Parallel session - Skill development for closing the P cycle

Dirk Halet, Sofie Bouteligier and Nathalie Cliquot developed this session. All three are involved in ongoing work on skill development and developed a brief presentation to set the scene for the interactive discussions which were the main focus of this parallel session.

Ever more studies show that the circular economy will create jobs. As it is not only important to consider the amount of new jobs, but also the type of jobs created, recent studies have also looked at which economic activities and what type of employment will be affected most. Although the circular economy is getting more attention and the awareness on this concept might already have been raised, we cannot simply assume that the workforce is ready.

The OECD LEED (Local economic and employment development) programme is conducting several case studies on skills for greener jobs in a local labour market context. Some first results suggest that greening economic activities is affecting the type of staff companies are hiring and the training companies need to provide to their employees. In short: there is a skill issue.

With this background and in the framework of the 2nd European Sustainable Phosphorus Conference this session aimed at translating this general issue of skill development to the specific issue of closing the P cycle. Participants were divided in 4 groups and discussed the following questions:

1) What new skills are/will be needed in your sector?
2) Which employees and which activities are/will be most affected by the changing skill needs in your sector?
3) How to retrain people in your sector?
4) Who could retrain people in your sector?

The main findings of the 4 groups are summarized below. In general, apart from more specific skills linked to a particular profession or sector, communication skills received a lot of attention. On the one hand, there seems to be an urgent need to train everyone regarding communications skills, so it it is possible to communicate with a common language across disciplines. On the other hand, there seems to be a need for specialized workers who should be able to transfer knowledge, information, awareness, new approaches between „basic" groups of scientists, waterworks managers, waste water treatment plant technologists, farmers, general public, politicians.... who can take up the role of „a catalyst" or accelerator.

Group 1 (Researchers and industry)

Q1) Researchers need more **transdisciplinary skills**. There needs to be more interaction between natural scientists, social and economic scientists. Industry needs to strengthen its research team, but needs very focused research. More cooperation between research and industry is also required. Employees should be able to see the whole picture/think in lifecycles (skill to look at things from a lifecycle perspective). **Communication skills** are also identified as essential skills. This relates to communication about research results about benefits of products and result in a steering of behavior without dictating what people have to do (other way of communication is essential when addressing

ESPC2
Parallel Session - Skill development for closing the P-cycle
www.phosphorusplatform.eu   1/3

the public/industry compared to the scientific world via publications). **Design skills**: design products in such a way that people behave in the way you want.

Q2) All levels will be affected, including administration, since leaders need skills to see the bigger picture and be open to new ideas in order to allocate resources where needed.

Q3) The skills should be developed by spending more time together – mutual learning (research & industry; research & agriculture, …). Train students/researchers from different disciplines in working together in solving problems.

Q4) Communication experts should help with the communication skills and researchers should get/take more responsibility for own learning/skill development.

Group 2

Q1) a change in **mindset** is the first need. Learning how to **work together for the same goal** will be key. Particular **knowledge** is needed: knowledge about markets, policies, legal issues, …

Q2) Administrative people and high level professionals.

Q3) Learning by doing. Different disciplines have to teach one another. Building multidisciplinary teams.

Q4) Role for NGOs who are more familiar with these issues.

Group 3

Q1)

a) Farmers: precise fertilization with the help of **ICT tools**: learn to work with these tools. Precision Agriculture (PA) is a whole-farm management approach using information technology, satellite positioning (GNSS) data, remote sensing and proximal data gathering. These technologies have the goal of optimising returns on inputs whilst reducing environmental impacts. (http://www.europarl.europa.eu/RegData/etudes/note/join/2014/529049/IPOL-AGRI_NT%282014%29529049_EN.pdf)
b) Food processing companies: **better waste management practices**
c) Waste (water) treatment: **technology and technological training**

Q2)

a) Farmers
b) Food Processing:
    a. CEO: Chief ecological officer is the new CEO and should have the circular economy mindset, then this mindset can further trickle down to the employees.
c) Waste (water) Treatment: Operators

Q3)

a) Farmers: On the field training
b) Food Processing
    a. CEO's: appoint certain CEO's as eco-ambassadors / foster mutual learning

ESPC2
Parallel Session - Skill development for closing the P-cycle
www.phosphorusplatform.eu   2/3

b. Employees: Training of employees could happen in canteen, as they are confronted there with the food cycle and learn how everyone has a place in this cycle
   c) Water (water) Treatment: On the job training

Q4)

   a) Farmers:
      a. Discussion on who is best in place: software developers or more neutral partners (e.g. chamber of agriculture)
   b) Food Processing
      a. CEO: mutual learning/motivation
      b. Employees:
   c) Waste (water)-treatment: Experienced people in resource recovery
      a. Technology Providers
      b. Recruit graduated students within the company which have experience in resource recovery

Group 4

Q1) Lack of **awareness** is issue that first needs to be dealt with and is also seen as a skill. Therefore, more education and knowledge about P problem is needed.

Q2) all will be affected

Q3) **Hands on experience** through pilot projects

Q4) national or EU experts

ESPC2
Parallel Session - Skill development for closing the P-cycle
www.phosphorusplatform.eu   3/3