

# Nitol Solar

Development of Innovative  
Production Facilities in the Irkutsk  
Region Based on the Available  
Research and Industrial  
Infrastructure



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## About Nitol Solar

- Established in 1998
- Privately owned company with strategic investors
- Production is located in Usolie-Sibirskoe, Irkutsk region
- Producer of Silanes, Polysilicon and Chlorine-based chemicals



## Company's History

**2004** – Strategy shift – from traditional chemicals to high-tech products for growing high-tech industries: Photovoltaics, Semi and others

**2006-2007** – Modernization and production startup of a high-purity Trichlorosilane facility, Trichlorosilane being the main feedstock for Polysilicon

**2008** – First Polysilicon produced and successfully tested

International Finance Corporation (IFC) and Suntech Power became minority shareholders of Nitol Solar

**2009** – Beginning of Polysilicon commercial deliveries under long-term contracts

The Russian Corporation of Nanotechnologies (RUSNANO) approved its participation in Nitol's Polysilicon project



# Available Resources

## ➤ Nitol Solar resources

- An integrated chlorine chemical production facility in Usolye-Sibirskoye
- Competitive energy costs
- Qualified personnel
- Support from both regional and local authorities



# Available Resources

## ➤ The Irkutsk region resources

- Rich raw material base: raw hydrocarbons, timber, gold, iron, coal, salt, mica, etc.
  - Developed scientific and research infrastructure
  - Advanced personnel training system
  - Proximity to the fast growing Asian markets
- Population – 2503,6 inhabitants
  - Area - 775 sq.m. (4,6% of the Russian territory)



Photo Mefairk.ru

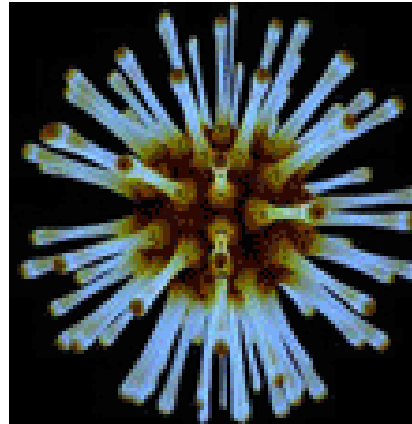
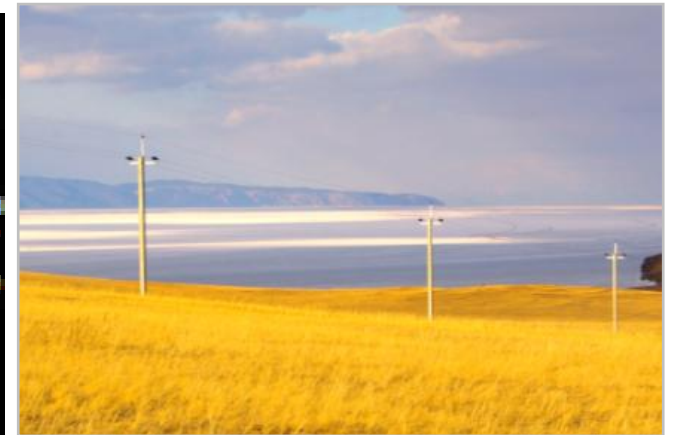


Photo baikalnano.ru



# Nitol Solar scope of interest



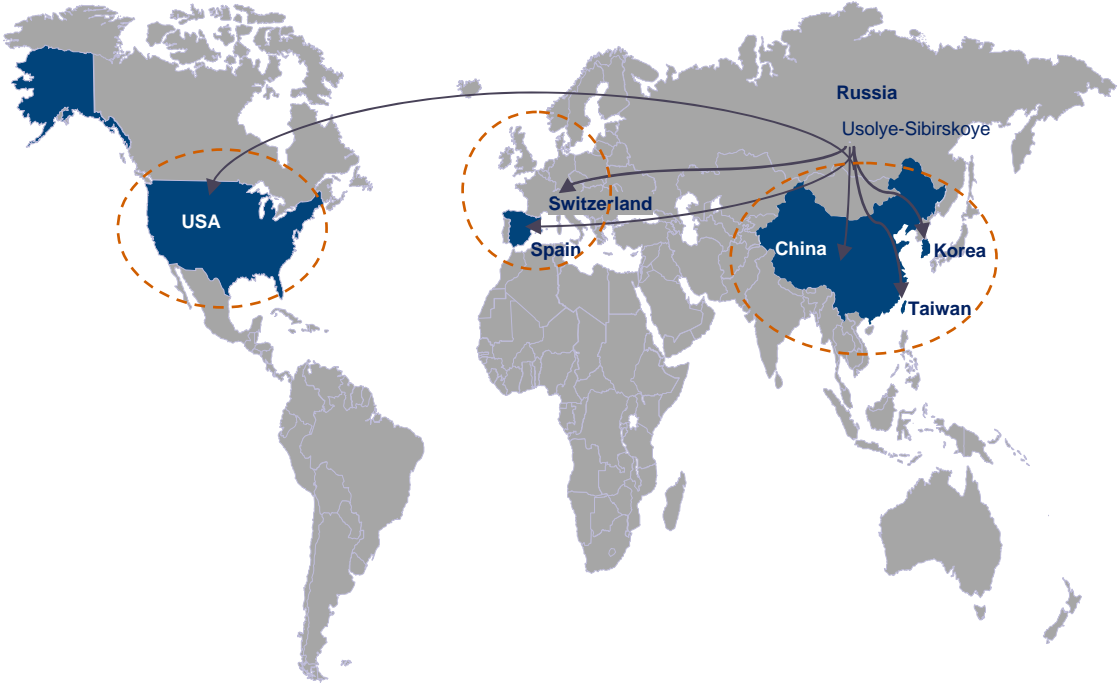
- Existing 10,000 MT solar grade TCS (Trichlorosilane) capacity
- Existing STC production

- 5000 MT polysilicon project is underway to be completed in 2011

- Tolling arrangements

# Nitol Solar Customer base

➤ Long-term Polysilicon supply contracts with 8 international PV customers





# Polysilicon Project

## ➤ Polysilicon

- A 5000 tpa Polysilicon production facility:
- The first 300 tpa line is operational
- Full launch by the end of 2011
- Budget: \$650 mln

## Polysilicon capacity extension plans :

- An additional 6000 tpa Polysilicon production facility
- Budget: \$700 mln



## Mono and multicrystalline wafers

- Capacity of the Wafer manufacturing facility: 60 MW, expandable up to 150 MW
- Budget – \$60 mln

### Project advantages:

- Low production costs due to competitive prices for power and labor
- On-site production of Polysilicon, the main feedstock for wafering
- Guaranteed sales (long-term contracts for wafer deliveries till 2015)
- Developed infrastructure: availability of electric power, personnel, buildings and other resources



# Industrial Park in Usolye-Sibirskoye

- Specialization: advanced materials for the Photovoltaics, SEMI and other industries
- Investments plan: \$2 bill within 10 years
- Background
  - Support from the Irkutsk region government
  - Developed industrial and logistic infrastructure
  - Availability of electric power
  - Qualified personnel
  - Cooperation with scientific and research institutes of the Irkutsk region
  - Nitol Solar's experience in construction of high-tech production facilities
- Advantages for the Industrial Park participants
  - Tax benefits
  - Lower capital costs due to availability of infrastructure
  - Promising investment prospects for business



**Thank you for your attention!**