

---

# **FOR BALLANCED RES SUPPORTING POLICY**

**19 June 2013, Thessalonica  
HELLAS**

**L. Radulov, BSERC**

# **SUPPORT TO RENEWABLE ELECTRICITY**

---

- **Guaranteed access to the grids**
- **Guaranteed transport through transmission and distribution grids**
- **Ensured construction of the necessary infrastructure**
- **Priority dispatching**
- **Obligatory purchase**
- **Preferential price**

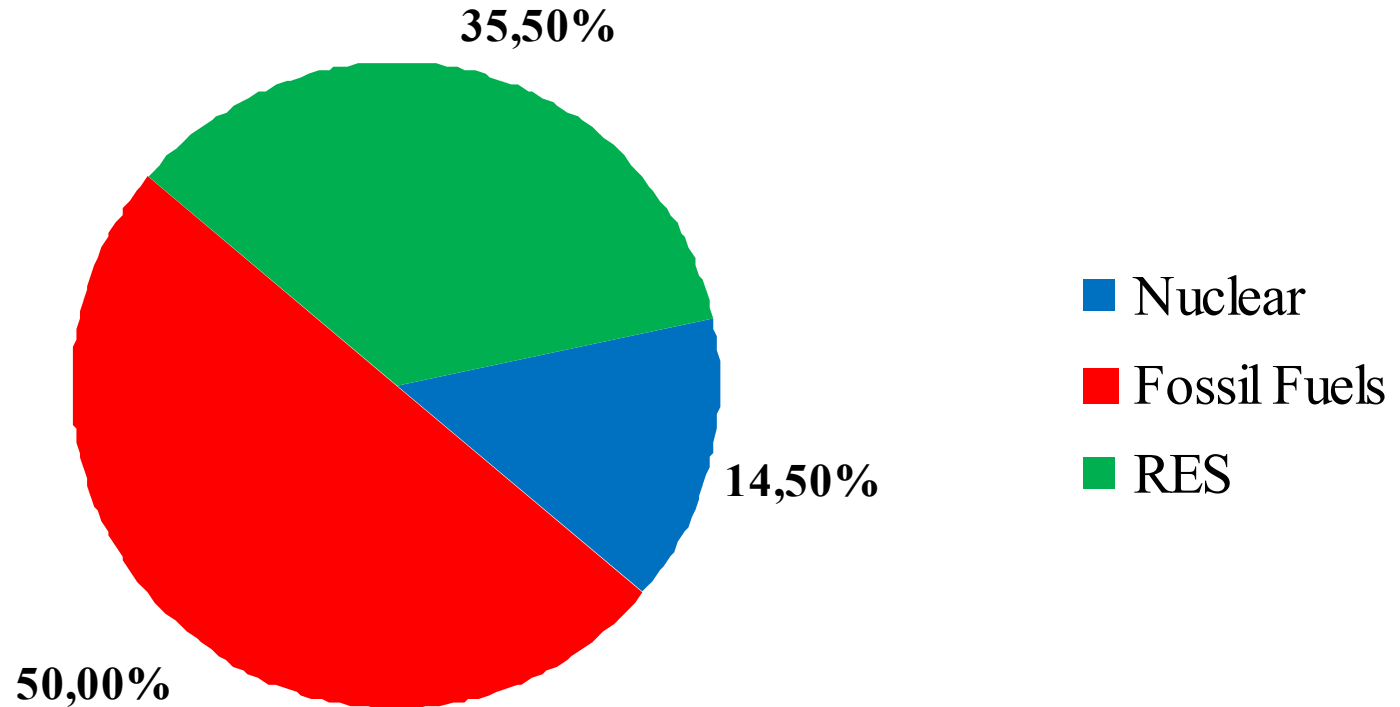
# Fid-in Tariffs Development 2010 - 2012

---

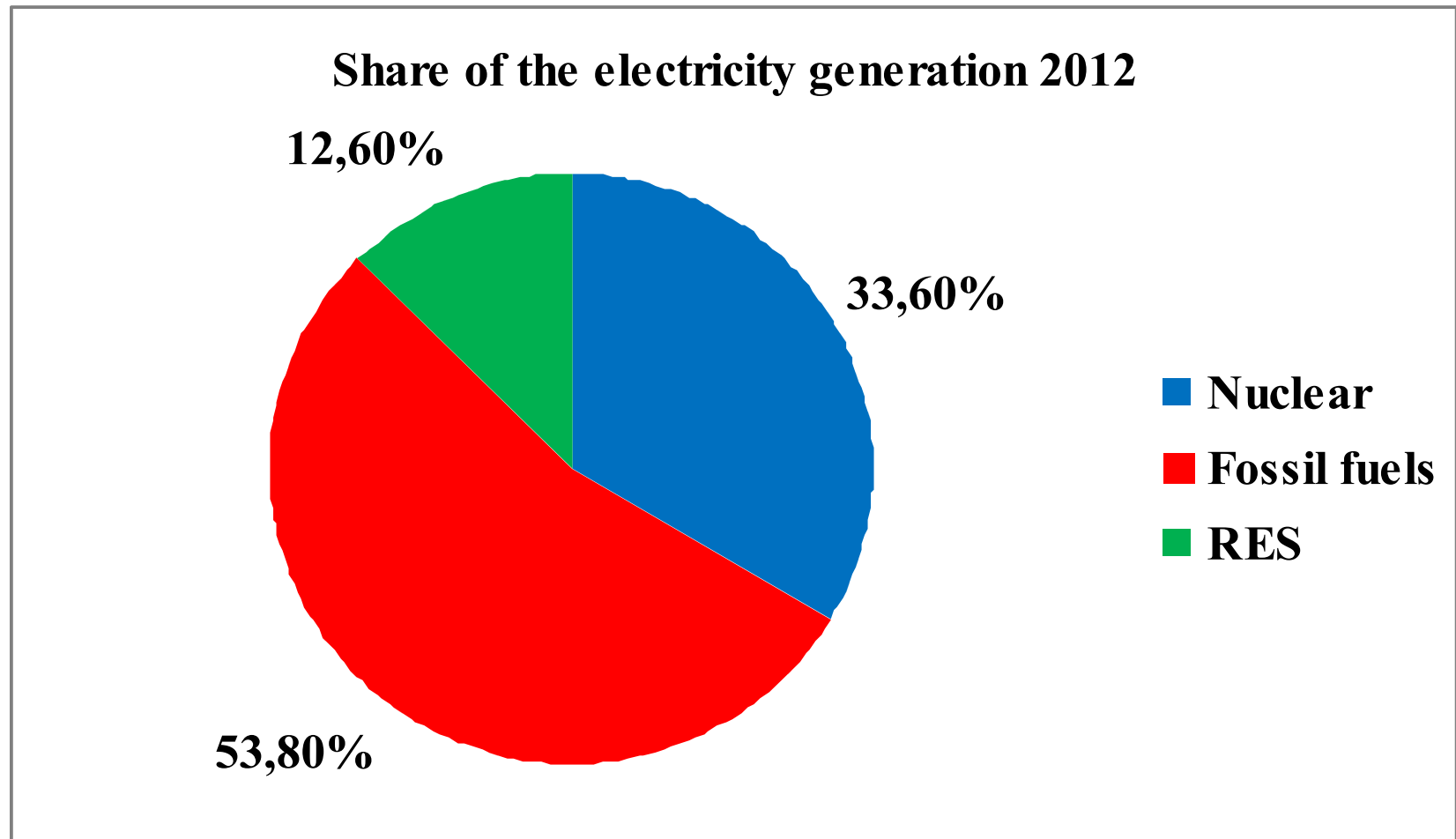
	Apr 2010 Jan 2011	Feb 2011 Jun 2011	Jul 2011 Jun 2012	Jul 2012 Aug 2012	Sep 2012 Xxx 2013
<b>Solar</b>	<b>366</b>	<b>355</b>	<b>244</b>	<b>119</b>	<b>86</b>
<b>Wind</b>	<b>96</b>	<b>95</b>	<b>96</b>	<b>75</b>	<b>75</b>

# Bulgarian Generation System, 13.8 GW

Share generation capacities 2012



# Bulgarian Annual Generation 2012, 47 TWh



# CAPACITIES AND GENERATION, 2012

	Capacities		Inflexible		Generation	
	GW	%	GW	%	TWh	%
<b>Nuclear</b>	<b>2.0</b>	<b>14.5</b>	<b>2.0</b>	<b>100</b>	<b>15.8</b>	<b>33.6</b>
<b>Fossil</b>	<b>6.9</b>	<b>50.0</b>	<b>1.0</b>	<b>14.5</b>	<b>25.3</b>	<b>53.8</b>
<b>RES</b>	<b>4.9</b>	<b>35.5</b>	<b>2.0</b>	<b>40.8</b>	<b>5.9</b>	<b>12.6</b>
<b>Total</b>	<b>13.8</b>		<b>5.0</b>	<b>36.2</b>	<b>47.0</b>	

# **LOAD AND NOT REGULATED GENERATION**

---

	<b>GW</b>
<b>LOAD</b>	<b>3 - 7</b>
<b>INFLEXIBLE</b>	<b>3</b>
<b>INTERMITTENT</b>	<b>2</b>

# SUPPORT TO GRIDS

---

- **GRIDS ARE OBLIGED:**
  - Invest in transmission / distribution lines and substations
  - Invest in modernisation of technologies
  - Implement new control principles and systems
  - Use the available capacities for balancing or / and
  - Construct new storages and flexible capacities
  - Match the increasing costs for preferential prices
- **END USER TARIFFS SUPPRESSED BY THE REGULATOR**



# RESULTS

---

- **Rush into solar and wind facilities construction**
- **1000 MW solar panels**
- **700 MW wind turbines**

# NREAP and REALISATION, MW

---

	2012	2014	2016	2018	2020
SOLAR NREAP	46	181	233	265	303
SOLAR REAL	1000	-	-	-	-
WIND NREAP	451	820	1033	1139	1256
WIND REAL	700	-	-	-	-

# AT THE EXPENSE OF WHAT?

---

- **Exhausted balancing possibilities of the Power System**
- **Deterioration of TPPs financial conditions**
- **And of the corresponding mines**
- **Increase of cost for production**
- **Unbearable obligations accepted by grids (to pay, not produced due to restrictions, energy)**
- **Lost of workplaces and increasing social tension**
- **Decrease of investors' interest**
- **Demolished public support to RES**

# REASONS

---

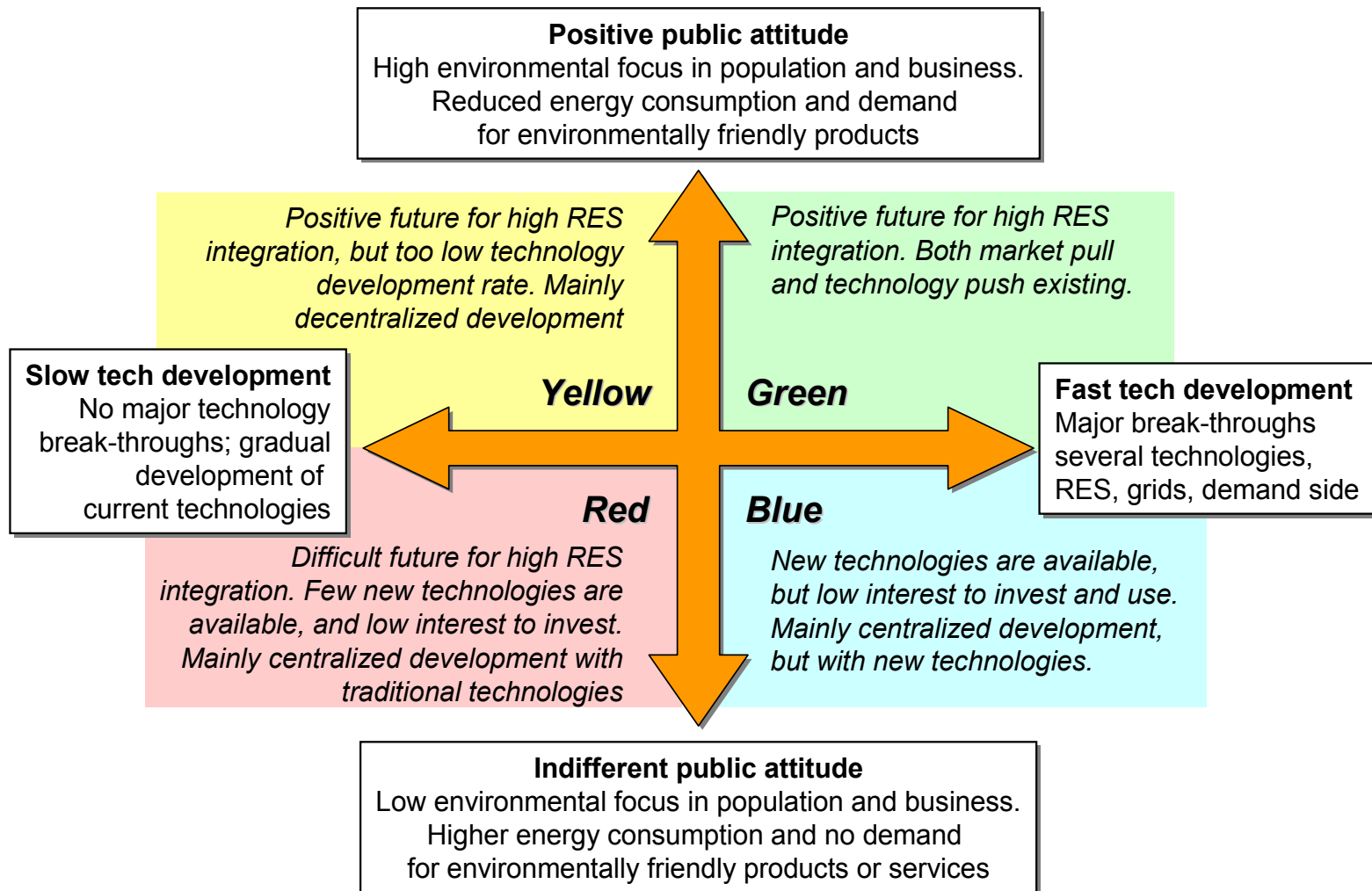
- **Unbalanced RE supporting system**
- **Irrelevantly high preferential prices**
- **Neglecting basic national documents as NREAP**
- **Neglecting power system technical requirements**
- **Neglecting much more effective and cheaper technologies as biomass products for heating**
- **Lack of funding for power grids modernisation**
- **Undue influence on the authorisation system**
- **Reduced economy activities and electricity consumption**

# POLITICAL DEVELOPMENTS

---

- **Dissatisfaction with economic situation grew into resentment toward electricity prices**
- **Active campaign incited by irresponsible politicians and media**
- **Furious reaction of consumers against electricity companies and particularly RES**
- **Anti-market measures of the Regulator**
- **Fall of government**

# FACTORS FOR RES DEVELOPMENT



# NECESSARY SPECIFIC MEASURE

---

- **Establishing balanced supporting renewable energy policy**
- **Abolishing the obligatory purchase of renewable electricity**
- **Gradual incorporation of RE-e into the market**
- **Solar panels – on roofs and facades only**
- **Competition between technologies on the basis of integration costs**
- **Priority to developed and efficient energy technologies**

# NECESSARY GENERAL CONDITIONS

---

- **Advanced generation and consumption technologies**
- **Social measures**
- **Convinced public support**
- **Efficient use of energy**
- **Embark on gradual restructuring of energy sub-sectors - old TPPs, corresponding mines – in parallel of development of RES-e**
- **Diversification of suppliers and sources**
- **Cost-oriented tariff in the regulated market**
- **Implement the market reform in energy sector**



# **Project ENVIROGRIDS: Building Capacity for a Black Sea Catchment Observation and Assessment System**

## **Supporting Sustainable Development**

### **Task 5.4: Energy**

#### **Solar and wind energy potential**

#### **BSREC**

# **THANK YOU!**