

# Country Report Switzerland

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Arthur Wellinger  
Nova Energie Ltd.



# Biogas upgrading in Switzerland

LOCALISATION	UTILISATION	PRODUCTION	TECHNOLOGIE	MISE EN SERVICE
RÜMLANG	pumping station	biowaste (KOMPOGAS)	PSA/activated carbon	1995
BACHENBÜLACH	pumping station natural gas grid	biowaste (KOMPOGAS)	PSA/activated carbon	1996
SAMSTAGERN	natural gas grid	biowaste (KOMPOGAS)	PSA/activated carbon	1998
OTELFINGEN	pumping station	biowaste (KOMPOGAS)	PSA/activated carbon	1998
LUCERNE	pumping station natural gas grid	sewage sludge	PSA/activated carbon	2004
JONA	pumping station natural gas grid	biowaste (KOMPOGAS)	GENOSORB washer/ activated carbon	2005
PRATTELN	natural gas grid	biowaste (KOMPOGAS)	washer GENOSORB/ activated carbon	2006
BERNE	natural gas grid	sewage sludge	PSA/activated carbon	2007 (under construction)
UTZENSTORF	natural gas grid	biowaste (KOMPOGAS)	PSA/activated carbon	2007 (under construction)
BISCHOFZELL	natural gas grid	sewage sludge	washer GENOSORB/ activated carbon	2007
ROMANSHORN	natural gas grid	sewage sludge	washer GENOSORB/ activated carbon	2007
LAVIGNY	natural gas grid	biowaste (KOMPOGAS)	PSA/activated carbon	2008 (under construction)
WIDNAU	natural gas grid	Agric. Codigestion (GENESYS)	PSA/activated carbon	2008 (under construction)

# Biogas fuel in Switzerland

	2003	2005	2006	2007
Number of vehicles	730	1900	2400	4200
Number of upgrading plants	4	7	6	9
Number of pumping station	35	60	65	82
Share of biogas [%]	45	37	37	n.k.
Price at pump station	Biogas	0.62	0.64	58.8-71.7
in €cts/l petrol eq.	Natural Gas	1.32	1.32	81.7-120

# Feed-in law: Electricity from biogas

## Ordinance in consultation

- Clear distinction between:
  - WWTP and landfill gas
  - Industrial plants
  - Agricultural plants
- Conditions:
  - Only new (built after 1 January 2006) or entirely renewed plants get the tariff
  - The efficiency of CHP has to be >37% (100-500kW) resp. >40% (>500kW)
  - More than 50% of the produced heat is utilised externaly
- Renewed means that either
  - electricity production is increased >30%
  - new investments (over the last 5 years) are > 50% of a new plant built today

# Feed-in law: Electricity from biogas

## Compensations

The retribution is based on the calculated equivalent power in relation to the respective class of power:

<b>Electric power</b>	<b>Basic compensation [Rp./kWh]</b>	<b>Agricultural bonus [Rp./kWh]</b>
<= 50 kW	24	15
<= 100 kW	21.5	13.5
<= 500 kW	19	11
<= 5 MW	16	6
> 5 MW	15	0

The agricultural bonus will be retributed only under condition that

- animal manures and waste material from agricultural production
- energy crops < 10% (fresh weight)
- co-substrates + energy crops < 20% (fresh weight)

# Action plans

Two action plans have been launched:

- Renewable energy
- Energy efficiency

The focus is on efficiency and substitution of fossil fuels for heat by renewables

It will be discussed by the ministers in December before it goes to the two chambers