, reduce CO<sub>2</sub> emissions and add safety into different transportation companies from mining to public transport.





## Лучшие практики / Best practices



**TYREMAN**  
GROUP

Leader of the project:

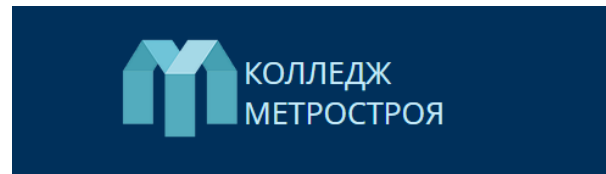
«Clean technologies on transport»

Project goal is to unite cluster members efforts in cluster operations: energy recourses savings and growth of energy efficiency on transport.



**AVT&Co**

**igoodS.ru**  
сервис доставки продуктов

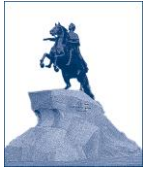


**Nordic**   
**Commodities AS**





## Лучшие практики / Best practices



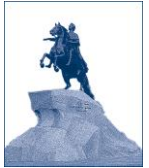
Leader of the project:

«Industrial park of clean technologies  
for urban environment»

The concept of Tyreman Group territory development in frame of development program for regional industrial parks (technoparks).

The protocol of intentions about regional industrial park creation between Tyreman Group (territory owner) and St.Petersburg cleantech cluster for urban environment has been signed.

There are several residents in the park and work with potential residents is implemented.



***International consortium "Saint-Petersburg Cleantech Cluster for urban environment"***

<http://spbcleantechcluster.nethouse.ru/>

E-mail: [SpbCleantech@mail.ru](mailto:SpbCleantech@mail.ru)

***Council of Noncommercial Partnership  
«The St. Petersburg House Property Owners Association»***

<http://spbgorod.nethouse.ru/>

E-mail: [npgorod@mail.ru](mailto:npgorod@mail.ru)

***Specialized organization of the Cluster***