

Reduced discharge - recovery of nutrients and energy from animal manure
Report of WG2 (25 April 2012) to identify targets and priorities by region

- One general conclusion we found from our review of regional priorities is the importance of public awareness and government policy commitment.
- A second is the key factor of COST – and who pays for treatment and other mitigation investments: a viable industry is better able to invest.
- Like WG1, we too found big differences between and within regions in terms of their need for help in this area and their capacity to manage improvements.
- We too generally agreed on need to look at the whole package before envisaging interventions under this platform – the institutional and policy situation is crucial.
- We also concluded that East Asia is probably the highest priority region for actions under this focal area of the Agenda, followed by (some countries in) LAC, S Asia and Eastern Europe (scoping studies needed).
- See individual region summaries following:

Region: **Latin America & Caribbean**

<i>CRITERIA</i>	<i>ASSESSMENT</i>	<i>AREAS FOR ATTENTION</i>	<i>PRIORITY</i>
Institutional capacities & situation	Highly variable within the region: Brazil and Chile seen as the strongest, but even in Brazil it has not been easy to get biogas and solar energy off the ground efficiently. Similarly, Mexico has good awareness and technical capacities but a lack of urgency to act was sometimes perceived. Chile seen as having the strongest track record to date, national biogas programme well advanced.	Prod'n shifting steadily towards medium or large scale intensive systems: capacity to forestall nutrient mngt issues needs to be built up. At present not much incentive for producers to do anything.	Medium
Baseline information availability	Variable like institutional capacities: worst in some of the smaller Caribbean nations.		
PPP potential	Even though LS prod'n is shifting closer to feed sources (e.g. in BRA), transport cost still represents a huge barrier to financially viable nutrient recycling.	Could look at existing pilots in BRA, MEX and some of the other southern cone countries.	Medium
Climate & other eco factors		Coastal zones and islands most at risk.	

Region: Asia, East/Southeast

CRITERIA	ASSESSMENT	AREAS FOR ATTENTION	PRIORTY
Institutional capacities & situation	Difficult to generalize at regional level as they vary widely from one country to another, and even within some of the larger countries (such as China and Vietnam), but in relation to the actual and expected scale of the LS pollution issue especially in the coastal regions these capacities are considered far from adequate so considerable need for institutional capacity-building as well as training for farmers and industry technicians as well as local government officials responsible for environmental monitoring and ag extension.	Policies and technical capacities at all levels especially in those countries likely to shift the fastest to medium/large scale intensive LS prodn in order to meet fast-growing domestic (e.g. China, VNM) or export markets (e.g. THL).	High
Baseline information availability	Variable but generally improving. Some local regulatory issues hampering successful up-scaling of biogas innovation (addressed under ongoing ADB project).	Late-comers and smaller countries can learn from experience of the big ones and start to establish suitable info systems themselves.	
PPP potential	Mixed opportunities and challenges: but private sector increasingly perceived as holding the strong cards and sometimes difficult for the public sector to make well-informed choices.	GAA could help to broker some good-quality partnerships.	Medium to high
Climate & other eco factors	Some MM issues in hot humid zones (e.g. slurry storage) need to be addressed.	Coastal zones have highest LS densities and greatest pollution pbm. Deforestation for LS grazing in certain areas.	

Region: Asia, South

CRITERIA	ASSESSMENT	AREAS FOR ATTENTION	PRIORITY
Institutional capacities & situation	While analytical capacities in public sector are generally high (and sometimes outstanding), the policy-making and implementation interface with the private sector is generally rather weak, and capacities for environmental monitoring and enforcement particularly so. There are long-standing institutional and cultural factors that may not change very fast and complicated by federal structures and conflicting oversight responsibilities. Strengths lie in dairy and poultry sub-sectors esp. cooperatives in India.	Capacity building	Medium
Baseline information availability	Variable, ranging from dairy industry (quite good) to small ruminants: all over the place!		
PPP potential	Coop system a strength, but sector policy still largely public-sector driven.	Should probably start from the public sector side.	Medium
Climate & other eco factors		Coastal/delta areas the most vulnerable.	
Other	India's fertilizer subsidy policies could be acting as a disincentive to appropriate nutrient management.	One more reason for these policies to be reviewed by India.	

Region: **Eastern Europe** (CIS, FSU, NMS)

CRITERIA	ASSESSMENT	AREAS FOR ATTENTION	PRIORITY
Institutional capacities & situation	Institutional as well as physical infrastructure for servicing an efficient LS industry is largely lacking and specialized knowhow as well as public awareness of manure management issues is very imperfect. Government policies for use of incentives and penalties for poor environmental mngt by LS producers are generally weak while priority is often given to obtaining massive increases in output. Risk factors for responsible LS investment are generally seen as quite high.	Government policies and LS industry awareness especially where impacts are regional or international (eg Danube).	Medium
Baseline information availability	This WG not had much direct experience in region but expects baseline info to be generally patchy and inaccessible.	Need for further scoping studies in view of possible eastward shift of LS prod'n by 2050	Medium
PPP potential	West-East mentorship scheme started 2011 (eg Neth'ds- Rumania)	Better info on risks needed to encourage quality investment in the sector.	Medium
Climate & other eco factors	Composting and manure storage issues in cold climate areas. CC might encourage some LS prod'n to shift to this region from EU but not at all clear.		

Region: North America (USA and Canada)

<i>CRITERIA</i>	<i>ASSESSMENT</i>	<i>AREAS FOR ATTENTION</i>	<i>PRIORITY</i>
Institutional capacities & situation	Generally very strong but there are some enforcement issues at state and local government level. Generally very high environmental outcomes (zero discharge) are achieved with suitable combination of market-based and regulatory policies. Monitoring and enforcement capacities have been developed over time. Public funding is mainly directed to research (and occasionally mitigation) but not to on-farm subsidy.	Jurisdictional issues	Low
Baseline information availability	Generally good, but functional soil and water nutrient load information is sporadic. Efforts are underway to fill gaps, but will take time.		
PPP potential	Good for research. Somewhat limited for on-farm implementation.		
Climate & other eco factors	Rising energy prices often leading to energy-saving and other technical innovations in manure management (energy recycling within systems, for example) but some gaps.	Little research done on cold-weather digesters. Sawdust with manure can be used as compost substrate.	

Region: **Sub-Saharan Africa**

<i>CRITERIA</i>	<i>ASSESSMENT</i>	<i>AREAS FOR ATTENTION</i>	<i>PRIORITY</i>
Institutional capacities & situation	Widely varying. Not much confined LS production, except some dairy around some major cities like Nairobi. Not much nutrient surplus.		Low, except as part of other local interventions.
Baseline information availability	Very inconsistent.	May need capacity building.	
PPP potential			
Climate & other eco factors			

Region: EU

CRITERIA	ASSESSMENT	AREAS FOR ATTENTION	PRIORITY FOR GAA
Institutional capacities & situation	Mature model, some niche issues regarding local adaptation of EC guidelines / national legislation. Major strengths include producer know-how, combination of incentive and regulatory actions on producers, increasing consumer awareness and shared social responsibility for env'tal implications of LS production including feed commodity import sourcing. Also ISCC sustainability standards for bio-energy, certification of organic agriculture incl. LS.	Could try to involve chemical fertilizer industry in efforts to reduce nutrient losses and recover P2O5 from animal manure where feasible.	Low
Baseline information availability	Generally well-developed but some local gaps eg on soil/water implications of LS production practices		
PPP potential	Exists		
Climate & other eco factors	ns		