

Processing and Sustainability Unit

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Figure 1: Rubber processing activities at IPC

Unit Pemrosesan dan Kelestarian (UPK), also known as the Processing and Sustainability Unit is a unit under MRB Engineering and Technology Division. The unit plays an important role in supporting and enhancing the midstream sector of the natural rubber industry in research and development as well as technical advisory in areas concerning raw rubber processing and environmental management. As a unit, UPK provides a wide range of expertise from an in-depth understanding and ongoing innovations in raw rubber processing including the extraction and utilisation of value-added materials from its waste. We have experts in environmental management within the rubber processing world, mainly in wastewater and odour management. MRB through UPK is also the leader in rubber industry sustainability research in Malaysia which always works closely with rubber industry players. As a result, this has strengthened collaboration between the MRB and rubber processors in any dimension of midstream sector. UPK officers have been appointed as members of numbers of local and international committees.



Figure 2: Rubber Processing at IPC

UPK is assigned to champion midstream sector by providing technical support to the industry as well as to conduct R&D activities in related field. Currently, it covers processing of Standard Malaysian Rubber, latex processing and other technical specified rubbers. Besides that, UPK also offers consultancy services in rubber processing and related field such as environmental management and sustainability. Exploration of non-rubber materials from rubber waste has become tremendously important in recent years. Thus, UPK has made significant effort to explore the recovery of non-materials such as protein and sugar fraction from natural rubber serum. This study has brought an innovative approach towards zero waste in rubber industry. It has exciting potential as an alternative protein source for animal feed in animal food industry and cosmetics industry in the future.



Figure 3: Specialty rubber processing facilities

Malodour is another setback of rubber industry that needs to be focused on. The expansion of urbanisation process in the community is gradually taking over rubber plantation. As a result, rubber factories have been surrounded by residential areas and malodour emerging from rubber processing activities has become a major issue in Malaysia. UPK has taken the initiative to provide solutions to this issue through its R&D in malodour control and treatment. Currently, research on malodour is being conducted and it will help the industry to minimise the impact of malodour to the society. The overall approach taken by UPK is obviously in line with the circular economy concept for rubber industry.

Another major project under UPK's purview is the development of environmentally friendly Integrated Rubber Processing Complex (IPC). MRB's integrated rubber processing complex (IPC) in Kota Tinggi, Johor, is nearing completion. The development of IPC is implemented to provide an integrated rubber processing R&D facility that emphasises on sustainability and environmentally friendly concept. The operation of IPC adopts a zero-discharge approach where it utilises waste from each processing stage into value-added materials. Apart from being offered as a well-designed facility to conduct upscale research activities involving multiple divisions within the MRB, IPC is also aimed to be as a platform for collaborations, technical support, as well as a teaching facility involving external stakeholders to further strengthen Malaysia's rubber processing industry.