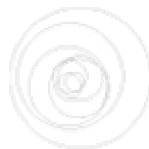




# Strategies for the heat sector



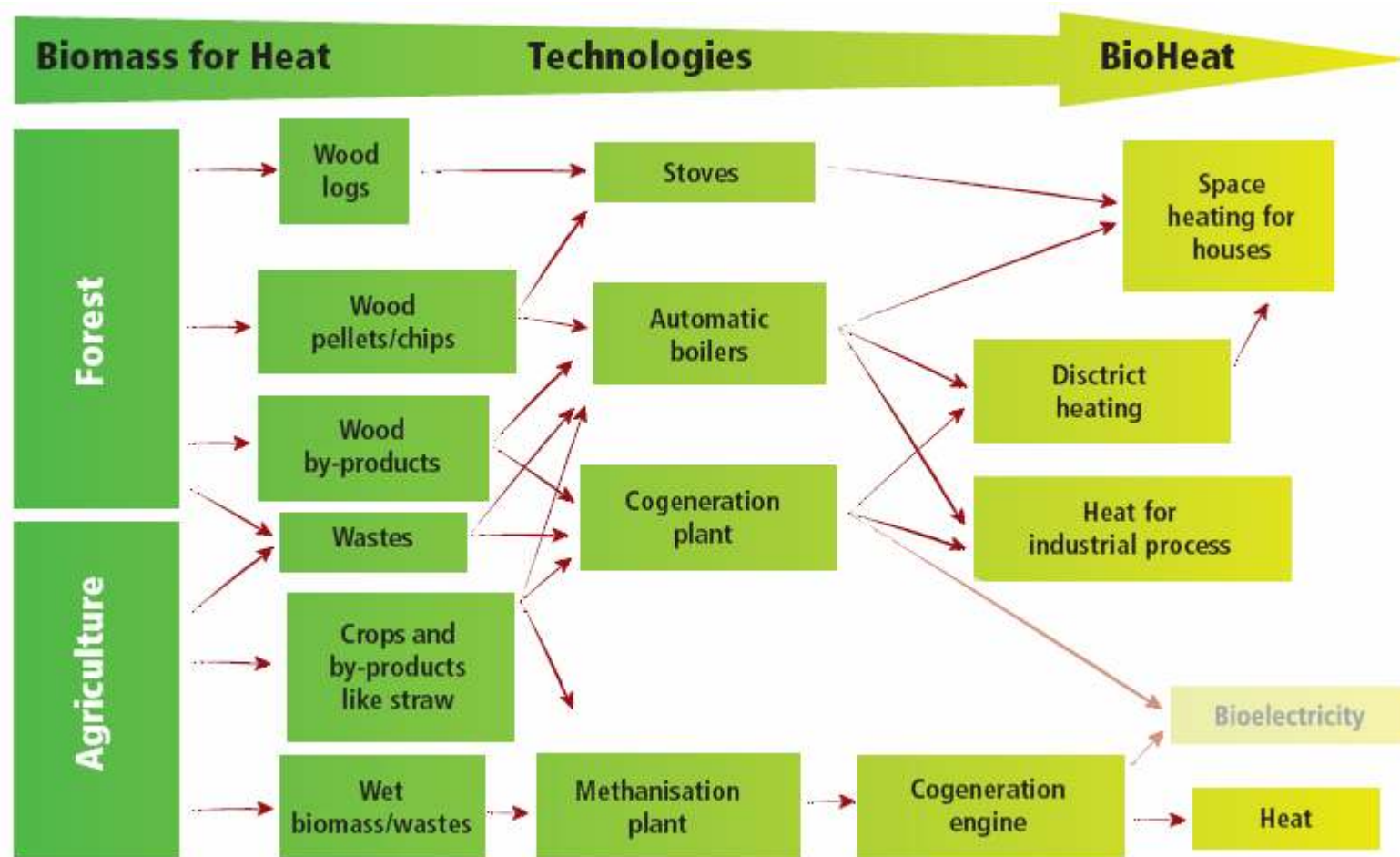
**DI Kasimir P. Nemestothy**  
**Brussels, EC, Charlemagne Building**  
**February 9<sup>th</sup> 2009**

# Content

- **Background**
- **Barriers**
- **Conditions for sustained bioheat-market growth**
- **Policy recommendations**
- **Successful examples**

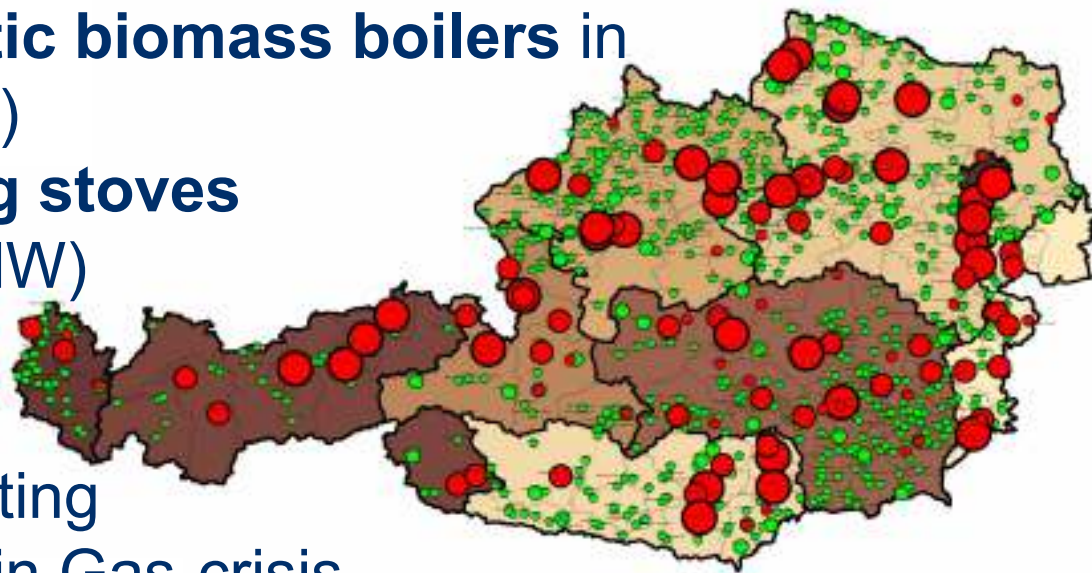


# Overview of biomass to bioheat chains



# Bioheat & Gas-crisis in Austria

- 400 MWeI (~ 2.000 MW) biomass **CHP plants**
- > 1.000 (~ 1.100 MW) biomass **district heating plants**
- > 100.000 full **automatic biomass boilers** in operation (~ 6.000 MW)
- > 450.000 **heat storing stoves** in operation (~ 2.000 MW)
- 700.000 households are using wood as main source for heating
- Essential backup load in Gas-crisis
- Biomass substitutes 3,5 billion m<sup>3</sup>/a of natural gas
- In wintertime substitution of > 1 million m<sup>3</sup>/h natural gas



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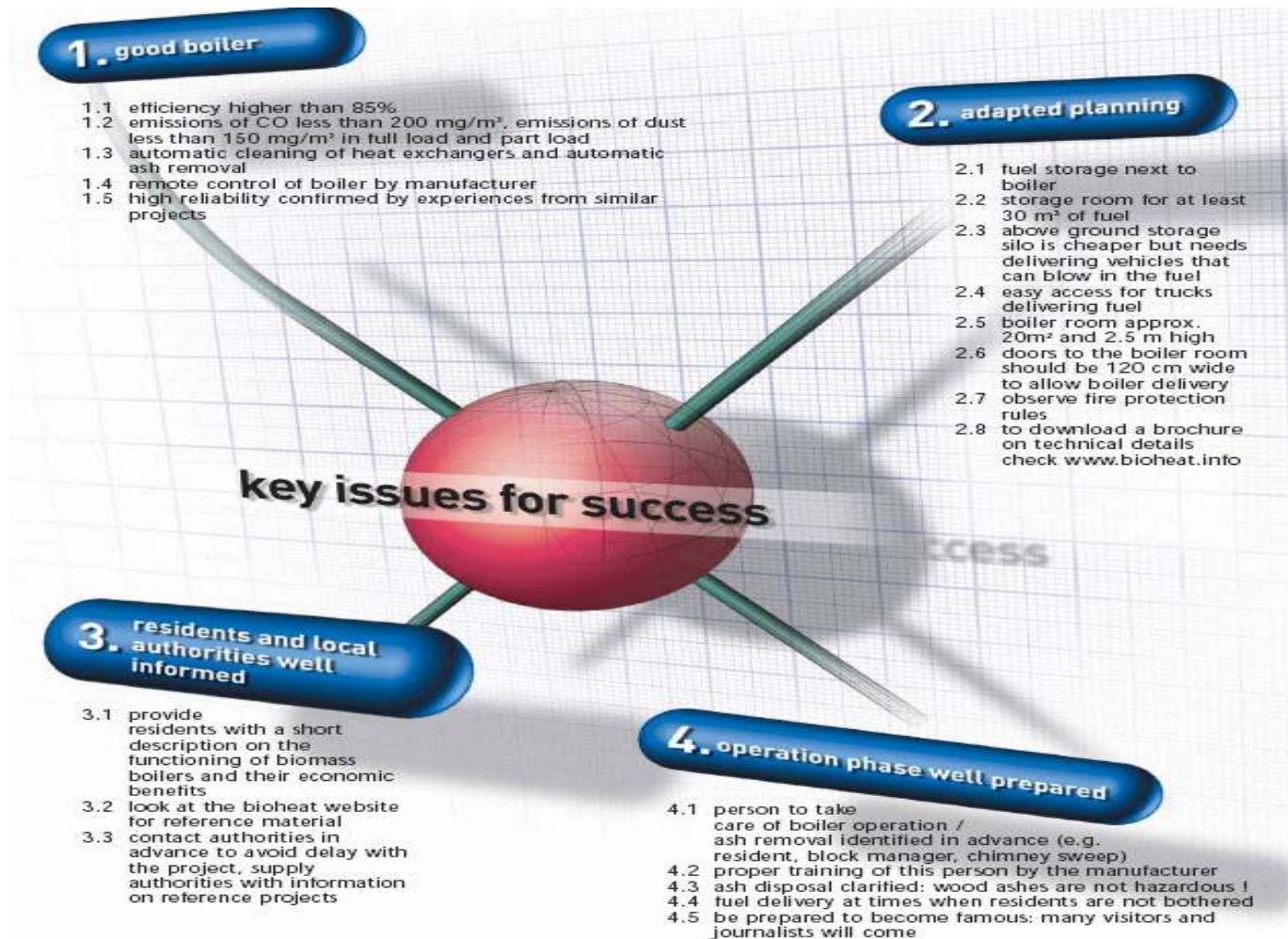
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# Key issues for success



# Barriers for biomass in the heat market

- **Poor image of biomass as fuel**
- **High investment costs**
- **Lack of knowledge regarding new technologies**
- **Lack of access to state-of-the-art technology**
- **Lack of an established system of fuel supply**
- **Lack of skilled professionals**
- **Negative campaigning from fossil fuel industry**



# Conditions for sustained market growth 1/4

- **Awareness**

- Publicly funded comprehensive communication programs
- Highly viable demonstration projects
- Professional public relations and advertising campaigns

- **Incentives**

- High taxes on fossil fuels or financial incentives (or both)
- Criteria for successful incentives:
  - predictability (no sudden changes)
  - quality criteria
  - monitoring programs
  - communication programs



# Conditions for sustained market growth 2/4

- **Legislative support**
- Legal requirements for buildings to meet a certain share of their energy demand with RES
  - Binding requirement to replace old and inefficient heating systems
  - Removal of barriers in terms of building regulations, etc.
- **Quality of products and services**
  - Establishment of certification and labelling schemes for biomass boilers and stoves
  - Fuel standards (moisture, ash, nitrogen, chlorine, sulphur content, etc.)





# Conditions for sustained market growth 3/4

- **Monitoring programs & competitions**
  - Extensive monitoring programs in early phase of market deployment
  - Customer satisfaction | annual efficiency | quality
  - Creating attention for quality issues with competitions
- **Reliable and stable supply and distribution systems**
  - Requires significant upfront investments
  - Needs clear signals for supportive public policies
  - Sufficient storage facilities



# Conditions for sustained market growth 4/4

- **Competition with fossil fuel industry**
  - Destructive campaigns to damage the image of new competitors
  - Political agreements to prevent aggressive negative campaigning
  - Incentives to enter the market themselves

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- ☑ biofuels
- ☑ solar power
- ☑ hydrogen power
- ☑ carbon capture & storage
- ☑ emerging consumer markets
- ☑ emissions asset business
- ☑ gas-fired power
- ☑ wind power
- ☑ venturing



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# Policy recommendations at EU level 1/2

- **RES Directive**
  - Precise guidelines for National Action Plans including clear outlines for heat market
- **Quality of National Action Plans**
  - EC road show addressing national policy makers
  - Briefing of policy makers with clear information on costs and benefits of different policy measures



# Policy recommendations at EU level 2/2

- **Labelling schemes for heating devices**
  - Specific labelling scheme for different types of heating devices
  - Considering efficiency and emission levels
- **EU certified professional education schemes**
  - “EU biomass heating drivers licence” for installers
  - Includes all key-issues for efficient installation and operation



# Policy recommendations at National and Regional levels 1/4

- **Visible demonstration projects**
  - Well communicated demonstration projects
  - Public buildings (schools, etc.) help creating trust and credibility
- **Procurement policies favouring bioheat**
  - Enterprises need projects to start with
- **Financial incentives**
  - Reduce upfront investment costs
  - Need to be predictable
  - Linked to quality and efficiency criteria





# Policy recommendations at National and Regional levels 2/4

- **Link existing subsidy schemes to bioheat use**
  - Modifications to existing subsidy schemes
  - Subsidy for social housing only for RES-heat
- **Quality criteria for products and services**
  - High quality is a fundamental precondition for sustained market growth
  - Link quality requirements with financial incentives
- **Supply security and training programs**
  - Fuel supply security is essential
  - Adequate training of all involved professionals



# Policy recommendations at National and Regional levels 3/4

- **Monitoring programs for new installations**
  - Identify quality issues and stimulate learning processes | set-up of specific benchmarks
  - Poor performing projects cause damage to the market (“bad news”)
- **Communication campaigns**
  - In start up phase positive public communication is very helpful
- **Regulatory policies**
  - Promote the transformation of the heat market
  - Speed up the phasing out of old heating systems



# Policy recommendations at National and Regional levels 4/4

- **Programs addressing low income households**
  - Energy poverty an increasingly critical issue with rising fuel prices
  - Special RES-programs for low income households
  - Converting social housing blocks to bioheat
- **Commit fossil fuel industry to fair play**
  - National policy makers should address energy businesses for fair play
  - Avoid dirty campaigning with negative impacts on market development



# Successful examples 1/3

## HEAT STORING STOVES

- most common biomass-heating in Austria
- annually 15.000 to 20.000 new installations
- 450.000 heat storing stoves in operation
- total heat load capacity approx. 2.000 MW
- efficient back-up facility | operational without electricity!



Source & Pictures: Dr. Thomas Schiffert, Kachelofenverband

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## Successful examples 2/3

### PELLET BOILERS FOR DOMESTIC USE:

- 10 - 30 kW
- full automatic ignition and ash cleaning device
- > 90% efficiency
- very low emissions  
50 mg CO / m<sup>3</sup>
- annually 10.000 new installations



Picture: KWB





# Successful examples 3/3

## WOOD ENERGY CONTRACTING:

- Micro-grids supplying various costumers
- Full automatic wood-chip boilers 50 – 500 kW
- Operated by local farmer cooperatives
- High quality wood chips produced in own forests
- Added value in the region



# Thank you for your attention !

- **CONTACT:**

- **DI Kasimir P. Nemestothy**

- **Austrian Chamber of Agriculture**

- Landwirtschaftskammer Österreich

- A-1014 Wien, Schauflergasse 6

- Tel. +43 (0) 1 53441 8594

- Email: [k.nemestothy@lk-oe.at](mailto:k.nemestothy@lk-oe.at)

- Web: [www.lk-oe.at](http://www.lk-oe.at)

- Thanks also to **Dr. Christian Rakos** for his inputs

- Web: [www.propellets.at](http://www.propellets.at)



Pictures: Nemestothy

