Analyst day – Russia & CIS

Renewable Power

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Agenda

Introduction

Presence in Russia & CIS

Strategy for Russia & CIS

Renewable Power offering
Technologies adapted to all renewable energy sources

Geothermal

Hydro

Onshore

ECO 100
2009

Onshore

ECO 110
2010

Offshore

Haliade 150 - 6MW
2012

Ocean Wave Energy
2015

Hydro, Geothermal
Biomass

2007
Wind

2010
Solar CSP

2011

Future

Biomass

Hydro PSP variable speed
2008

Solar Plants
2011

ECO 122
2011

Onshore

Ocean Tidal Energy
2014

A continuous new offering pipeline for new plants, refurbishment and Service

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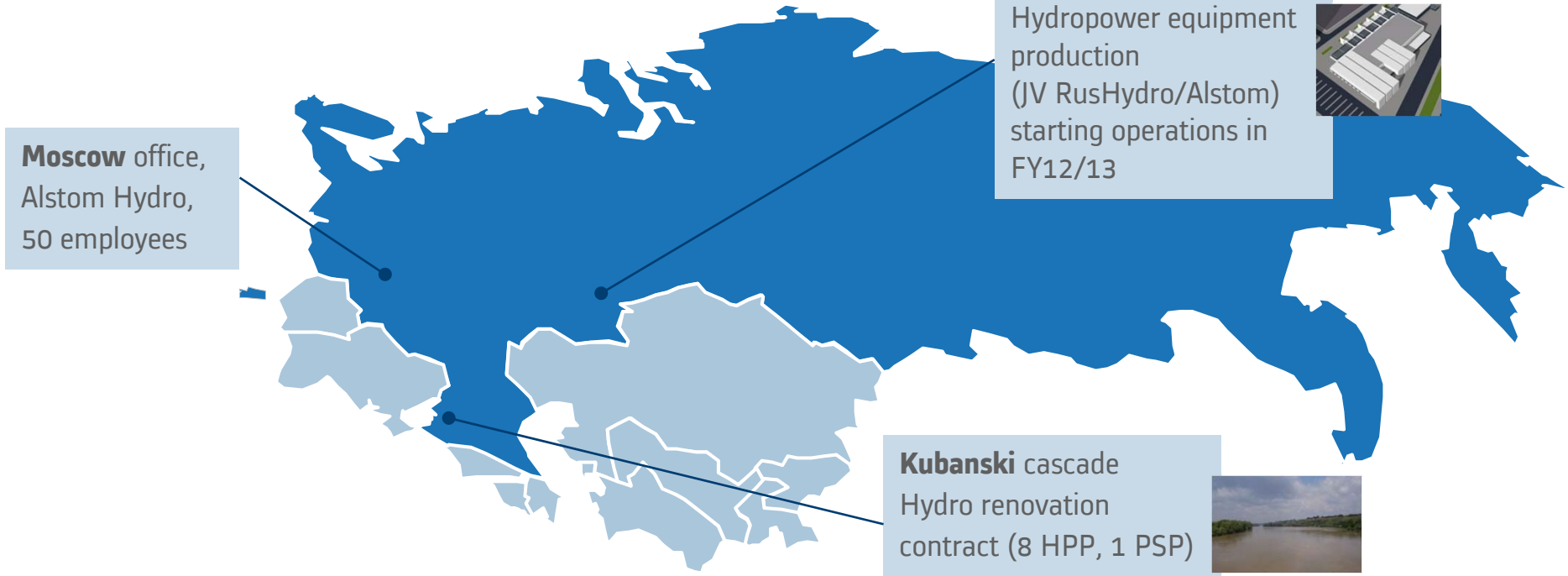
Renewable Power presence in Russia & CIS

Fast ramp-up in Russia & CIS with Hydro

- Order intake Russia & CIS of app. **€ 75M in FY12 (9 months)**
- Renewable Power headcount **> 50 people**



About RusHydro

- One of Russia's main power generating companies with a total capacity of 35 GW in 2011 (70 renewable energy power plants)
- Largest Russian Hydropower producer
- Plans to increase by 10 GW its hydropower installed base (new HPP capacities & capacities of acquired/controlled hydropower assets) by 2015
- 60% of RusHydro State-owned, with the remaining belonging to minority shareholders

RusHydro

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Alstom-RusHydro JV

AlstomRusHydroEnergy (JV)

- JV announced in a strategic cooperation agreement on December 9th, 2010 – mission: produce hydropower and auxiliary equipment in Russia
- Shareholders Agreement signed on June 21st 2011 to establish the JV (50% -1 share for Alstom)
- AlstomRusHydro Energy unit incorporated since December 22nd, 2011
- Ufa factory: part of AlstomRusHydroEnergy JV, to be managed by Alstom
- JV to employ over 500 people by 2015

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Industrial project in Ufa

- Factory specialised in manufacturing:
  - hydropower equipment for smaller hydropower plants with a capacity of 25 to 100 MW
  - pumped storage plants of up to 150 MW
  - equipment for automatic process control systems and integrated security systems
- State of the art process designed for small and medium size products
- Green Label assessment => LEED certification target
- 20,000 sqm workshop to produce turbines and generators
- Targeted capacity of 350,000 working hours per year
- Start of factory erection early 2012
- Production of equipment starting in 2013

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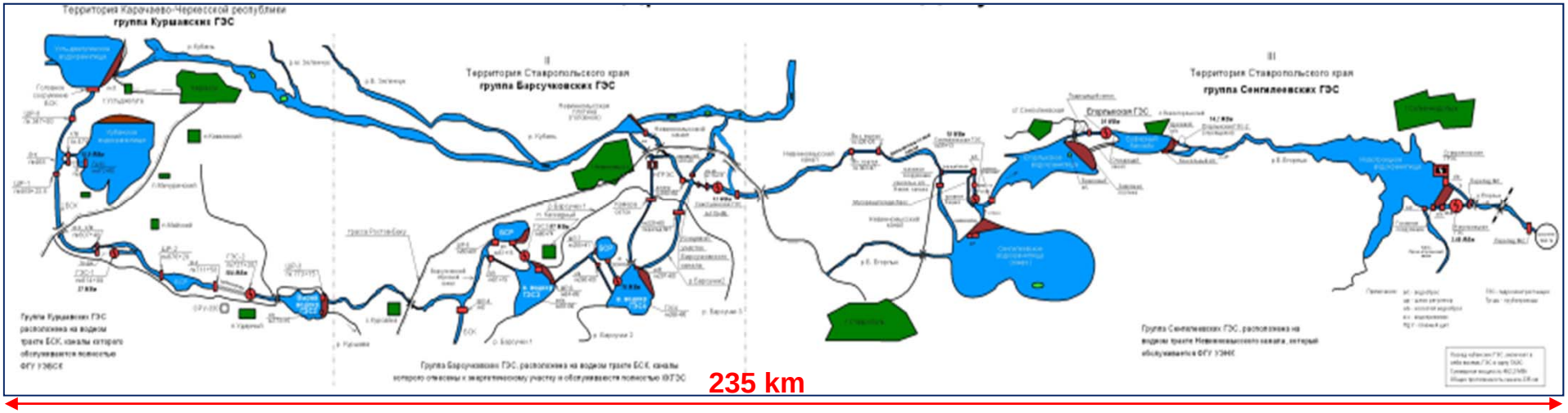
Key project – Hydro: Kubanski cascade

Supply and renovation contract with Rushydro

- 29 machines in 9 Power Houses to be totally renovated (8HPP + 1PSP)
- General contractor agreement was signed: Alstom share € ±400M (total € 530M)
- To be executed over 10 years (pre-design assessment, feasibility study, design & water optimisation, design of equipment, manufacturing, supply, erection & commissioning)



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Approach for Hydro

Position Alstom Hydro as a local player with international expertise for turnkey projects or components

- Development of relationship with RusHydro (n°1 in Russian Hydro energy – 50% market share) => A unique opportunity to expand in Russian & CIS markets
- Increase capabilities of working with Russian subcontractors and interacting with other Russian and Ukrainian manufacturers of hydro equipment
- Grow Alstom Hydro team in Russia
- Execute Kubanski cascade project and leverage this reference to book new orders
- Erect and start operation of Ufa factory by 2013

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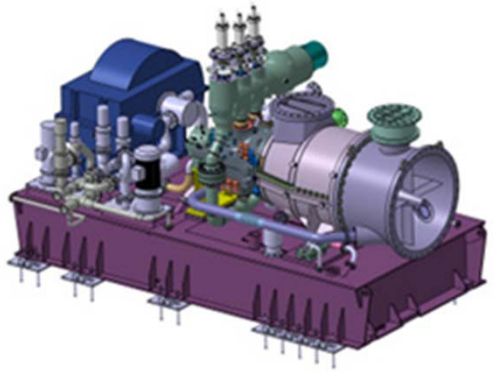
Approach for other Renewable solutions

Small steam turbines

- Capture opportunities in generation market for industrial customers in Russia & CIS
  - Introduce offering to utilities and industrial customers
  - Offer products as components through local packages
  - Investigate possible partnerships in localisation of small steam turbines activities



Wind

- Investigate entry in Russia & CIS wind market through partnerships (monitoring renewables regulatory frame development)

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