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Current Trends: Nuclear Energy Developments in CEE and the Business Strategy of Rosatom State Nuclear Corporation

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- Importance of the Topic in the 21st Century International Relations
- What is Rosatom
- Specifics of Nuclear Energy Sector
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Importance of the Topic

- Russian energy policy: clear evidence of relation between hydrocarbons export and power projections / foreign policy goals (strategic approach to energy policy)
- Energy transition efforts (Russia's Energy Strategy 2030 and 2035) and slow shift from hydrocarbons towards other technologies and sources in client countries / world is a source of concern
  - Dependence of Russian economy on hydrocarbons export (51% of federal income; 70% of export; 20% of GDP)
  - Existence of finances for the Russian political systém is clearly connected with powerful and robust energy industry
  - Russia's ability to project its power is directly dependent on a working energy industry and the export of energy commodities
  - Therefore, Russia has taken active steps to diversify energy exports
  - Diversification efforts (new routes, new clients, new deposits) within the hydrocarbons sector
  - Diversification towards nuclear energy exports part of Russian strategy

Importance of the Topic

- Indisputable ties to the Russian government and foreign policy goals
  - The President of Russia sets Rosatom's strategic objectives, and appoints its director and the members of its supervisory board.
- Dependence of RF on export of energy commodities
- Rise of RF on the international scene and Russian revisionism
- Ties to the Russian army (27% of Rosatom's revenues)
  - "Надежное обеспечение обороноспособности России — главный приоритет работы атомной отрасли." (РИА Новости, 25.12.2017)
- Key high-tech industry in RF, dominating the world market today
- Highly assertive export strategy adopted in 2011

Importance of the Topic

- In 2011, Rosatom adopted a new long-term export strategy that aims, among other things, to:
  - have 50% of the company 's revenues from foreign contracts by 2030
  - get among the top 3 in all segments of the world nuclear market
  - have up to 78 projects abroad
  - have 42% share in enrichment by 2030
  - have 22% of fuel production by 2030
- In 2012, the objectives of the *state program of development of the nuclear industry* were approved by the Government in 2014
  - Support 900 billion rubles
  - Among other things, the aim is…… „*achievement of geopolitical tasks with paramount and decisive significance for reliable guarantees of Russia's national security and sovereignty*.“ (Government of the Russian Federation, 2014)

What is Rosatom

- Министерство атомной энергетики и промышленности СССР 1989-1991
  - (Ministry of Atomic Energy and Industry of the USSR)
- Министерство Российской Федерации по атомной энергии 1992-2004
  - (Ministry of Atomic Energy of the Russian Federation)
- Федеральное агентство по атомной энергии 2004-2007
  - (Federal Agency for Atomic Energy)
- **Государственная корпорация по атомной энергии «Росатом» 2007-**
  - (Rosatom State Atomic Energy Corporation)

- CEO: Алексей Евгеньевич Лихачёв (**Aleksei Evgenevich Likhachev**)
- (until 10/2016 Сергей Владиленович Кириенко, Sergei Vladilenovich Kirienko)

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What is Rosatom

- 335 companies and 255,400 employees
  - scientific research organizations
  - development of nuclear energy
  - the growth of enterprises of the nuclear fuel cycle
  - the nuclear weapons complex
  - ensures national security (nuclear deterrence)
  - nuclear and radiation safety
  - international obligations in the field of the use of nuclear energy and of non-proliferation of nuclear materials
  - the world's only nuclear icebreaker fleet
- nonprofit organization
- wholly owned by the Russian Federation directly, bypassing the Federal Agency for State Property Management
- not (!) subordinated to Federal Service for Ecological, Technological and Nuclear Supervision (Rostechnadzor) – both directly under Government

ROSATOM'S BUSINESS MODEL*

Areas of business | Operating results | Development of innovations | External environment

GOVERNANCE SYSTEM

CAPITALS AVAILABLE AS OF DECEMBER 31, 2015

CAPITALS AVAILABLE AS OF DECEMBER 31, 2015

Nuclear Weapons Division

THE STATE DEFENCE ORDER WAS 100% FULFILLED

REVENUE FROM CIVILIAN PRODUCTS: RUB 76.2 BILLION

Nuclear-powered icebreaker fleet

400 VESSELS WERE ESCORTED ALONG THE NORTHERN SEA ROUTE

TOTAL GROSS TONNAGE: 5.3 MILLION TONNES

Nuclear power industry

International markets

10-YEAR PORTFOLIO OF OVERSEAS ORDERS: USD 133.4 BILLION
FOREIGN REVENUE: USD 5.58 BILLION

Construction of low and medium power reactors and research reactors

Services in the back-end segment

NPP servicing

Sales of enriched uranium product and nuclear fuel

Integrated NPP construction offer

34 NPP POWER UNITS IN THE PROJECT PORTFOLIO

Natural uranium mining (Uranium One)

URANIUM PRODUCTION: 4,919 TONNES

Russian market

Natural uranium mining (Mining Division)
URANIUM PRODUCTION: 3,005 TONNES

Uranium enrichment and conversion and nuclear fuel production (Fuel Division)

Power machine engineering (Mechanical Engineering Division)

NPP design and construction (Engineering Division)

SIMULTANEOUS CONSTRUCTION OF 8 POWER UNITS IN RUSSIA

Electricity production (Power Engineering Division)

ELECTRICITY OUTPUT: 196.4 BILLION KWH

The first criticality programme and the power start-up of power unit No. 1 of Novovoronezh NPP-2 were completed. Power unit No. 4 of Beloyarsk NPP started full-scale operation

RAW and SNF management, decommissioning (Life Cycle Back-End Division)

NEW BUSINESSES IN RUSSIA AND ABROAD

REVENUE FROM NEW BUSINESSES: RUB 190.8 BILLION

10-YEAR ORDER PORTFOLIO: RUB 1,018.8 BILLION

NUMBER OF PATENTS OBTAINED AND ITEMS OF KNOW-HOW REGISTERED ABROAD: 321

NUMBER OF PATENTS OBTAINED AND ITEMS OF KNOW-HOW REGISTERED IN RUSSIA: 1,090

Revenue under IFRS: RUB 864.6 billion

Increase in labour productivity compared to 2011 (excluding the Nuclear Weapons Division): 110.9%

Taxes paid to Russian budgets: RUB 125.3 billion

Number of events rated at level 2 or higher on the INES scale: 0

Expenditure on environmental protection: RUB 26.7 billion

Expenditure on charity programmes in ROSATOM's regions of operation: RUB 1.1 billion

Expenditure on corporate social programmes for employees: RUB 9.8 billion

Average salary: RUB 69,700

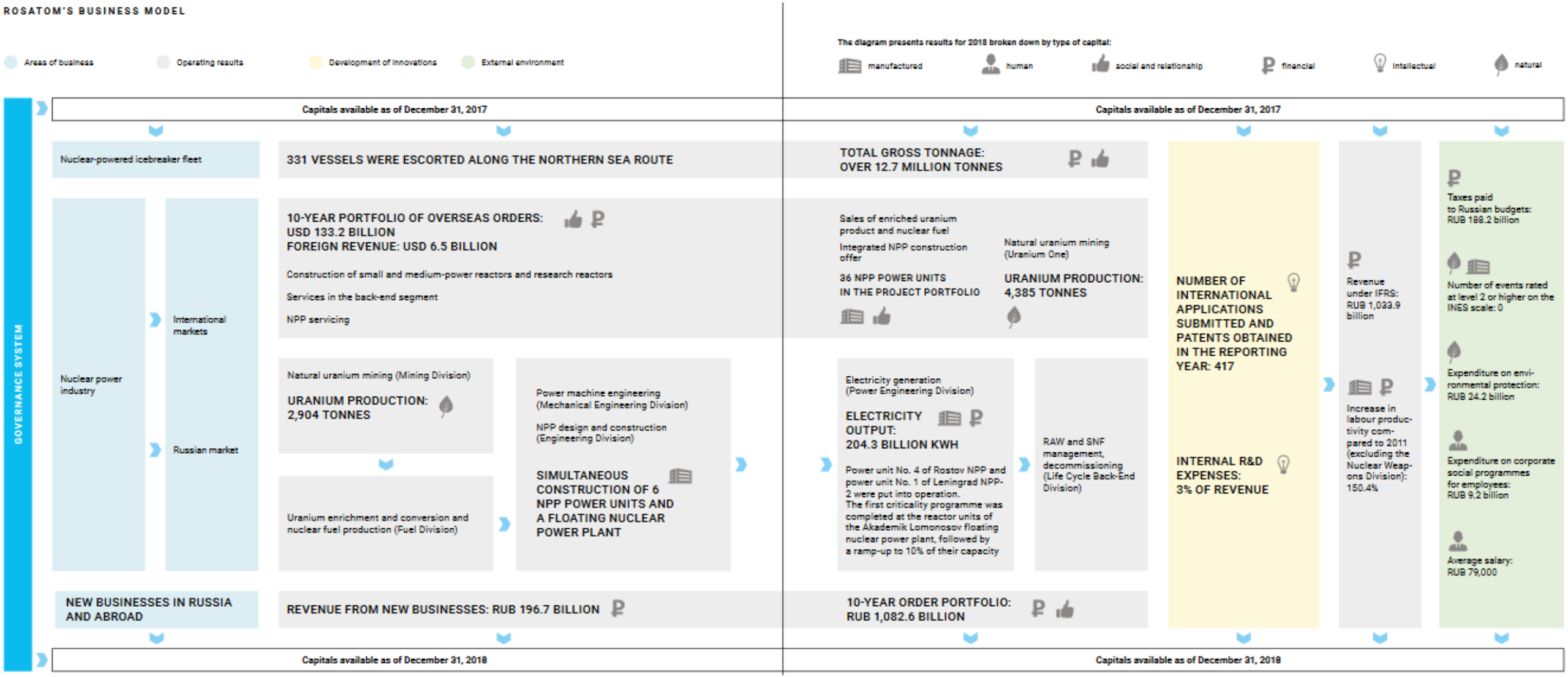
CAPITALS AVAILABLE AS OF DECEMBER 31, 2016

CAPITALS AVAILABLE AS OF DECEMBER 31, 2016

*The diagram presents results for 2016 broken down by type of capital:

manufactured | human | social and relationship

financial | intellectual | natural


ROSATOM'S BUSINESS MODEL
Areas of business
Operating results
Development of innovations
External environment
The diagram presents results for 2018 broken down by type of capital:
manufactured
human
social and relationship
financial
intellectual
natural
GOVERNANCE SYSTEM
Capitals available as of December 31, 2017
Capitals available as of December 31, 2017
Nuclear-powered icebreaker fleet
331 VESSELS WERE ESCORTED ALONG THE NORTHERN SEA ROUTE
TOTAL GROSS TONNAGE: OVER 12.7 MILLION TONNES
Nuclear power industry
International markets
Russian market
10-YEAR PORTFOLIO OF OVERSEAS ORDERS: USD 133.2 BILLION
FOREIGN REVENUE: USD 6.5 BILLION
Construction of small and medium-power reactors and research reactors
Services in the back-end segment
NPP servicing
Sales of enriched uranium product and nuclear fuel
Integrated NPP construction offer
36 NPP POWER UNITS IN THE PROJECT PORTFOLIO
Natural uranium mining (Uranium One)
URANIUM PRODUCTION: 4,385 TONNES
Natural uranium mining (Mining Division)
URANIUM PRODUCTION: 2,904 TONNES
Uranium enrichment and conversion and nuclear fuel production (Fuel Division)
Power machine engineering (Mechanical Engineering Division)
NPP design and construction (Engineering Division)
SIMULTANEOUS CONSTRUCTION OF 6 NPP POWER UNITS AND A FLOATING NUCLEAR POWER PLANT
Electricity generation (Power Engineering Division)
ELECTRICITY OUTPUT: 204.3 BILLION KWH
Power unit No. 4 of Rostov NPP and power unit No. 1 of Leningrad NPP-2 were put into operation.
The first criticality programme was completed at the reactor units of the Akademik Lomonosov floating nuclear power plant, followed by a ramp-up to 10% of their capacity
RAW and SNF management, decommissioning (Life Cycle Back-End Division)
NUMBER OF INTERNATIONAL APPLICATIONS SUBMITTED AND PATENTS OBTAINED IN THE REPORTING YEAR: 417
INTERNAL R&D EXPENSES: 3% OF REVENUE
Revenue under IFRS: RUB 1,033.9 billion
Increase in labour productivity compared to 2011 (excluding the Nuclear Weapons Division): 150.4%
Taxes paid to Russian budgets: RUB 189.2 billion
Number of events rated at level 2 or higher on the INES scale: 0
Expenditure on environmental protection: RUB 24.2 billion
Expenditure on corporate social programmes for employees: RUB 9.2 billion
Average salary: RUB 79,000
NEW BUSINESSES IN RUSSIA AND ABROAD
REVENUE FROM NEW BUSINESSES: RUB 196.7 BILLION
10-YEAR ORDER PORTFOLIO: RUB 1,082.6 BILLION
Capitals available as of December 31, 2018
Capitals available as of December 31, 2018

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What is Rosatom (2018)

- Ranked 2nd in world uranium deposits and survey
- Ranked 3rd in uranium mining (13% share)
- Ranked 1st in foreign projects (36 projects)
- Ranked 2nd in installed capacity (27,1 GWe)
- Ranked 1st in enrichment (36% share)
- Ranked 3rd in nuclear fuel fabrication (17% share)
- Largest producer of electricity in Russia (202,9 TWh; 18.9% share)
- Concrete projects: Ruppur, Bangladash; Hanhikivi, Finland; Kudankulam, India; Akkuyu, Turkey; El Dabaa, Egypt; Astravets, Belarus; Paks, Hungary; Jaslovské Bohunice, Slovakia; Bushehr, Iran; Tianwan and Xudabao, China; Metsamor, Armenia
- Memorandas: South African Republic, Cuba, Saudi Arabia, Paraguay, Thailand, Malaysia, Indonesia, Brasil, Nigeria, Jordan, Kazachstan, Kyrgyzstan, Tajikistan, Argentina, Algeria, Vietnam, Uzbekistan, Rwanda, Zambia, Mongolia, Sudan, Ghana…

What is Rosatom

Ownership Structure of Russian Nuclear Energy Companies		
Company	**Shareholders**	**Share (%)**
Rosatom State Atomic Energy Corporation	Government of Russian Federation	100
ZAO AtomStroyExport	Rosatom State Atomic Energy Corporation	78.5362
	AO VPO Zarubezhatomenergostroy	9.4346
	OAO TVEL	1.3303
	OAO Gazprombank	10.6989
OAO OKB Gidropress Experimental Design Bureau	OJSC Atomenergomash	100
OAO TVEL	OJSC Atomic Energy Power Corporation Atomenergoprom	100
JSC NIAEP	OJSC Atomic Energy Power Corporation Atomenergoprom	100
JSC Atomic Energy Power Corporation Atomenergoprom	Rosatom State Atomic Energy Corporation	100
JSC Inter RAO UES	Rosneftegaz Group	27.63
	FGC UES Group	18.57
	Minorities*	16.65*
	INTER RAO Capital	13.93
	Norilsk Nickel Group	13.21
	VEB	5.11
	RusHydro Group	4.92
OJSC Atomenergomash	OJSC Atomic Energy Power Corporation Atomenergoprom	80.6296
	CJSC AEM Leasing	2.3673
	INTERNEXCO GMBH	9.0896
	OFEJSC Techsnabexport	2.8481
	LLC Energomashkompleks	0.0453

* The minorities include ZAO AtomStroyExport, OJSC Rosenergoatom Concern, Rosatom Securities Limited. All these companies are part of the Rosatom State Atomic Energy Corporation which thus owns 13.42% stake in JSC Inter RAO UES.

Specifics of Nuclear Energy Sector

- structural differences to natural gas, oil etc.
  - not dependent on certain infrastructure and uninterrupted flow of energy supplies that cannot be easily taken from another supplier
- path dependence
  - the experience obtained in history during construction, commissioning and operation as well as the existence of downstream industries and education and training system with ties to selected technology and infrastructure is a strong prerequisite for future decisions in public tenders
- limited opportunitites for exerting political influence
  - it is rather economy of a nuclear power projects driven by the high initial cost of construction which can run into many billions of Euros that is of the most crucial concern
  - the initial stage, where financing and/or finding strategic partner is usually being secured, crucial and simultaneously most sensitive in terms of potential influence exerted by an external actor

Specifics of Nuclear Energy Sector

- bilateral negotiations typical instrument for securing deals
  - EU is an exception
- economy-driven sector
  - state support in bargaining due to limited business opportunities and limited number of players
  - working competitve markets in all nuclear subsectors
- worldwide business
  - no regional markets
  - the enormous price of every NPP construction project per se makes it extremely attractive for the contractors given the limited amount of such projects worldwide
  - given the limited amount of contracts in the nuclear sector and the revenue implications of each one, any attempt to use a nuclear contract as leverage on a particular country would cause substantial damage to any contractor's reputation – a strong backfire effect
  - this fact diminishes the possibility of a nuclear contractor exerting political pressure over a sovereign client, as contractors with damaged reputations would find themselves in a difficult situation regarding future business prospects worldwide

Rosatom‘s Presence in CEE

	1	2	3	4	5	6	7	8
Country	**Is there a NPP in the country?**	**Is it of Russian design?**	**Is there a plan to expand the capacity or build new?**	**Does a Russian company take part in the procurement?**	**Is the expansion or the new NPP under construction?**	**Is the expansion or NPP of Russian design?**	**Is Russian company the contractor?**	**Who supplies fuel?**
Belarus	No	-	Yes	Yes ZAO AtomStroyExport	Yes	Yes	Yes ZAO AtomStroyExport	OAO TVEL
Bulgaria	Yes	Yes	Yes	Yes Rosatom	No	No	No Westinghouse Electric Company LLC	OAO TVEL
Czech Republic	Yes	Yes, both of them	Yes	Yes ZAO AtomStroyExport and OAO OKB Gidropress in a consortium with ŠKODA JS, a.s.	No	Unknown, tender cancelled	-	OAO TVEL
Estonia	No	-	No	-	-	-	-	-
Hungary	Yes	Yes	Yes	Yes Rosatom (No procurement process)	No	Yes	Yes Rosatom	OAO TVEL
Latvia	No	-	No	-	-	-	-	-
Lithuania	Not anymore, Ignalina NPP was shut down in 2009	Yes	Yes	No (not allowed)	No	No	No VAE Project Company (20% Hitachi-GE Nuclear Energy, Ltd.; 20% Latvia; 22% Estonia; and 38% Lithuania)	OAO TVEL was supplier for the Ignalina NPP
Moldova	No	-	No	-	-	-	-	-
Poland	No	-	Yes	No (likely not to be allowed)	No	No	No Contractor yet uknown	-
Romania	Yes	No	Yes	No (because the project is completion of different technology reactor)	No	No	No China General Nuclear Power Group	Domestic production in SN Nuclearelectrica´s Pitesti Nuclear Fuel Plant

Rosatom‘s Presence in CEE

Slovakia	Yes	Yes, both of them	Yes, two	Yes ZAO AtomStroyExport is one of the companies finishing Mochovce NPP; Rosatom in new Jaslovské Bohunice NPP unit (Procurement process not yet opened, direct negotiations preferred)	Yes (Mochovce), No (Jaslovské Bohunice)	Yes (Mochovce), Yet unknown (Jaslovské Bohunice)	No ZAO AtomStroyExport is one of sub-contractors for Mochovce No Jadrová energetická spoločnosť Slovenska, a. s. (51% Jadrová a vyraďovacia spoločnosť, fully owned by the Slovak Ministry of Economy; 49% ČEZ Bohunice a.s. fully owned by the Czech company ČEZ, a.s.)	OAO TVEL, from 2015 also undisclosed non-Russian company, likely AREVA SA
Ukraine	Yes	Yes, all four of them	Yes	Yes OAO OKB Gidropress won the tender	No	Unknown, project was cancelled due to Crimea crisis and other Western options are investigated, especially with Westinghouse Electric Company, LLC	DP NNEGC Energoatom fully owned by Ministry of Energy and Coal Industry of Ukraine	OAO TVEL, partly (30%) using domestic uranium and IUEC enrichment facility; South Ukraine NPP´s fuel is supplied by Westinghouse Electric Company LLC; from ca. 2020 domestic production of uranium and zirconium together with operation of VostGOK uranium processing plant in Zheltiye Vody and the construction of nuclear fuel fabrication and fuel assemblies plant at Smolino (owned by 50% +1 State Concern "Nuclear Fuel" and 50% -1 OAO TVEL)

Rosatom‘s Business Strategy Principles

- There is no uniform strategy, tools to enforce the contract chosen according to the business environment
  - In friendly regions, bilateral negotiations are immediately launched (eg Hungary, Belarus…)
  - In neutral regions usually tender (eg Czech Republic)
  - In opposing regions competes with alternative projects (eg Visaginas vs. Neman)
- In principle, it does not break the law, but bends it to the maximum and uses every possibility - typically the Russian “law vs. ethics” approach

Case Study: Baltic NPPs

Source: Bellona

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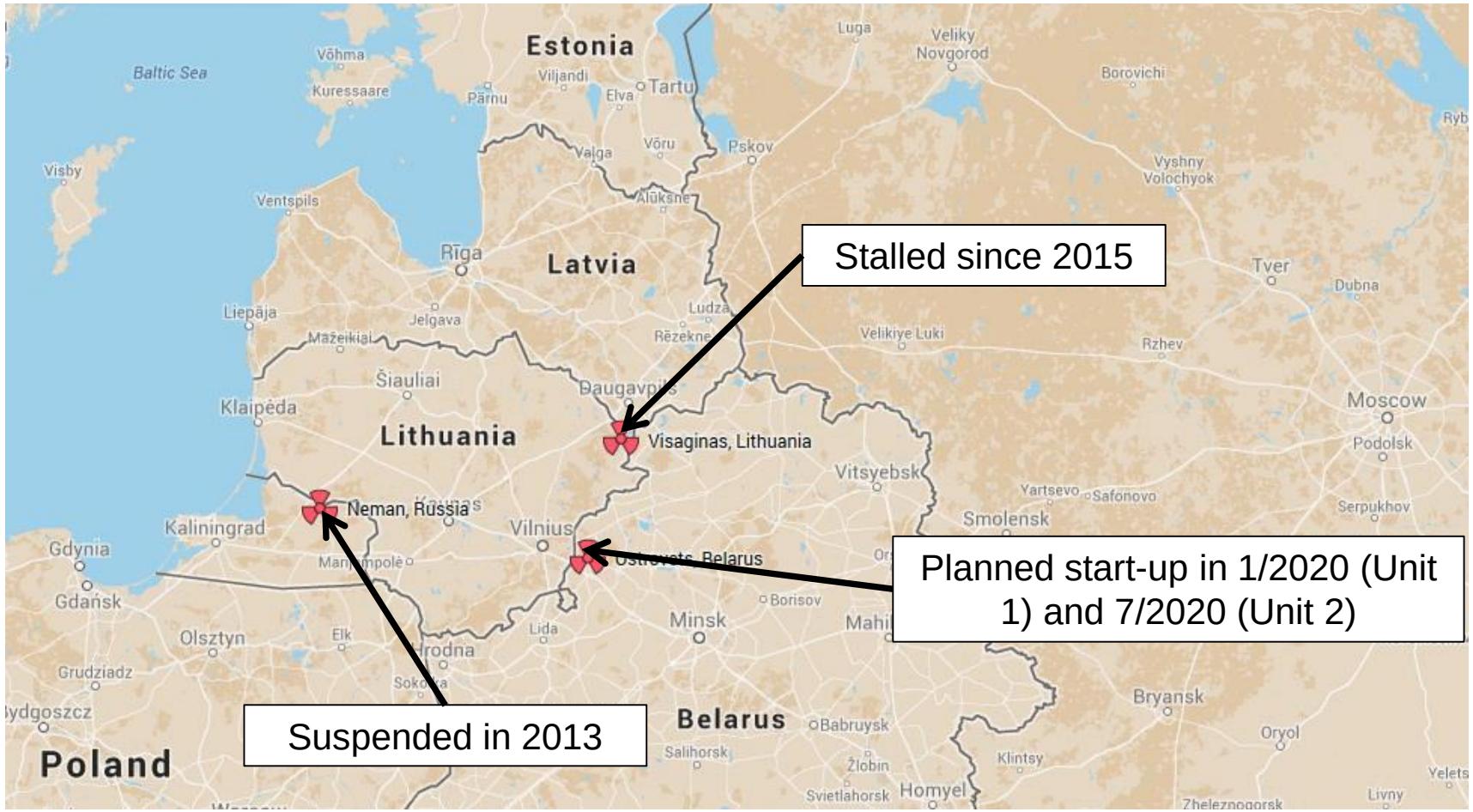
Case Study: Baltic NPPs



Source: Bellona

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Visaginas NPP (Lithuania)

- Project started in 2006
- Originally joint project of LIT, LAT, EST and POL
- Strategic investor and technology supplier Hitachi-GE (1350 MW ABWR)
- In 2012 POL withdrew from the project; equity structure:
  - 20% Hitachi-GE Nuclear Energy
  - 20% Latvenergo (330 MW)
  - 22% Eesti Energia (363 MW)
  - 38% Lietuvos Energija (657 MW)
- Consultative referendum in 10/2012 in LIT, 62.7% voters against
- Following Russia‘s annexation of Crimea the project accelerated
- Given the reluctancy in cooperation from POL and other Baltic countries, opposition from inhabitants and problems with financing, the project is stalled since 2015

Neman NPP (Kaliningrad Oblast, Russia)

- Idea from 1990s, project started roughly in 2008
- Rosatom used this project to rival the Visaginas NPP (**where Russian bid was not allowed**) since the Baltic region is too small to accommodate more than one NPP
- Two units of VVER-1000 were originally intended to be constructed at Neman, but later enhanced to two VVER-1200/V-491 units
- **Neman NPP has been promoted not as a source of electricity for Kaliningrad Oblast, but since the beginning as source of electricity to be exported to foreign countries, namely Germany, Poland and the Baltic countries**
- 87% of the electricity produced were planned to be exported to Germany, Poland and Baltic States based on the mid 2011 business plan

Neman NPP (Kaliningrad Oblast, Russia)

- Even though the construction started in February 2010, a search for strategic investor was not finished before the construction started
- The logic was to sell 49% of the Neman NPP to foreign investor, while the control share of 51% will remain in the hands of Russia
- The original plan was to start commercial operations in 2017 (Unit 1) and 2018 (Unit 2)

- Since basically all of the regional countries had troubled history with Russia or Kaliningrad, no investors and no electricity sales were in the end secured (even though Germany and Poland supposedly participated in negotiations with JSC Inter RAO UES)
- **Russia will however not resume the construction of Neman NPP no matter what the official statements of Rosatom are**

Astravec NPP (Belarus)

- Idea renewed in 1991, postponed in 1998
- Revived and restarted in 2006-8 following the 2004 (and 2006-2007) Russia-Belarus natural gas disputes
- Russian state-owned Vnesheconombank provided USD 10 billion loan including USD 3 billion investment into new infrastructure to accommodate the remoteness of Astravets in northern Belarus
- The loan is for 25 years to finance 90% of the contract between Atomstroyexport and the Belarus Directorate for Nuclear Power Plant Construction.
- The construction started in 11/2013 (Unit 1) and 5/2014 (Unit 2) and originally should have finished in 2016 (Unit 1) and 2018 (Unit 2). However, these dates were revised and start-up of Unit 1 is now expected in January 2020.

Astravec NPP (Belarus)

- The electricity systems of Baltic States operate on the grid of Belarus, Russia, Estonia, Latvia and Lithuania (BRELL) which is a part of IPS/UPS system controlled by Moscow
- However, „to disconnect from the Russian energy system and to achieve synchronization with the European system is the strategic priority for Lithuania“ (PM of LIT Skvernelis)
- In May 2016 the Lithuanian parliament even accepted a resolution to “never accept electricity from the Astravets NPP.”
  - Against WTO rules, difficult to implement
- The three Baltic States together agreed to break up the BRELL and de-synchronize from the IPS/UPS system by 2020
  - Lithuanian plan, unrealistic, it will not happen before 2030
  - The three Baltic countries are not unified in this matter
  - BEL/LIT border is a market entry for all electricity flows from Belarus and Russia, as well as for NORDPOOL. Should Lithuania unilaterally introduce any tariffs, the price of electricity will rise for all Baltic countries

Astravec NPP (Belarus)

From	To	Voltage	Capacity	In operation
Harku, EST	Espoo, FIN	330/400 kV	350 MWe	12/2006
Püssi, EST	Anttila, FIN	330/400 kV	650 MWe	3/2014
Alytus, LIT	Ełk, POL	330/400 kV	500-1000 MWe	12/2015
Klaipėda, LIT	Nybro, SWE	330/400 kV	700 MWe	12/2015

- The current development in the energy sector of the Baltic region is however not the cause but the catalyst of the idea since the aim to remove the energy isolation of the Baltic States from the rest of the EU and connect their power systems with systems using the same technical standards and developing the same European legal framework has been set as a strategic goal by the Prime Ministers of the Baltic States as early as in 2007.

Astravec NPP (Belarus)

- (especially) Lithuanian statements about poor safety of the Astravets NPP, unsuitability of the site, project violations and the pressure to comply with Espoo and Aarhus conventions (Ministry of Foreign Affairs of the Republic of Lithuania, 2017; see below) is a strategy to delay the construction and the start up.
- Since the official de-synchronization target is 2020 and the expected start up of Astravets NPP Unit 1 is currently mid-2019, Lithuania is left with the only tool to delay it: political pressure at all possible platforms.
- This is done mainly by framing the Astravets project unsafe, dangerous and incompliant with international safety standards.
- Two major setbacks:
  - Reluctance of LAT and EST
  - Impossibility to de-synchronize before 2030

Astravec NPP (Belarus)

- **If we accept the logic** electricity from Astravets will not be used in the Baltics (which is not certain), three options remain:
  - to consume electricity within the country at the expense of domestic gas fired power plants **(likely)**
  - to restrict the output of the Astravets NPP **(unlikely)**
  - to export the excess electricity to Russia **(likely)**
- Around 98% of electricity in Belarus is produced by combustion of natural gas supplied by Russia. There are 17 thermal power plants in Belarus, most of them operating on natural gas and in a very bad condition being constructed in 1960s and 1970s.
- The natural gas import dependency is expected to be reduced by 20-25% and based on the INPRO Methodology for Nuclear Energy System Assessment the levelized electricity price resulted at 5.81 cent/kWh (compared to 6.76 cent/kWh for natural gas).
- The export to Russia is a possibility given the Smolensk NPP close to the Russian border is expected to shut down two of its three RBMK-1000 units by 2028 and 2030 respectively.

Astravec NPP (Belarus)

- Therefore currently the most likely development is the consumption of majority of electricity produced in Astravets NPP within Belarus at the expense of the old natural gas fired power plants complemented with exports to Russia.
- What is definitely certain at the moment is that without the possibilities to export electricity to the Baltic countries and/or European Union, the construction of Units 3 and 4 (proposed for about five years later) will never be realized.

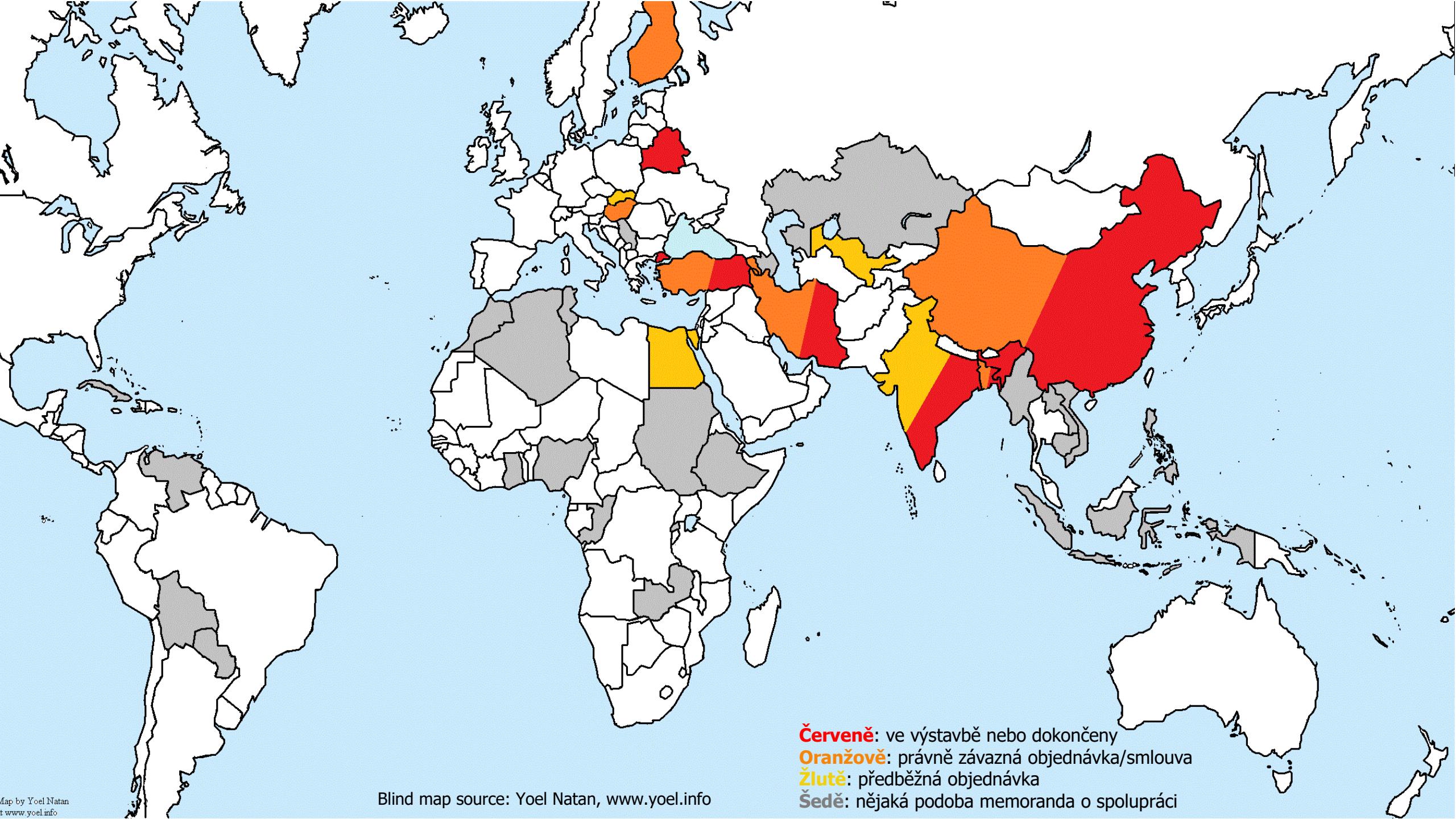
Rosatom‘s Business Strategy Principles

- Business model supported with financial model
  - Besides generally accepted and sector-wide used options by all contractors, such as
  - vendor investments
  - being a strategic investor in the project
  - providing financial loans by national and private banks
  - the turnkey-basis option
- Rosatom developed the option where the contractor is the subject who pays for the construction: BOO contracts
- loans, ability to prepare a tailor-made contract for a business partner, presence at all stages of the nuclear fuel cycle
- Procedure:
  - Interagency Memorandum of Understanding - Intergovernmental framework agreement - Power plant
- (Mis)use of path dependence in nuclear energy and its active creation
  - „Nuclear power plants serve as Russian embassies.“ (Armstrong 2015)
  - Rosatom tries „to influence and bind countries around the world to its irredentist and revanchist aims“. (Saha 2017)
  - Rosatom „builds spheres of energy dependence“. (Freeman 2018)

Rosatom‘s Business Strategy Principles

- „**Shotgun strategy**“
- “*Rosatom strategy in the new entrant countries is to conclude an Intergovernmental Agreement, supporting infrastructure development and agreeing on financial arrangements to support nuclear programme development*”
- Jukka Laaksonen, vicepresident Rusatom Overseas, 2013
- Principles of Standard Russian offer:
  - no tendering
  - loans at fixed interest rates (credits up to 80% of the investment) or Russian ownership required
  - „Package deals”: gas price discounts in BG, HU parallel to contracting
  - downplaying regulatory aspects
  - high localization rates (40-70%)
- extremely long-term strategy

Russia	China	Other
Turkey – Akkuyu	Turkey – Igneada	Turkey – Sinop
Jordan	Sudan	Poland
Egypt	Kenya	Lithuania
Tunisia	Thailand	Philippines
Algeria	Uganda	Kenya
Morocco	Cambodia	
Nigeria		
Ghana		
Ethiopia		
Sudan		
Zambia		
Kazakhstan		
Venezuela		
Bolivia		
Paraguay		
Bangladesh		
Myanmar		
Indonesia		
Vietnam		
Laos		
Cambodia		
Philippines		
Cuba		
Uzbekistan		
Rwanda		


Červeně: ve výstavbě nebo dokončeny
Oranžově: právně závazná objednávka/smlouva
Žlutě: předběžná objednávka
Šedě: nějaká podoba memoranda o spolupráci
Blind map source: Yoel Natan, www.yoel.info
Map by Yoel Natan
t www.yoel.info

Is Russia Able to Finance the Reactors?

- Sovereign wealth funds
  - **National Wealth Fund** (Фонд национального благосостояния России)
  - 2008, 88 billion USD
  - invests in riskier, higher return vehicles, as well as federal budget expenditures
  - controlled by the Ministry of Finance
  - one of the fund's main responsibilities is to support the Russian pension system
  - source for Finland, Hungary etc.
  - **Reserve Fund** (Государственный резервный накопительный фонд)
  - 2004 as Stabilization Fund, divided in two in 2008, 137 billion USD
  - invested abroad in low-yield securities and used when oil and gas incomes fall
  - intended to cover budget deficit and provide payment of the public debt
  - created also from gas export revenues
- January 2016: „ *Russia would suspend granting any new loans to foreign countries, including for nuclear projects, due to budget cuts, but all previous loan agreements would be fulfilled.*“ (Sergei Storchak, deputy finance minister)
- January 2018: NWF incorporated into RF, total value 65 billion USD, used to cover budget deficite

Rosatom‘s Business Strategy Principles

- Current research confirms fulfillment of indicators of strategic (realistic, geopolitical) approach to energy policy also in the nuclear sector

- What are the aims and interests, is it really a "mere" opening of new markets to ensure revenue for the Russian state budget for 2060+ or a (future) influence tool in strategic regions (Egypt, India, Bangladesh, Baltic, EU)?
- Russian documents speak of nuclear energy as a new export commodity, does it also mean that Rosatom will be a new instrument for promoting and supporting Russia's foreign policy goals, like Gazprom or Rosneft?

Thank you for your attention.

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