

Climate Innovation Centres: role & expectations of business

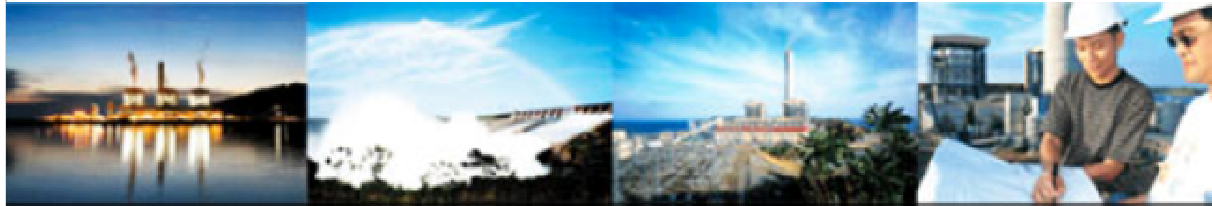
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- **About Alstom**
- Technology transfer: drivers for technology cooperation & investment
- Role of CICs
- What we can do

N°1
worldwide

in high
& very high
speed

N°2
in
urban transport
(metros & trams)



N°1
worldwide

integrated
power plants

hydro power*

air quality
control
systems

services for
electricity
utilities

* through Alstom Hydro, a 50/50 joint venture between Alstom and Bouygues set up in 2006

Alstom in India



■ 4000 people

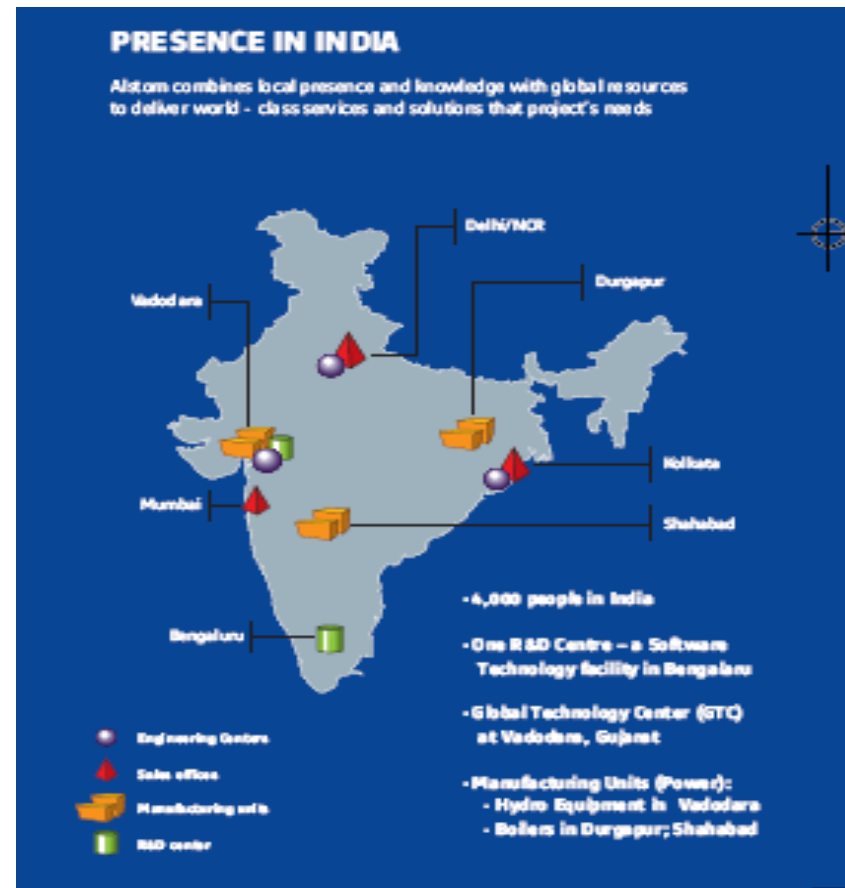
■ One R&D Centre – a software technology facility in Bengaluru

■ One Global Technology Centre in Vadodara , Gujarat

■ 4 Manufacturing Units : -

- Hydro Equipment in Vadodara
- Boilers in Durgapur; Shahabad
- Transport in Coimbatore

■ Alstom India is listed on Bombay Stock Exchange (BSE) and National Stock Exchange (NSE)



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- IEA (Blue Map scenario 2010) estimates additional global investment of \$46 trillion will be needed by 2050 in order to keep within 450 ppm scenario.
- EU has estimated developing countries' needs at €100bn per year by 2020.

Massive levels of funding will be needed

Conditions for investment



-
- Understanding of what technologies might be needed in individual country/regional circumstances
 - Absorptive capacity in the country/region
 - Existence of free markets (e.g. no imposition of perverse subsidies or trade tariffs)
 - Protection for intellectual property

Commercial models for collaboration (examples from Alstom in India)



- **Partnership with Bharat Heavy Electricals Ltd (BHEL)** - The partnership is based on a **license and business co-operation** agreement to provide BHEL with super-critical boiler technology, engineering expertise and components.
- **Joint Venture with Bharat Forge Ltd (BFL)** - The **JV** involves setting up two companies to design, engineer, manufacture and deliver turbine and generator islands and their auxiliary equipment.
- **Alstom Global Technology Centre for hydroelectricity, Vadodara**
– The **Technology centre** established in 2008 at an existing Alstom manufacturing site, this centre will develop highly innovative hydro products and technologies, focused on the Indian market

- Alstom's investments in education and skills in South Africa
 - Investing in local manufacturer: ELCA-Malitech
 - Funding training activities
 - Investing in education: ZAR 12.5m (\$1.6m/€1.3m) over the period 2008-2012.
 - Funding for the expansion of the Engineering Faculty of Wits University, within a partnership developed to promote excellence in engineering studies in South Africa.

For Alstom:

- To perform world-class R&D
- To drive innovation
- To identify and secure the recruitment pipeline

For universities:

- perform real, industrially relevant research
- Easier access to government funding.
- Route to secure employment for their graduates.
- Income

Policy options for enabling Tech transfer & investments



- Exchange of regulatory best practise
- Assistance with needs assessments
- Carbon markets
- Blended financing vehicles
- Loan guarantees funding pool
- Fast-track adjudication of disputes
- Public-Private Partnership initiatives like Centers of Excellence (CoEs)

Need for coordination to create zones of investment-national & regional

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- Assessment of needs
- Link regional govts to business & research community
- Provide access to experience eg exchange of regulatory best practise
- Help policy makers & planners to plan for clean infrastructure
- A role in facilitating public and/or private funding for projects (subject to whatever is agreed in UNFCCC on funding)

- Explore use of public funds to leverage private capital
- Explore how funding allocations are more output driven & develop performance indicators for that
- Carry out risk assessment
- Research on new & innovative finance
- Facilitate PPPs

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- Bring tech expertise (to help with needs assessments)
- International business and management experience in 70 countries worldwide
- Experience of building presence in new markets and developing regional manufacturing and export hubs
- Bring an expert policy team well-versed in policy-making as well as business
- Give feedback to governments on what works for business and what doesn't
- Help to link up with research community

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