

# Atomic hydrogen heat generator

Alexander V. Frolov  
[www.faraday.ru](http://www.faraday.ru)

2011

## Aim

- Hydrogen dissociation and recombination process can be organized in closed volume of gas mixture to provide excess heat output.
- Produce several prototypes to demonstrate the technology for customers.
- We have to patent it and start sales of licenses.
- Organize production facilities to fabricate high efficient heat generators for sale.

# Product

- Product is new heat generation technology and equipment using this technology.
- Application:
  - Home heating 10 kW – 30 kW.
  - Industrial needs 30 kW – 100 kW.
  - Power engineering 1 MW – 100MW.

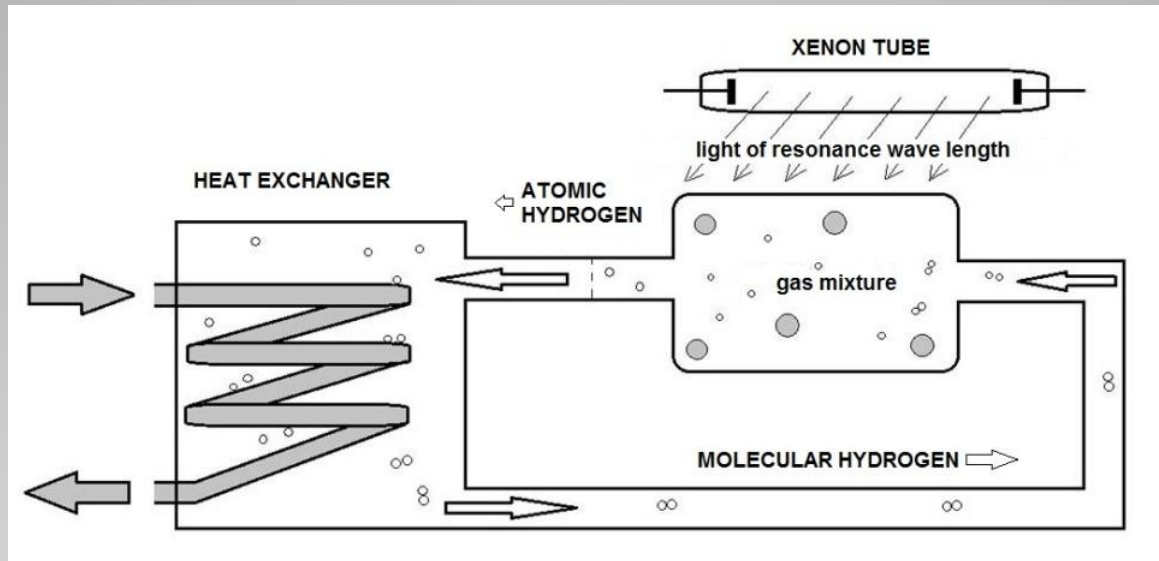
# Market

- Main market is home and industrial water heater (boilers).
- Russian market 150 Mil. Euro + 4% year. Import is 80%.
- World market is about 15 Bil. Euro + 3% year.
- It is planned to reach 10% of russian market and 1% of World market in 5 years.
- In 2016 sales can be about 165 Mil. Euro.

# Problems of market

- Traditional boilers require a lot of electric energy.
- Fuel and electricity are not low cost.
- Customers are seeking energy saving methods.

# Technical solution



- Working body is mixture of hydrogen and xenon.
- Dissociation of hydrogen is stimulated by resonance wave length light source or by electric discharge.
- Recombination of atomic hydrogen in molecular hydrogen produce excess heat output.

# Present stage of the project

- Project in development, photo of 2003. Experiments were made and we have got positive conclusion about excess heat output.
- Efficiency was reported 220-240%.



# Applications



Home heating systems  
(boilers)



Industrial heating equipment, large heat sources

# Competitors

- Italian team (Andrea Rossi) is one of competitors.
- Efficiency was reported by Rossi: 400 W input can provide 12 kW heat (3000%).
- They started production facilities of 10kW home heaters.
- The reactor using catalizator and nickel electrodes.



July 20, 2011 this team reported about contract on 1MW power plant In Greece.

# Our advantages

- Our technology does not require catalizator.
- Rossi use cold fusion reaction of transformation Ni to Cu. Also reactor require hydrogen input. Ni and Hydrogen are fuel.
- In closed cycle of dissociation – recombination there is not waste of any materials, here is no fuel.
- Efficiency of our technology can be much more better than Rossi' process.
- We offer ecologically clean technology.

## Stages of project

- 2003 – 2005 was invested 50,000 USD.
- Patent applied but failed.
- Experimental equipment was exported to London and Sydney for testing.
- Next stage prototype require to be designed, tested and new method can be patented.
- In 2013 we can start sales of licenses.
- Production facilities (home boilers and industrial heat sources) can be started in 2014.

# Partners



**2003 projects was joint work with Spectrum company, Dr. Nicholas Moller. Photo of his lab, UN visitors.**

- We can organize new stage of projects with EU partners.
- In other case we can work independently.

# Financial Plan (Euro)

		Period	Expenses	Income
1	Prototype building	5 months	40,000	-
2	Testing	1 month	20,000	-
3	Patent	6 months	30,000	-
4	Sales of license	2013	-	1 Mil. Euro
4	Production facilities	2014	500,000	5 Mil. Euro

Investments 90,000 Euro, 49%. Investor ROI (exit in 2015, third year of the project). ExitValue = 12,500,000Euro Discount factor R = 50%  
 StartValue = 1,925,925 Euro ROI = 100%  $(1,925,925/90,000)=2140\%$

# Proposal for investor

- Funds required 90,000 Euro.
- Team:
  - Investor 49%
  - Founder 41%
  - Author 5%
  - Top managers 5%
- Exit strategy is sale of company to energy corporation.

# Founder



Alexander V. Frolov

7-920-794-44-48

[www.faraday.ru](http://www.faraday.ru)

office@faraday.ru